Archaeological excavations at 231–241 Blackfriars Road, Southwark in March and April 2008 revealed evidence of archaeological remains that date from the prehistoric and Roman periods to the earlier post-medieval. The site is situated on a former gravel eyot lying adjacent to the main channel of the Thames. Evidence for prehistoric activity was indicated by residual worked and burnt flint of Mesolithic through to Bronze Age date, as well as ceramics of probable Iron Age date. A substantial ditch may represent evidence of agricultural activity with attempts to drain the area during the medieval period. Alluvial clays and silts of early post-medieval date indicate a period of increasingly wetter conditions and visible evidence for anthropogenic activity did not recommence until the 17th century, when a series of east–west ditches suggests a concerted effort to drain the area for agricultural and industrial use. This activity gradually increased and was eventually replaced by structures associated with permanent occupation, which expanded rapidly with the construction of the first bridge at Blackfriars in 1769.

Introduction

Archaeological excavations in advance of the construction of a new building were undertaken by Pre-Construct Archaeology Ltd at 231–241 Blackfriars Road, London Borough of Southwark in March and April 2008. The site was located on the eastern side of Blackfriars Road c. 245m to the south of the river Thames (fig 1; TQ 5317 1803). The area was bounded to the south by Burrell Street, to the west by Blackfriars Road, to the north-east by Southwark Street, and to the west by commercial properties. The archaeological investigation consisted initially of an evaluation comprised of five trenches that ranged in size from 14 x 3m to c. 11.5 x 2m (fig 2). These trenches were all c. 3–4m in depth and shored with trench supports (fig 3). Following the discovery of a series of ditches to the south a mitigation strategy was agreed with Chris Constable, Senior Archaeological Officer for Southwark, for full excavation of the ditch sequence in trench 1 with no extension to the original size of the trench. The site archive will be deposited with the London Archaeological Archive and Research Centre (LAARC) under site code BFX08.

Geological background and topographical setting

The buried topography of the area around Southwark, and to a lesser extent Blackfriars, has been the subject of much work over recent years. This has revealed a complex topographical picture of how the area has been shaped by the river Thames as it has developed over time. The subject itself is too extensive and detailed for this article to cover comprehensively and the reader should refer to the recently published works on the subject, should a more thorough understanding of this be required (Sidell et al 2000; 2002). Outlined below is a simplified summary of the main processes that formed the distinctive topography of the area, within which the archaeological setting can be more easily understood.

The site lies on the Thames flood plain c. 0.25km to the south of the Thames. At the beginning of the Holocene, at around 11,500 BP, the Southwark shore of the Thames was dominated by a complex of islands (aits or eyots) and associated channels that represented
the remnants of gravel bars that had formed between the braided river channels that had characterised this part of the Thames during the late Devensian period. During the Holocene period, probably as a result of the development of soils beyond the flood plain margins combined with the absence of spring ice melt, channels abandoned in the late Devensian became filled by a process of sediment deposition that comprised finer alluvial deposits typical of a lower energy flow regime. The change from a braided river system to that of a meandering river is believed to have taken place sometime between the late upper Palaeolithic and the Mesolithic, and as sea levels dropped during this period, it is likely the area would have become drier and colonised by dense vegetation. At the end of the early prehistoric period, with the occurrence of marine transgression associated with sea level rise, the possibility of permanent occupation on many of the lower areas in the flood plain would have become increasingly difficult. This rise in sea level would have begun to create a distinctive multi-channel river form with many of the relict channels gradually infilling with alluvial clays. Although this landscape is likely to have been constantly evolving as the climatic conditions changed over time, a landscape of small fragmentary sand and gravel eyots surrounded by mudflats would have been the dominant topographical model for the area from the prehistoric through to the Roman period and into the medieval. Detailed investigations to the north and south of 231–241 Blackfriars Road, together with the results of this excavation, have established that the site is located on the southern slope of what is probably quite a narrow gravel island, termed the Bankside Eyot (Cowan et al 2009, 12).
Fig 2  231–241 Blackfriars Road, Southwark. Trench location. (© Crown copyright Ordnance Survey. All rights reserved)
Historical background

The site was located in the medieval manor of Wideflete, which was also later known as Paris Garden, apparently named after Robert Paris, a late 14th century London grocer and shipowner who had a house there (VCH 1912, 149–50). The manor stretched from the parish of Lambeth to the west, St Saviour’s Southwark to the east, St George the Martyr to the south, and the river Thames to the north; present day Blackfriars Road lay just to the east of its centre (Norman 1901, 55). The manor was also occasionally known as Wiles, so named after the willows that grew there, giving it a dark and shady aspect (ibid, 60).

With the significant increase in river levels from the late Saxon period (10th century) the area that was low lying became marshy and subject to frequent flooding (Bowsher & Miller 2009, 10; Cowie et al 2012, 111). It is documented that river defences had been constructed by the 14th century (Graham 1978, 516) and such defences consisting of an earth bank have been found on sites further to the east at Bermondsey Wall West (Brown & Taylor 2010), Deptford (Divers 2004, 24–5) and Greenwich Reach (Hawkins in prep). However, there are frequent mentions of the defences and ditches not being maintained, and flooding was widespread. It is probable that large areas remained waterlogged until the 16th or 17th century (Graham 1978, 516).

Cartographic evidence suggests that by the 16th and 17th centuries the area of the site was laid to gardens with open fields and possible orchards bounded by large drainage ditches (Braun & Hogenberg 1572 fig 8, Faithorne & Newcourt 1658) and it is possible that market gardening was also being practised in the area.

The whole area was transformed by the construction of Blackfriars Bridge in 1760–9, which was approached by a new wide main road originally known as Great Surrey Street, renamed Blackfriars Road in 1829 (Weinreb & Hibbert 1983, 70–1). Most of the houses in Great Surrey Street were originally built between 1765 and 1790 (Roberts & Godfrey 1950, 115). By the time of Horwood’s map of 1799 (fig 8) the whole area was developed with terraced houses fronting Great Surrey Street.
Archaeological background

Definitive evidence for the occupation of this island was first established with the findings of the excavations at 245 Blackfriars Road (site code 245BR87) in 1987. This site, located less than 100m to the north, revealed the northern edge of the gravel island and a cultivation soil that contained both Iron Age and Roman pottery (Girardon & Heathcote 1988, 414).

In 1994–7 excavations at 47–67 Hopton Street (site code HNT94), to the north-east of the present site, revealed a sequence of natural sand overlain by silty sand into which around 500 stakeholes had been cut. Associated with these were a series of small pits and postholes, and within one of these was a complete closed Beaker bowl alongside a flint core and blade. Sealing these features was a dark peaty sand into which over 100 linear grooves had been cut, interpreted as ard- or plough-marks. Within this sequence of deposits over 3000 lithics, including 820 worked pieces and 300 pot fragments, were recovered that dated to the Neolithic and Early Bronze Age, most being of Beaker date (Ridgeway with Butler 1999). A gradual rise in water levels probably led to the abandonment of the Hopton Street area in the Middle Bronze Age. A rise in the water level led to the continued deposition of alluvial clays containing artefacts of Roman and medieval date. Later activity suggests the site at Hopton Street probably formed part of a millpond complex during the late medieval to early post-medieval periods, and finally a glasshouse during the 18th–19th centuries (Ridgeway with Butler 2000).

Archaeological sequence

PHASE 1: NATURAL DEPOSITS

The natural deposits consisted of a gravelly sand in trench 1 to the south of the site and sand in the other trenches. In trench 5 to the north of the site the sand was observed at 0.72m OD, but this represented a level truncated by a large modern basement. In trenches 3 and 4 in the centre of the site the sand lay at consistent heights of 1.28 and 1.25m OD respectively. To the south the sand appeared to dip away slightly to 0.92 and 0.71m OD in trench 2, although the levels in trench 1 probably reflect truncated levels.

PHASE 2: PREHISTORIC

The earliest evidence of human activity on the subject site is evidenced by the presence of residual flint artefacts. These comprised eight struck flakes, three of which were retouched and two of which were cores. Lithic analysis suggests that this assemblage represents flintworking over a long period, probably from the Mesolithic through to the Bronze Age (Bishop 2008).

Aside from the residual flint artefacts the earliest evidence of archaeological activity revealed during the excavations was eight sherd s of grog-tempered and one sherd of quartz- and flint-tempered prehistoric pottery, possibly of Iron Age date, discovered within redeposited sand (192) beneath medieval ditch 184 in trench 1 (figs 4 and 5). Within this trench evidence was also revealed of the existence of a north-east/south-west orientated channel 194, which may represent the south-eastern side of the Bankside Eyot, but is more likely to be a palaeochannel. Because of post-medieval truncation, which had heavily disturbed the southern half of the excavation trench, only one side of the channel was observed. Apart from this disturbance it is probable that the south-east edge of this prehistoric channel lies beyond the excavation limits and still awaits discovery.

The channel as observed within trench 1 measured 2.70m north–south x 1.20m east–west and was 0.96m deep. Within the excavated area the base of the channel was seen at a level of between 0.71 and 0.28m OD and sloped towards the south, probably indicating that the revealed extent represents less than half the full width of the channel. The earliest deposits within this channel, contexts 177 and 200, comprised sandy higher-energy deposits, regarded as reworked natural sands that were overlain by a series of silty sands that represent
Fig 4  231–241 Blackfriars Road, Southwark. Section across ditches. The locations of monolith samples are also shown.
naturally-derived river sediments. These deposits were relatively thin, having a combined thickness of around 0.20m. Neither of these initial deposits contained datable material. A radiocarbon date was obtained from a seed of *Ranunculus* within context 200, which indicates a date early in the first millennium BC (Beta-256131 AMS 2780 ± 40 BP uncalibrated; 1010–830 cal BC at 95.4% probability) for the initial fill from the base of this channel.

Overlying the sandy sediments was a sequence of naturally-derived fills (contexts 132, 171 and 175) comprising clay and silt that had a combined thickness of c. 0.4m. The lowest of these deposits contained 22 sherds of quartz- and flint-tempered pottery of probable Iron Age date. These clay-silts with their reduced clast size could indicate a lessening in flow regime if they were water laid rather than derived from other sources. However, on balance it seems more likely they are the result of channel edge erosion, as within the clay-silt deposit that sealed the Iron Age pottery a burnt circular scraper, characteristically of Late Neolithic or Early Bronze Age date, was discovered alongside burnt flint. The burnt flint is likely to be indicative of hearth use and the burnt flint scraper may indicate a date for this activity.

The sequence of possible Iron Age pottery overlain by residual flint artefacts does strengthen the likelihood that the formation process for these deposits is continual bankside erosion. However, although these artefacts are clearly not in situ, it is probable that they have not travelled far from their original setting.

Sealing these dated horizons a sequence of sandy silts (contexts 172–174) had formed, which combined had a thickness of c. 0.4m. As previously, it seems most probable that the change in clast size represents additional erosion to the surrounding ground surface, rather than a marginal increase in flow regime. Whether increased surface erosion indicates a change in land use is unclear. The final deposit within the recorded sequence comprised a homogenous fine-grained clay-silt visually identical to those that formed the earlier clay-silt horizon seen within this channel. This similarity in composition again is likely to represent a lessening in erosional processes, possibly associated with a stabilisation of the surrounding ground surface. This could be associated either with a lessening in human exploitation or...
a change in the way the land was being used. The dating of these upper deposits is still uncertain, although the final surviving layer was partly truncated by a ditch containing ceramics of 17th century date.

A comprehensive series of monolith samples was taken during the excavation (fig 4), although the results indicate generally poor pollen concentrations and preservation. This can be attributed to the physical and/or chemical properties of the sediments at the time of deposition and changes in these properties over time. These properties include coarse particle size and high pH levels within the groundwater. Despite this, the main taxa identified were herb rich and included Poaceae (grasses), Pteridium aquilinum (bracken), Artemisia (mugwort), Plantago type (eg ribwort), Cirsium type (eg spear thistle), Cyperaceae (sedges), Chenopodium type (eg fat hen), Ranunculus type (eg R. repens – creeping buttercup) and Lactuceae (daisy family), with occasional trees and shrubs such as Corylus type (eg hazel), Hedera (ivy), Alnus (alder) and Quercus (oak). This assemblage indicates a relatively open flood plain meadow-type environment, most likely to have been modified by human activity with the limited growth of trees and shrubs (Green et al 2008). Freshwater diatoms were mixed with brackish water and allochthonous (carried from elsewhere) species in the fills of the channel, which are indicators of tidal conditions and suggestive of estuarine deposits (ibid).

PHASE 3: MEDIEVAL/EARLY POST-MEDIEVAL

The second period of activity recognised during the excavations was located within the two southernmost trenches – trenches 1 and 2 (figs 4 and 6). Here evidence was revealed for the existence of an east–west orientated ditch cut, 184, that was at first believed to be of Roman date, but additional radiocarbon dating of animal bone samples suggested a late medieval/early post-medieval date.

The clearest evidence for this ditch was revealed within the westernmost of the two excavation trenches where a wide shallow cut was identified. The full extent of the cut was not seen within the trench although the revealed extent of 6.00m is likely to be almost the full width. The base level of this ditch was at −0.11m OD, while the highest surviving fills were at +1.16m OD. The initial fill of the ditch, context 198, was located on its southern edge and comprised a thick homogenous sand. The deposit was characterised by a sloping northern edge that contrasted noticeably with the adjacent fills within the ditch, which appeared fairly horizontal. This suggests that the deposit is derived exclusively from the southern edge of the cut and could therefore represent an eroded bank deposit, of which the second fill, context 250, lying within the base of the ditch may also be part. A single sherd of abraded Roman pottery was recovered from the initial fill, although the possible date range for this spans the whole period of Roman occupation. The remaining fills comprised a complex sequence of sands, sandy clays, silty clays and variable mixtures of each. Ceramic dating was again sparse, with only two of the excavated contexts containing any datable material, and here a date range of AD 270–400 was given for a ceramic sherd recovered from coarse sand, context 187, located on the northern side of the cut, while a single sherd of abraded Roman pottery was recovered from central fill 122, although as previously the possible date range spans the whole period of Roman occupation.

Whether this ditch represents the laying out and cutting of a new ditch system or whether it is the canalisation of a natural channel is unclear. Although it may be significant that all the soil deposits located beyond the southern edge of the cut slope down towards the south and away from the ditch, suggesting the absence of a naturally formed predecessor.

As with the monolith samples collected from the prehistoric channel, those taken within this ditch also indicate generally poor pollen concentrations and preservation, for the same reasons as discussed previously. The available results indicate a very similar assemblage with the main taxa comprising Poaceae (grasses), Chenopodium (eg C. album – fat hen), Plantago lanceolata (ribwort plantain), Centaurea nigra (common knapweed) and Lactuceae (daisy family), with occasional trees and shrubs such as Quercus (oak), Alnus (alder) and Pinus (pine). Although
the taxa differ slightly from the earlier phase, the assemblage still indicates a relatively open flood plain meadow-type environment, which is likely to have been modified by human activity with the limited growth of trees and shrubs (Green et al. 2008). These results indicate little change in the local environment from the earlier period. Once again freshwater diatoms were mixed with brackish water and allochthonous species in the fills of the ditch, which are indicators of tidal conditions and suggestive of estuarine deposits (ibid).

The results of a $^{14}$C sample taken from Carex sp. waterlogged seeds from the second fill within the base of the ditch, context 250, were radiocarbon dated to 1040–1260 cal AD (Beta-256132 AMS 870 ± 40 BP uncalibrated; 1040–1260 cal BC at 95.4% probability), while the final fill within the ditch (113), has been $^{13}$C dated to 7600–7520 cal BC (Beta-256130 AMS 8530 ± 50 BP uncalibrated; 7600–7520 cal BC at 95.4% probability). A date in the medieval period for the bottom of the fill of the ditch is unexpectedly late since the other finds all date to the Roman period, albeit that they are abraded and few in number. The early date for the upper fill of the same ditch clearly indicates that a degree of reworking and sediment displacement has occurred, which give some credence to the possibility of intrusive material within the earlier ditch fill. This is not particularly surprising in a depositional environment that is subject to regular inflow of waterborne material from a potentially wide range of source areas.

The ditch continued to the east, where it was observed in trench 2 as cut 30 with a possible recut 25. Ditch 25 contained four fills, two of which consisted of sand fills, 47 and 48, slumping in from either edge of the feature. The former contained three heavily abraded sherds of Roman pottery and four fragments of Roman ceramic building material. Two later fills consisted of a loose grey clay sand deposit (35) from which a sherd of abraded Roman pottery was recovered, and a dark grey alluvial clay fill (24) that contained four fragments of Roman ceramic building material dated to AD 50–160 and two partial animal skeletons consisting of horse and cattle. Thus, as with ditch 184 in trench 1, the artefacts recovered would at first sight appear to date the feature to the Roman period, the abraded nature of the Roman pottery suggested a later date, which was confirmed by radiocarbon dating.
of the two animal skeletons. The horse was dated to 1398–1449 cal AD (SUERC-49810 AMS 490 ± 30 BP uncalibrated; 1398–1449 cal AD at 95.4% probability) while the cattle skeleton was dated to between the late 15th and early 17th centuries (SUERC-49809 AMS 349 ± 30 BP uncalibrated; 1460–1531 cal AD (40.6%) and 1538–1635 cal AD (54.8%) at 95.4% probability). Thus, the radiocarbon dating of the ditches from trenches 1 and 2 would suggest that they were dug in the medieval period with backfilling perhaps in the late medieval or early post-medieval period.

Post-medieval

Depositional sequence

Reaching a peak in the 1st century AD, river levels fell during the rest of the Roman period. Thereafter from the Saxon period tidal levels again began to rise, with a possible temporary drop in the late Saxon period. From the 12th century river levels began to rise consistently, a phenomenon that has continued until today (Milne 2003, 144–6; Thomas et al 2006, 12).

The later depositional sequences recognised during the Blackfriars excavation may relate to this increase in tidal levels, which presumably would have resulted in the deposition of alluvial clays and silts. Evidence of this was seen within the two southernmost trenches, although dating was generally sparse. Within trench 1 a dark blackish-brown silty clay, context 92, was observed overlying the upper fills of the medieval ditch (fig 4). This deposit, which is thought to represent naturally-derived alluvial sediment, contained a single sherd of pottery that dates to between 1630 and 1680. The remaining alluvial deposits within the trench were generally undated, although if the base level of this deposit could be used as an approximate marker for the formation of 1630 alluvial sediments, the upper two fills of the southern, natural channel are likely to be contemporary (contexts 15 and 172).

These alluvial deposits contained sub-angular flint pebbles, which seems to indicate that a degree of bioturbation has occurred. This is likely to be associated with the formation of a vegetated topsoil horizon, which would seem logical as these deposits were subsequently truncated by post-medieval features indicating the area was now dry enough to be extensively utilised. The recovery of the post-medieval ceramics from one of these deposits may be an intrusive element associated with the formation of the topsoil, with the actual date of the sediment deposition being considerably earlier.

Environmental sampling of the two deposits within the southern channel indicate generally poor pollen concentrations and preservation. Despite this, the main taxa identified are remarkably similar to earlier periods, generally herb-rich and including Poaceae (grasses), Sinapis type (eg charlock), Chenopodium (eg fat hen) and Pinus (pine). This assemblage indicates a relatively open flood plain meadow-type environment, with the limited growth of trees and shrubs (Green et al 2008).

PHASE 4: POST-MEDIEVAL EXPLOITATION, c 17TH CENTURY

Evidence of 17th century activity was revealed in three trenches. In trench 1 east-west drainage ditches were recorded (figs 4 and 7). The earliest, ditch 77, was located immediately to the south of the late medieval ditch and cut into the upper fills of the natural prehistoric channel. Its primary fill produced residual Roman pottery dated to AD 270–400, while its secondary fill contained pottery dated to 1660–80. Three other ditches, 91 (recorded in section only), 75 and 89, lay immediately to the north, each on a slightly different line. The fills within these ditches all consisted of clays containing no datable finds, presumably formed through natural processes in wet conditions. It is probable that the function of these ditches was principally drainage.

These ditches are likely to represent the approximate line of a boundary that gradually migrated to the north over time. This could be due to incidental factors such as hedge and tree growth that causes each subsequent recutting of the boundary to move slightly, or errors
Excavations at 231–241 Blackfriars Road, Southwark

Fig 7 231–241 Blackfriars Road, Southwark. Phase 4: 17th century features.
Fig 8  231–241 Blackfriars Road, Southwark. (top) Braun & Hogenberg map 1572, (above left) Rocque map 1746 and (above right) Horwood map 1799.
in site boundary recognition. Direct evidence for a boundary along the approximate line of these ditches first appears on Braun and Hogenberg’s map of 1572. This then continues to appear on subsequent maps dated to 1658 (Faithorne & Newcourt), 1690 (Rams; reprint by Jacobus de la Feuille) and possibly 1746 (Rocque). Trees and shrubs are depicted along the line of the boundary, perhaps reinforcing the argument for the incidental boundary migration (fig 8).

The majority of the archaeological features dated to this phase were located within trench 3 (fig 7). Seventeen individual cuts were observed comprising a series of fairly shallow flat-bottomed pits, the majority of which were curvilinear or irregular in plan. Both ceramics and clay tobacco pipe that ranged in date from 1580 to 1700 were present within most of these features. Within trench 4, located a further 6.00m to the north, four somewhat more irregular features were revealed (fig 7). These also comprised fairly shallow flat-bottomed pits, which again were filled with very dark sandy soils. Pottery indicated a 17th century date for these features. The function of these cuts is not certain and it is probable that they were excavated for differing purposes. The wider, shallower cuts could be either the results of localised quarrying or possibly bedding trenches for shrubs or trees. Trees are represented on many of the early maps of the area and those shown on the Faithorne and Newcourt map dated to 1658 are laid in a very formal linear arrangement indicative perhaps of small orchards. If indeed this is an accurate portrayal of what actually existed, the laying out of the site and the cutting of bedding trenches would almost certainly have occurred.

PHASE 5: 18TH CENTURY DEVELOPMENT

During the 18th century the first evidence of features associated with permanent structures are revealed, although evidence for continued pit cutting was still recorded (fig 9). Within trench 1 two pits were partly revealed that truncated the earlier features. Cut 7 was located within the south-east corner of the trench and was filled with dark silty sands containing 18th century pottery. Pit 138 to the north contained brick rubble and mortar fragments together with 18th century pottery and clay tobacco pipe and may have been associated with the structural remains also seen within the trench.

These structural elements comprised a circular brick well or soakaway (9) located in the southern part of the trench, which had a conjectured diameter of c. 2.25m and survived to a depth of 0.65m. Its construction cut contained fragments of 18th century clay tobacco pipe. Within the southern part of the trench two parallel linear construction cuts located approximately 2.30m apart were revealed. Within the northernmost of these, cut 84, three postholes were set (78, 79 and 80). These were overlain by a horizontal timber on which the remains of east–west wall foundation 14 was lain. The fill of the construction cut contained residual 17th century pottery together with clay tobacco pipe dating from 1740 to 1800. Within the southern construction cut, 263, were four timber posts (57, 59, 61 and 63), which functioned as the foundation of a second east–west orientated brick wall that survived fragmentally as contexts 13, 51 and 52. These two parallel walls were believed to form part of the same building, that continued into trench 2, where it survived as three timber piles (19, 20 and 21) and two postholes (27 and 28) to the north and a brick foundation (4), c. 1.5m to the south.

A north–south orientated wall (66) was also observed in the south-west corner of trench 1 and is dated to between 1760 and 1835 by pottery recovered from the fill of the construction cut. The wall probably continued as far as wall 14 to the north, as the remains of a construction cut were recorded between the two east–west walls. Abutting the eastern side of wall 66 was an additional small fragment of masonry (8) of uncertain function. Both this and the north–south construction cut partly overlay the previously discussed well/soakaway, which clearly indicates that a series of building phases within the 18th century occurred, attesting to the continuing development of the area throughout this period.

Centrally within trench 2, a 0.80m diameter barrel well (36) was partly revealed. The construction cut for this structure contained clay tobacco pipe dating from 1780 to 1830.
Fig 9 231–241 Blackfriars Road, Southwark. Phase 5: 18th century features.
To the north in trench 3 five pits were revealed. Pit 252 in the north-west part of the trench was sub-circular and undated. To the east pit 231 was irregular in shape and was filled by a greyish-black sandy silt that contained animal bone and clay tobacco pipe dated to 1700–40. Sealing this cut was a dark sandy silt layer that contained fragments of pottery and clay tobacco pipe dating to 1720–40 and may represent a topsoil horizon. Two irregular pits were revealed to the south. Cut 229 contained residual 17th century material, while cut 235 was filled with a dark soil, devoid of dating evidence. To the east a fifth pit (159) was revealed that was truncated by well/soakaway 100 and contained no dating evidence. The function of these five cuts is unclear although the limited amounts of anthropogenic material within them suggest they were not used for disposal of domestic rubbish and may also indicate that they were not left as open features for any length of time. Perhaps the most logical interpretation for the function of these pits is as bedding trenches associated with horticultural activity.

To the east was a possible drainage ditch (129), which was truncated to the north by a later well or soakaway (97) and continued beyond the southern limit of excavation. It was filled with dark sandy silt containing late 17th century pottery and early 18th century clay tobacco pipe.

Structural elements in the trench consisted of two brick wells or soakaways, both located in the eastern part of the trench. The first, 97, was partly revealed in the north of the trench and had a diameter of c. 1.4m, while 100 was partly revealed to the south and had a conjectured diameter of c. 1.6m. Possibly associated with one of these structures was the heavily truncated north–south brick drain 104, which was located immediately to the west of well/soakaway 100. This was filled with a dark soil that produced sherds of residual pottery dating to the middle of the 17th century.

A similar although less intense series of intercutting pits and wells or soakaways was observed within trench 4 to the north, where a total of six pits and two soakaways/wells were revealed. To the east was a large oval-shaped cut (183), which was filled with a dark silty sand containing pottery and clay tobacco pipe dating to the first half of the 18th century. To the west a large straight-edged cut (227) was partly revealed, which was filled by silty sand containing pottery dated to 1630–1750. This pit was truncated by two later, undated pit cuts (213 and 211), which were then overlain by a layer of dark silty sand that produced finds dating to the first half of the 18th century, which may equate to the possibly 18th century topsoil horizon seen in trench 3.

Truncating this possible topsoil was pit 225, which contained no dating evidence. It was partly truncated by the first of two wells or soakaways: 154, with a diameter of c. 1.5m, which was dated to the 18th century, and 151, which was heavily truncated by a large east–west orientated modern service trench that occupied most of the northern half of the trench. A final feature, cut 157, was located in the south-east corner of the trench and was filled by dark silty sand devoid of dating evidence.

**PHASE 6: 19TH CENTURY REMAINS**

No archaeological features dating to the 19th century were revealed. However, two 18th century wells or soakaways (8 and 97) went out of use in the 19th century and were backfilled with material containing pottery dating to 1835–1900 and 1840–1900 respectively. The latter also had clay tobacco pipes dating to 1820–60.

**Post-Roman pottery, by Chris Jarrett**

A small assemblage of post-Roman pottery was recovered from the site as 279 sherds representing some 247 vessels. The material was on the whole fragmentary, but showed little evidence of abrasion and so was mostly deposited soon after breakage or being discarded. The pottery was classified according to the standard Museum of London coding system. The
pottery types date from the 16th–19th centuries, but are mostly of a 17th and 18th century date. This report discusses the pottery by phase.

**PHASE 4: 17TH CENTURY**

Only 36 sherds of pottery were recovered from this phase and consisted entirely of sherd material with few diagnostic forms and was found in layers 50, 92 and 106, pits 144, 186, 215 and 229, and ditch 242. Delftware accounted for seven sherds and was present as either plain whiteware (TGW C), dated to 1630–1846 or chargers in mid-17th century polychrome designs (TGW D). Surrey-Hampshire border whitewares, dated to 1550–1700, consisted of six sherds and are glazed brown, green, olive and yellow (BORDB, BORDG: as dishes, BORDO and BORDY: as a bowl). Fine red earthenwares from Essex are recorded as five sherds and these occurred as a sherd of Metropolitan slipware (METS), dated to 1630–1700, and two sherds each of 1580–1700 dated black-glazed ware (PMBL), besides clear-glazed redware (PMFR) – the latter having the identifiable form of a bowl. Imported pottery totalled five sherds, but was only represented by fragments of Frechen stoneware (FREC) from Germany and dated to 1550–1700. Four sherds of local coarse post-medieval redware (PMR), dated to 1580–1900, were recovered and include a rounded bowl and a vessel with an internal, unusually thick white slip that may be a sugar cone mould. Non-local pottery is represented by single sherds of a combed slipware (STSL) dish, dated to 1660–1870 and Staffordshire-type mottled brown-glazed ware (STMO), dated to 1650–1800, while there are also two sherds of stoneware as Midlands purple ware (MPUR) butter pots – the form being present in London between c 1580 and 1750. An unidentified ware consists of a reduced (grey) sandy fabric with a brown streaked, dark olive-coloured glaze.

**PHASE 5: 18TH CENTURY**

There was a total of 230 sherds of pottery in this phase and the pottery was mostly fragmentary. Pottery was recovered from a number of different types of features in this phase: the backfill of construction cuts for walls 14, 66, drain 104, the possible robber cut 124, cuts 129, 196, and layer 108. Additionally, ceramics were found in barrel well 36, pits 7, 110/166, 138, 169, 183, 213, 227, 231, 236 and 247 as well as soakaways or wells 9, 151 and 154.

Post-medieval redware made in Deptford, Greenwich, Woolwich and Lambeth was the main type of pottery in this phase as 74 sherds and in the form of bowls and dishes, a chamber pot and a jar, but the neck and base of a bird pot is a more unusual form. Bird pots were attached to the eaves of houses and used to attract nesting birds so that chicks and eggs could be collected for food (Stephenson 1991). Flowerpots are also well represented in this phase as seven vessels, five of which came from barrel well 36 and indicate gardening or horticultural activities on the site. There are also industrial forms present as sugar refining wares found in trench 1 deposits as syrup collecting jars and sugar cone moulds, indicating a sugar house was in the vicinity, while the rim of a distillation flask, used to make nitric acid for assaying purposes (Bayley 1992) was found in layer 108, trench 3.

The delftwares in this phase consist of 64 sherds and are recorded in a number of decorative styles, some of which, such as the mid-17th century polychrome ware (TGW D) chargers, are antiquated. Plain whitewares (TGW C) are as a chamber pot and ointment pots, plain blue wares (TGW BLUE) also includes a cylindrical jar, while blue on light blue decoration (TGW H), dated to 1680–1800, are as albarelli and plates, the latter form is also present solely in sponge decorated wares (TGW SPNG), dated to 1700–60. Other sherds are mostly decorated in blue and white and date to the late 17th–18th centuries and include fragments of albarelli, bowls, including those of a pedestal base-type, plates, a saucer and a tea bowl. Of note was a small pear-shaped jug decorated in a chinoiserie style with flowers and a bird and dated to c 1700 and recovered from pit 183. There are also three sherds of
biscuit ware in the form of a chamber pot and rounded jar shape. Biscuit ware is frequently found on excavations in Southwark at some distance from the pothouses located along the southern bank of the Thames, the closest potteries to the site being Bear Garden (pre-1671–1705), Gravel Lane (c 1694–1748) and The Clink (c 1730–62) (Britton 1987, 46–8).

Surrey-Hampshire Border wares account for 57 sherds in this phase, but 29 sherds are in the whiteware that had mostly stopped production around 1700, but forms are present as green-glazed (BORDG) and yellow-glazed (BORDY) bowls and dishes, porringers and a tripod pipkin. Contemporary wares of this source in this phase are the red Border wares (RBOR), dated to 1550–1900, as well as brown- (RBORB) and green-glazed wares (RBORG), dated to 1580–1800, the forms being mostly the same as the white ware, except for the addition of colanders but with the absence of tripod pipkins. There is also a sherd of a slipware (RBORSLO) dish.

Imported pottery consists of ten sherds, but mostly from Frechen stoneware jugs (seven sherds) and includes a medallion from a bartmann. There is also a rounded jug in Westerwald stoneware with blue and purple decoration (WEST PURP), dated to 1665–1750, while two small sherds of blue and white Chinese porcelain are also noted.

Stonewares account for twelve sherds, seven of which were made in London (LONS) and dated to 1670–1930, but the only forms recognisable are a tankard and kiln furniture as part of a saggar. There were several stoneware pothouses along the south bank of the Thames during the 18th century, of which the nearby Bear Gardens, The Clink and Gravel Lane pothouses made both delftware and stoneware (Britton 1987, 46–8). Other stonewares present are Midlands purple ware butter pots (two sherds), a tankard in Staffordshire brown stoneware (STBRS), dated to 1690–1730, a cylindrical mug in dipped white salt-glazed stoneware (SWSL), dated to 1710–60, and a bowl in the superior white salt-glazed stoneware (SWSG), dated to 1720–80.

The fine red earthenwares from Essex are also present in this phase as six sherds and include two sherds from Metropolitan slipware dishes, three sherds of post-medieval black glazed ware (PMBL) that includes a tyg, besides a sherd of post-medieval fine redware (PMFR). These wares were probably residual in this phase. The non-local wares are mostly represented by combed slipware dishes (STSL) as three sherds, while single sherds occur as a Staffordshire-type mottled glazed ware (STMO) tankard and a Midlands orange ware (MORAN) butter pot. The only industrial fineware recorded in this phase was a sherd from a small plate in Developed Creamware (CREA DEV), dated to 1760–1830. A residual sherd of a medieval Kingston-type ware jug (KING) was also noted and dated to 1240–1400.

PHASE 6: LATE 19TH–20TH CENTURY

There are only two features that produced a total of nine sherds in this phase. The first feature, well or soakaway 97, contained six sherds of pottery, which mostly consisted of industrial finewares. Two dinner plates with the Willow pattern (dating from c 1789) are as two sherds each of transfer-printed Pearl ware (PEAR TR) and whiteware (TPW), dated to 1770–1840 and 1770–1900 respectively. There is also a porringer-shaped teacup in refined white earthenware with under-glaze painted chrome colour decoration (REFW CHROM), dated to 1805–1900. An import is also present as a Chinese porcelain blue and white plate rim with a café au lait edge and a blue trellis border. The second feature, well or soakaway 9, produced two sherds of CREA DEV from different plates and the rim of a London stoneware bung (shouldered) jar.

DISCUSSION OF THE POTTERY

The post-medieval pottery from this excavation dates from the time this area of south London was developed, reflecting expansion of settlement along the Thames in the mid-17th century. The pottery is largely domestic in nature, with a small number of sherds
derived from local industrial concerns, notably sugar refining, but also pottery production and perhaps the preparation of nitric acid. Such activities probably did not occur within the area of the site, as these forms are low in number. What is surprising for a location close to the Thames is the small quantity of imported pottery and what is represented consists of commonly found wares, such as German stonewares and Chinese porcelains.

**Glass**, by John Shepherd

The 62 pieces of glass from this site are mostly in good condition, but fragmentary, there being no complete vessels. Apart from two 19th or early 20th century fragments, the majority of the assemblage dates from the 17th and 18th centuries. Fragments of window glass and ordinary ‘English’-type wine bottles are present, but of interest are a number of olive green glass fragments from large vessels with rolled rims with diameters in excess of 26cm. These could be either large storage jars, lids for large jars or perhaps dishes, but it is also likely that they come from cloches for use in market gardens. An early 20th century publication (Weathers 1913, section XXXIV, part 5) notes that ‘Cloches have been and are still used largely in English market gardens for the protection of early cauliflowers and other crops’. They were used in gardens from October until May and stacked away in the summer months. Weathers also notes that ‘carrying cloches without breaking them requires some skill. An expert gardener can carry three in each hand, and put them down without injury’.

**Clay tobacco pipes**, by Chris Jarrett

**INTRODUCTION**

A small-sized assemblage of clay tobacco pipes was recovered from the site as 286 fragments, of which eighteen were unstratified. The material was in a good condition indicating it had not been subject to much redeposition or was deposited soon after breakage. The clay tobacco pipe bowls were classified according to Atkinson and Oswald (1969) and prefixed AO, while the 18th century bowls are according to Oswald (1975) and prefixed OS. For the 17th century bowls the quality of finish and the degree of milling has been noted and recorded in quarters. The tobacco pipes are discussed by their types and were recovered from Phases 4–6.

**THE CLAY TOBACCO PIPE TYPES**

The clay tobacco pipe assemblage from the site consists of 218 stems, five nibs or mouthparts and 63 bowls, fourteen of which were fragmentary and could not be assigned to a type. The bowl types range in date between c.1640 and 1860.

**17th century types**

The earliest bowls recorded on the site are of two types dated to 1640–60. The first type is the spurred AO9 shape as ten examples. The second consists of four examples of the heeled AO10 shape. Both the bowl shapes have variable milling of the rim, from one-quarter to full milling and are mostly a fair finish. These bowls were recovered from Phase 4 (17th century), cut 229 and ditch 242 and Phase 5 (18th century) features cut 129, pits 142, 166, 231 and 247, besides layers 108 and 114. There are two non-local heeled bowls, both of a West Country appearance and dating to the mid-17th century. These bowls are more noticeably angled than is normal for London. The first is chinned and has three-quarters milling and a good finish (fig 10, no 1) and was recovered from Phase 5, layer 108. The second bowl has full milling of the rim, which is clearly bottered (smoothed with a tool to give a rounded profile) and has a good finish (fig 10, no 2), but it is possible that this item represents a variant of
Fig 10 231–241 Blackfriars Road, Southwark. Clay tobacco pipes.
the London AO13 bowl. It was recovered from the Phase 5 construction cut backfill of the masonry soakaway 151.

The 1660–80 dated bowls are restricted to a single type: the spurred AO15 as six examples, but two examples are narrower variants. These bowls have a quarter or full milling and a fair finish. The AO15 bowls were recovered from Phase 4 layer 50, pit 162 and the ditch or pit 221, while from Phase 5 features they occurred in layer 108 and the construction cut backfill for soakaway 154. Singular examples of the 1680–1710 dated bowl types are also present, first as the spurred AO19 and secondly as an unstratified heeled, straight-sided AO22 bowl. Both bowls typically for this period only have one-quarter milling on the back of the bowl and are both of a fair finish. The AO19 bowl was recovered from Phase 5, pit 129.

18th century types

There are sixteen examples of heeled, upright OS10 bowls dated to 1700–40, the majority of which are not initialled. They were all recovered from Phase 5 deposits: layer 108 as four examples, pit 183 as five examples and layer 209 as two examples, while single examples were found in cut 129 and two examples in the construction cut backfills for soakaway 154. Three bowls were marked with different pipemaker initials. The first is marked A A, probably for Anthony Arthur Andrews, 1694–1716 and a probable Southwark pipemaker, or possibly Anthony Atkinson, recorded in 1696 (Oswald 1975, 130). It was found in pit 213. The second bowl is marked W A, the family initial being almost illegible and William Allen, 1707–36 is a possible maker (ibid). This pipe was recovered from the construction cut backfill of drain 104. The third bowl is marked A S (fig 10, no 3), possibly for Anthony Sidwell, 1696–1704, or Abraham Shepherd, 1721 or Abraham Sands, 1721 (ibid, 144–5) and this was recovered from pit 231.

The 18th century spurred bowls include an unstratified damaged bowl classified simply as an AO26 type and has only the family name C legible, the first name being poorly moulded but could be a M or a W. All other spurred bowls came from Phase 5 deposits. The rounded profiled OS22 bowl type, dated to c 1730–80 is present as a single example in pit 138, but its spur is missing. The OS23 bowls with a straighter front and dated to c 1760–1800 are as four examples, one of which is not maker-marked and came from pit 7. Two bowls are marked I G on the spur, but were made in different moulds and were recorded in pit 138 and the construction backfill of wall 14. The possible pipemaker for these bowls is John German, 1749 (ibid, 137). The fourth bowl is marked M S and was recorded in pit 138, but no pipemakers are as yet documented in London with these initials, but if the M is an upside down W, then at least two contemporary pipemakers are known: William Smith, 1781, St Andrew, Holborn, or William Showell, 1784, Whitcross Street (ibid, 146).

None of the pre-1780 bowls is decorated, except for an unstratified fragment with a coat of arms on the back of the bowl, and has in the lower half of the shield a man rowing a boat with another seated figure (fig 10, no 4). More complete examples of this decoration on spurred bowls have been recovered from Paul’s Wharf and shows this to be the Arms of the Watermen with dolphin supporters and the legend ‘AT A COMMAND OF OUR SUPERIORS’ (Le Cheminant 1981, 126). The watermen ferried people across and along the Thames.

A single AO27 bowl, dated to 1780–1830, is recorded and it is plain except for flower motifs on each side of the heel and an incuse segmented circular stamp on the back of the bowl and the name ‘SAVELL’ (fig 10, no 5). This bowl was found in Phase 5 and the primary fill of barrel well 36. This bowl was made by John Savell (2), 1763–90, who in 1780 was working in Moorfields (Oswald 1975, 145).
19th century pipes

The latest bowl type recorded is an 1820–60 dated AO28 type with oak leaf and grass borders and is initialled J O on the spur (fig 10, no 6). It was recovered from Phase 6 (19th–20th century) and the fill of soakaway 97. There were a number of contemporary London pipemakers with these initials who could have made this bowl (Oswald 1975, 142), but the closest to the site was John Ore, Union Street, Borough, working from 1847 to 1899.

DISCUSSION

The 17th century bowls from the site are not maker-marked with stamps, but this follows a trend in the London industry when the master pipemakers, on the whole, abandoned marking their products during the mid-17th century. Spurred bowls are also more frequent here than the heeled type during the period 1640–80 and this follows the distribution pattern of these types during this period for the rest of London. Although pipemakers probably made a range of bowls during the 17th century, it appears that spurred bowls were more common or popular in Southwark, Lambeth and the City, while in East and South-east London the heeled bowls are more frequently recovered (Jarrett forthcoming). The non-local bowls also follow the usual distribution pattern for these types, being largely found at excavations close to the Thames, but their findspots are more concentrated on the very eastern side of the City and Aldwych and the corresponding area on the south bank, which would encompass this site. It possibly indicates pipemakers moving from the West Country and working in this area.

Very few bowls, if any, from the assemblage can be linked to local clay tobacco pipemakers, although the industry appears to be widespread across the City, as well as East London, Southwark and Westminster. The only pipe that can be attributed to a pipemaker is that of the one made by James Savell (2) who was working north of the river. It is possible that this pipe was marketed to the area of the site, but it could also have been introduced to the site by a visitor. The completion of the building of the Blackfriars Bridge in 1769 would certainly have aided the occurrence of Savell pipes on the site, whether bought locally or not.

Small finds, by Märit Gaimster

Besides iron nails and slag, two objects were retrieved from the excavations (for a full list of finds, see Gaimster 2008). Phase 4 (17th century) produced a rectangular bone mount with finely chamfered edges (fig 11); this is most likely the upper scale of a small brush with composite handle (cf MacGregor 1985, 183 and fig 99c–e). The mount (sf <3>) was retrieved from the upper fill of pit 166, and associated with pottery dating from 1580–1700. From the construction cut for wall 14 in Phase 5 (18th century) came a worn copper-alloy jetton. The jetton (sf <2>) represents a more unusual issue of the widespread Nuremberg products. It was struck by Lazarus Gottfried Lauffer for William and Mary (1689–94). The obverse shows the King’s diademmed bust right and the inscription ‘WILLH.III.D.G.ANG.SCOT.FR.ET.HI.REX’; the reverse shows the Queen’s bust right and the inscription ‘MARIA.D.G.ANG.SO.FR.E.HI.REGINA’ (cf Mitchiner 1988, no 1802–1804).

![Fig 11 231–241 Blackfriars Road, Southwark. Small finds: upper scale from small composite bone brush (sf 3).](image-url)
Animal bones, by Kevin Rielly

A total of 271 fragments of bones were recovered by hand and all were well preserved and minimally fragmented. The great majority of this assemblage was found in the assorted collection of pit fills dating to the later post-medieval period (see table 1). The bones were recorded using standard methodologies that are outlined in the assessment report (Rielly 2008).

<table>
<thead>
<tr>
<th>Species/Animal size class</th>
<th>Late medieval</th>
<th>17th century</th>
<th>18th century</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cattle</td>
<td>8</td>
<td>7</td>
<td>33</td>
</tr>
<tr>
<td>Equid</td>
<td>58</td>
<td>–</td>
<td>1</td>
</tr>
<tr>
<td>Cattle-size</td>
<td>3</td>
<td>8</td>
<td>34</td>
</tr>
<tr>
<td>Sheep/Goat</td>
<td>–</td>
<td>5</td>
<td>40</td>
</tr>
<tr>
<td>Sheep</td>
<td>1</td>
<td>–</td>
<td>9</td>
</tr>
<tr>
<td>Pig</td>
<td>2</td>
<td>–</td>
<td>7</td>
</tr>
<tr>
<td>Sheep-size</td>
<td>1</td>
<td>10</td>
<td>27</td>
</tr>
<tr>
<td>Roe deer</td>
<td>–</td>
<td>–</td>
<td>1</td>
</tr>
<tr>
<td>Cat</td>
<td>–</td>
<td>–</td>
<td>8</td>
</tr>
<tr>
<td>Rabbit</td>
<td>–</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>Domestic goose</td>
<td>2</td>
<td>–</td>
<td>1</td>
</tr>
<tr>
<td>Curlew</td>
<td>–</td>
<td>–</td>
<td>2</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>75</strong></td>
<td><strong>31</strong></td>
<td><strong>165</strong></td>
</tr>
</tbody>
</table>

DESCRIPTION OF FAUNAL ASSEMBLAGE BY PHASE

Phase 3 (Late medieval/early post-medieval)

Two partial skeletons, one cattle and the other equid, were recovered from the topmost fill of ditch 184. Originally placed as Roman, $^{14}$C analyses revealed dates for the cattle bones and for the equid at the turn of the 16th/17th centuries and within the early to late 15th century respectively. The two skeletons were in contrasting states of completeness and articulation (see table 2). Each carcass had clearly undergone some measure of dismembering by scavenger activity, as shown by the dog gnawing. In addition, the equid skeleton shows a number of butchery marks, including an attempt to split the pelves through the left pubic shaft, this from a ventral direction. There were also cuts on the shaft of the femur, which can be interpreted as defleshing marks. To gain access to these parts of the carcass, this equid must have been flayed. The butchery marks clearly show some further alterations, but there is a marked contrast between this rather desultory use of the carcass and the more systematic division and jointing methods commonly applied to the cattle carcasses entering the medieval and post-medieval London meat markets (eg Rielly 2006, 136–7). Especially noticeable in this respect is the lack of any cut marks or division of the vertebral column and ribcage. It is possible that jointing was limited to the forelimbs and certain parts of the hindlimbs, which are absent. However, those parts remaining clearly follow the typical survival pattern of an unburied carcass, where the axial part (head to tail) will generally remain intact for a longer period compared with the limbs, the latter inevitably being removed by scavengers (see Haynes 1982). Thus, while the butchery evidence clearly shows some meat removal, it can be assumed that bone absence is related more to scavenger than human activity. The use of horseflesh in late medieval and early post-medieval London has been attested at a number of other sites (see Conclusions).

The cattle remains in the same feature are obviously from the same carcass, as seen by the age and size evidence, plus the fact that the humerus and radius articulate. There is a clear contrast regarding skeletal parts with the equid skeleton. It could be assumed that these largely
represent those parts removed from some nearby cattle carcass by scavengers. Alternatively the absence of vertebrae and ribs could relate to truncation. The limb bones are all complete or nearly so and all show a singular lack of butchery marks. Without evidence for any post-mortem use, it must be assumed that this animal was diseased and as a consequence the meat or indeed any of the other post-mortem products was deemed unfit for human use.

Post-medieval (Phases 4 and 5)

A small quantity of bones was taken from 17th century (Phase 4) deposits, but the majority from this period were derived from the 18th century levels (Phase 5, and see table 1). Most of the latter collection was derived from pits, with moderate concentrations derived from pits 183 and 213 (both in trench 4) with 57 and 36 fragments respectively. Cattle and sheep/goat were the dominant species throughout the post-medieval deposits and, in the later phase, both showed a rather similar age distribution (see table 3). A notable proportion of youngsters, veal and lamb, were accompanied by a preponderance of adults (>2 years). The latter age group include a mix of young and old adults, the former corresponding to prime beef and mutton. There were general similarities with the rather slight age data from the earlier phase, including the presence of veal (two fragments). Both species also show a general mix of skeletal parts, although with relatively few head and foot parts, suggestive of a lack of processing waste and/or the presence of moderate (lower limb) to good quality (upper limb) meats.

This later phase also provided evidence for the ubiquitous ‘late innovations’ including sawn bones from well/soakaway 9, plus the presence of relatively large cattle and sheep, from pit 183. Both ‘innovations’ are generally seen in collections dating from the late 18th century, signifying the use of the saw as a butchery tool and the introduction to the London meat markets of various improved stock respectively (Albarella 2003, 74; Rixson 2000, 215).

Other post-medieval food species include roe deer, rabbit, goose and curlew, this represented by two wing bones, while the non-food waste is restricted to the partial skeleton of a subadult cat and an equid loose upper incisor from two later deposits.

Table 2 Description of the partial skeletons from fill 24 within the medieval channel 25 using the following abbreviations: Bones, (1) minimum number of bones; Age/Sex, yrs years, ‘Late’ epiphyses include the proximal humerus and femur, plus the distal radius and femur, Ht height, max M3 maxillary adult third molar and a approximately; Size, GL greatest length, GLL greatest lateral length, Sh.Ht shoulder height and mm millimetres.

<table>
<thead>
<tr>
<th>Species</th>
<th>Bones</th>
<th>Modifications</th>
<th>Age/Sex</th>
<th>Size</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cattle</td>
<td>2 skull (1), scapula, humerus, radius and femur</td>
<td>Femur dog gnawed</td>
<td>&gt;3.5–4yrs (Fused ‘Late’ epiphyses)</td>
<td>Radius GL=259.2mm (Sh.Ht=1114.5mm)</td>
</tr>
<tr>
<td>Equid</td>
<td>5 skull (1), 1 cervical, 6 thoracic, 36 ribs (18), 6 lumbar, 2 pelves, femur and 1st phalange</td>
<td>Pelves and femur dog gnawed. Attempted split through pelves and slight chop ilial shaft, both ventrally.</td>
<td>a7yrs (Ht of max M3), female based on shape of pelvis</td>
<td>Femur GLL= 321mm (Sh.Ht=1232.5mm)</td>
</tr>
</tbody>
</table>

Table 3 Age distribution of cattle and sheep in phase 5, using epiphysis fusion (ages following Schmid 1972, 75)

<table>
<thead>
<tr>
<th>Species</th>
<th>Juvenile &lt;6mo–1yr</th>
<th>Subadult or older &gt;1yr</th>
<th>Subadult 1–2yrs</th>
<th>Adult &gt;2yrs</th>
<th>Young adult 2–3yrs</th>
<th>Old adult &gt;3yrs</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cattle</td>
<td>6</td>
<td>4</td>
<td>1</td>
<td>6</td>
<td>2</td>
<td>6</td>
</tr>
<tr>
<td>Sheep</td>
<td>2</td>
<td>15</td>
<td>3</td>
<td>13</td>
<td>5</td>
<td>10</td>
</tr>
</tbody>
</table>
CONCLUSIONS

The late medieval/early post-medieval cattle and equid skeletons, as described above, while deposited in the same upper fill of the channel, clearly represent animals with very different histories. Cattle are obviously valuable food animals and there must have been some compelling reason to preclude the use of its meat. One obvious explanation is that it was diseased, although the rather poor burial, if indeed any attempt was made to bury this animal, is perhaps contrary to the actions of a responsible farmer. The lack of completeness of both skeletons would in fact suggest that neither was initially deposited within this channel/ditch, the final resting place resulting from the action of scavengers combined perhaps with some man-made attempt to rid the area of noxious waste. Each animal had probably died or was killed locally. The butchery evidence on the equid remains would suggest that it was skinned and that meat was removed from at least a section of the carcass.

Similar evidence of equid carcass usage has been found at a number of contemporary sites in this general locality. These include the nearby site at Great Southwark and Lavington Street (Rielly 2007), this providing at least two adult individuals of advanced age, dating to the 17th/18th centuries, as well as sites within the tanning district of Bermondsey just to the east, with copious quantities of equid remains, here including Tabard Square and London Bridge City, also dated to the 17th/18th centuries and also with similar levels of butchery (see Rielly 2011, 169). Mention should also be made of the abundance of butchered equid remains at the various sites on the South Bank just west of Southwark Bridge Road related to the 16th/17th century bear-baiting arenas (see Bowsher & Miller 2009, 132 and Mackinder & Blatherwick 2000, 32). The culling and post-mortem usage of equids through the medieval and post-medieval periods was obviously outside the regular supply and redistribution systems involved with the major food domesticates. Horses were ultimately removed to the knacker’s yard where they would be killed and flayed and arrangements would be made for the burial of the carcass (see Cowie & Pipe 1998). These south London examples demonstrate this process, with knacker’s yards probably adjacent to or even part of certain Bermondsey tanyards facilitating the supply of skins as well as some meat, perhaps for human or pet use. The South Bank equid remains were clearly intended for the mastiffs used for bear baiting. The Blackfriars Road and indeed the carcasses represented at Lavington Street are clearly on a smaller scale than these other examples, but each shows the typical traits of skin and meat usage and there is every reason to suppose that these were also derived from some local knacker’s yard.

The very much later reoccupation of this area, from the 17th century, provided a moderate collection of animal bones presumably derived from domestic households fronting onto Blackfriars Road. These collections are almost entirely composed of food waste, with most of the meat provided by adult cattle and sheep. While this suggests a measure of secondary usage, the various unimproved stock that supplied the London meat markets into the 18th century were notoriously slow to mature. Lisle (1757, 259, in Armitage 1982, 52) mentions that bullocks would not be ready for slaughter until four or five years of age while Thomas Mouffet, the Elizabethan physician, suggests that the best mutton is provided by sheep aged between 3 and 4 years (Wilson 1973, 80). Thus a proportion of the older individuals may not have supplied more than 2 or 3 years of such products as milk and/or wool. The skeletal distribution of these animals suggests the presence of reasonable to good quality meats, these supplemented by pig and poultry, as well as a selection of game. The inclusion of venison is a clear indicator of some affluence within one of the later households. Contemporary sites in the general locality and in other parts of London demonstrate a general preference for veal, older beef and mutton, with only minor use of other food species (Rielly 2007; Rielly in prep).
Discussion and conclusions

PREHISTORIC

A small assemblage of residual struck flint dating from the Mesolithic to the Bronze Age was recovered from the site. However, the only apparent prehistoric feature found on the site was a channel to the south, which crossed the eyot or may even have represented the southern edge of the eyot itself. Probable Iron Age pottery was recovered both from one of the lowest fills of the channel and from a sand deposit beneath a late medieval ditch to the north.

This part of the gravel eyot was clearly far less intensively utilised throughout the prehistoric period than the area around Hopton Street, although the recovery of a single residual flint blade of Mesolithic or Neolithic date and the two flints that could have been dated to the Neolithic period suggests that the area was at least visited during these periods. Evidence for Bronze Age activity was equally scarce amounting to residual flint found within later deposits that may have been of Bronze Age date. The apparent lack of material is at first surprising when one considers that the excavation at Hopton Street was located only c 180m to the north-east of the site. This may in part be explained if the stratigraphic sequence at Blackfriars Road is compared with the Hopton Street site, as the Blackfriars site seems to lack the dark peaty sand from which the bulk of the material from Hopton Street was recovered (over 3000 lithics including 820 worked pieces and 300 pot fragments, predominantly of Late Neolithic to Early Bronze Age date, but with a Mesolithic to Early Neolithic component) and into which ard marks were cut (Ridgeway with Butler 1999). Whether this indicates a degree of truncation or whether this deposit represents a cultural horizon formed by the intense prehistoric activity is at present unclear. It is also possible that the occupation at Hopton Street may have been located in a more favourable place in the central part of the eyot, while it is possible that the present site occupied the edge of the eyot. It should also be stated that the only small areas of the present site were investigated and they were subject to a large degree of post-medieval truncation.

The evidence of activity associated with the Iron Age was again limited exclusively to artefacts (32 sherds of probable Iron Age pottery), suggesting that the site was not exploited in an easily recognisable manner during this period. Iron Age pottery was also found within an agricultural soil at 245 Blackfriars Road to the north of the present site (245BR87, Girardin & Heathcote 1988, 414; Sidell et al 2002, 59 gaz. 52). This lack of visible anthropogenic features for the prehistoric periods does not indicate the site was not exploited and it is possible that activities such as fishing and wildfowling as well as collection of natural flora may have been commonplace activities.

ROMAN

Roman activity on site would appear to consist of 25 sherds of abraded Roman pottery and a small assemblage of abraded Roman ceramic building material weighing 4.2kg apparently residual within the medieval and later ditches. Aside from the Roman pottery within an agricultural soil at 245 Blackfriars Road, which lies less than 100m to the north (Girardin & Heathcote 1988, 414), very little evidence of Roman activity has been recognised within the area around Blackfriars Road. This contrasts sharply with the detailed picture we have of the thriving activity around Southwark where the extensive work undertaken between 1973 and 1991 has been consolidated into a single publication, which gives a picture of the development of Roman Southwark (Cowan et al 2009). The bulk of the early development in Southwark was focused along the line of the main north–south road and on two gravel islands termed the North and South Islands. To the west of these islands the Bankside Channel separated them from the Bankside Eyot, on which the present site is located.

What is apparent from the general lack of artefactual material recovered and the complete absence of securely dated features, is that the site was peripheral to the main Roman settlement in Southwark. It is possible the late medieval ditch from which most of the Roman
finds were recovered did have Roman origins, but the abraded nature of the finds might suggest that they had been washed in. Topographically, the land to the immediate north of the large medieval ditch lies at 1.14m OD and this increases to 1.38m OD a further 12m to the north. Although, interestingly, within the remaining excavation trenches that are located farther to the north the level drops again first to 1.25m OD within the next trench, which lies only another 6m to the north, and then to 0.72m OD within the trench farthest to the north. The surface level for this part of the Bankside Eyot would stand at between 0.72 and 1.38m OD. This figure, when compared with the proposed tidal levels for the Roman period (Brigham et al 1996; Brigham 2001, 25; Milne 1985, 79–86; Sidell et al 2000, 17), would indicate that this part of the Bankside Eyot would have flooded periodically during the early Roman period, perhaps becoming dry sometime in the 2nd century AD. It is of interest that among the pottery assemblage are a few sherds of late Roman date, suggesting that activity was generally taking place at that time, when tidal levels may have dropped to below 0m OD, and the land could have been above the Mean High Water level (MHW) and therefore suitable for agricultural activity.

Evidence for extensive reclamation works believed to have taken place between AD 160 and AD 200 is seen in and around the Roman settlement in Southwark, which does suggest the river levels had dropped sufficiently in this period to allow for an expansion of settlement. This is most clearly seen at a number of sites located along Guys Channel, which lies to the east of the main settlement on the north island. Here evidence has emerged for waterfront site dating to AD 161 as well as a timber revetment dating to the 2nd century, while the use of Guys Channel as a waterway is attested by ‘Guys Boat’ abandoned in the channel in the late 2nd century AD (Cowan 2009, 17, 24 and 25). Whether within this period, because of the fall in river levels, the Bankside Eyot became suitable for agricultural purposes, perhaps assisted by the cutting of a drainage ditch and raising of bank defences or whether this occurred in an earlier or later period is at present uncertain. What does seem certain is that the Bankside Eyot was being utilised during part of the Roman period. Clearly more work needs to done on the topography of the gravel islands that lie beyond the immediate Roman settlement, particularly in regard to possible land surfaces and how they relate to the accepted changes in tidal levels.

LATE MEDIEVAL/POST-MEDIEVAL

There is no evidence of any activity during the Saxon and the majority of the medieval periods. Although this is easily explained by the accepted model of tidal levels within the Thames for this period, which indicates that tidal levels again rose from the late Saxon period (10th century) continuing until the present, when the area that was low lying became marshy and subject to frequent flooding (Bowsher & Miller 2009, 10; Cowie et al 2012, 111; Milne 2003, 144–6; Thomas et al 2006, 12).

Therefore the later depositional sequences recognised during the Blackfriars excavation are likely to relate to this increase in tidal levels, as these deposits are largely comprised of alluvial clays and silts. Evidence of this was seen within the two southernmost trenches, although dating was generally sparse.

The higher alluvial deposits seen contained sub-angular flint pebbles, suggesting that at some stage within the later medieval period a vegetated topsoil horizon may have begun to form. As these deposits were subsequently truncated by post-medieval features, the assumption is that by the 16th century and probably earlier the area had become dry enough to be exploited in an archaeologically visible manner. This is supported by the dating of the large drainage ditch to the late 15th to early 16th century by means of carbon dating of partial cattle and equid skeletons within it. Other activity of similar date has been revealed in the vicinity at 109–115 Blackfriars Road (109BR87), where possible medieval pits and three parallel linear features were probably part of a medieval strip field system, while at 245 Blackfriars Road a channel or ditch was dated to slightly later in the 16th
century (Thompson et al 1998, 186). It would thus appear that in the late 15th/16th century a consolidated attempt was made to drain the land in the vicinity. This may have been no more than the latest attempt of many efforts to do so during the medieval period, as it is documented that river defences had been constructed by the 14th century (Graham 1978, 516) and such defences consisting of an earth bank have been found on sites further to the east at Bermondsey Wall West (Brown & Taylor 2010), Deptford (Divers 2004, 24–5) and Greenwich Reach (Hawkins in prep). However, the frequent mentions of the defences and ditches not being maintained and that flooding was widespread might suggest that the area remained waterlogged until the 16th or 17th centuries (Graham 1978, 516).

It is known from documentary evidence that during the later medieval period the site lay within open fields in the southern part of Paris Garden Manor, which comprised 100 acres of marshy riverside land that was prone to flooding. Throughout this period the area was known as Widesflete or The Wiles, meaning willows and was marshy and prone to flooding (VCH 1912). The accuracy of the documentary evidence is supported by the later depositional sequences that were observed during the Blackfriars excavation, as these clearly relate to the post-Roman flood deposits associated with an increase in tidal level. This flooding must have been accompanied by the deposition of alluvial clays and silts over an extended period. The dating of the naturally-derived deposits on the site has been hampered by limited quantity of datable material recovered, as only residual Roman pottery and ceramics of c 16th century date were recovered during the excavation. Whether this absence of material of early medieval date indicates a period of sediment erosion, which has removed part of the stratigraphic sequence, or whether an early medieval sequence never existed, or alternatively whether it is present but not recognised because of a lack of dating material, is at present unclear.

The nature of the later post-medieval activity appears initially to have comprised the cutting of ditches, presumably to assist in drainage, which was a continuation of a process that had begun in the late medieval period with the cutting of the large ditch (see above) and a series of pits that may be associated with ordered agriculture. It is interesting to note that all the ditches on the site from the prehistoric period onwards are located in the same part of the site and may represent recutting of a natural stream channel.

The definitive evidence dating from the 17th century is complemented by the cartographic evidence, as the series of east–west orientated ditches revealed in the excavation equate well with those first depicted on the Faithorne and Newcourt map of 1658. This clearly indicates that by this period permanent occupation of the area was well established. This is probable since the first documented attempt to drain and reclaim the marshland dates to the 14th century when drainage channels were dug around parcels of land following the construction of sea walls built successively further out from areas of higher ground (VCH 1912). The area of the site itself would have been to the south of the main focus of early industrial activity, which was directly related to activities associated with river traffic on the Thames. The east–west ditches revealed in the excavation clearly formed part of a system of water management that would have originally been connected to a series of north–south orientated ditches, draining into the Thames.

The numerous pit-type features seen probably represent activities connected to agricultural development or the planting of trees, although localised quarrying is also a possibility. The limited extent of the area revealed makes the possibility of recognising any formal layout for the pit cuts, which may relate directly to that shown on the map to 1658, difficult. The presence of glass cloches and flowerpots might suggest market gardening in the area.

The first buildings on the site date to the 18th century and are part of the development fronting Great Surrey Street (later Blackfriars Road), which occurred following the construction of Blackfriars Bridge in 1769 (Weinreb & Hibbert 1983, 70). This development comprised a mixture of commercial premises and tenements that by the end of the 18th century had filled the area around Blackfriars Bridge. Terraced houses fronting Great Surrey Street occupied the site by 1799 as depicted in Horwood’s map (fig 8). A view of Blackfriars...
Road as depicted in John Tallis’s *London Street Views 1838–40* shows a similar mix of usage with nos 235–240 as domestic dwellings and nos 231–234 to the south as commercial properties such as a chemist’s and a grocer’s with domestic accommodation above (Tallis 2002). The houses were obviously of some status and on Booth’s Poverty Map of 1898–9 the area was occupied by the ‘Middle Class’ or ‘Well To Do’. The wells/soakaways and pits would have been located in the garden areas to the rear of the houses.

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