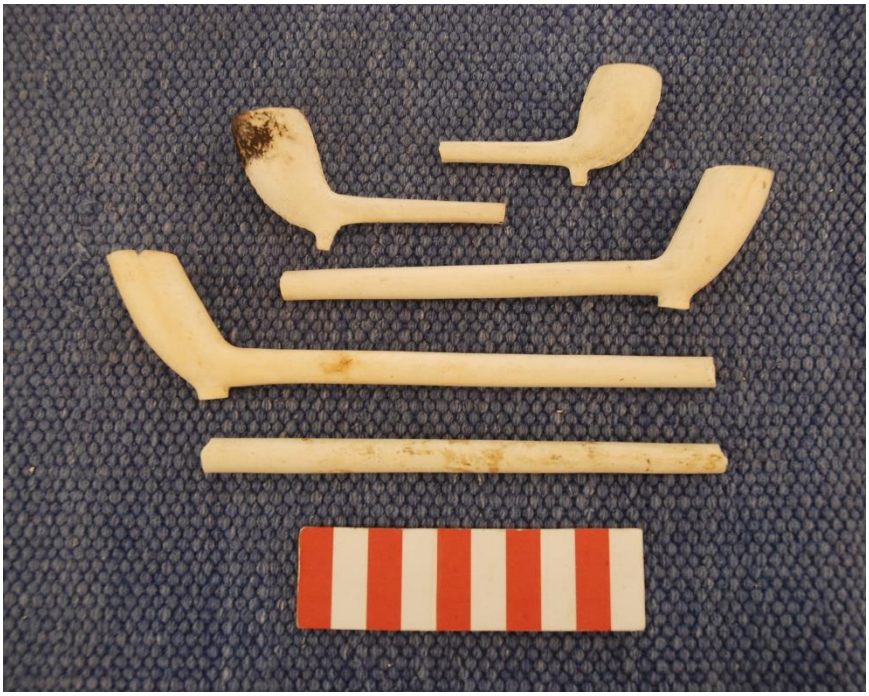
Middlesex Street
Highway Improvement Scheme, City of London, E1

An Archaeological Watching Brief



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August 2016

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Site code: CWA16

NGR: TQ 3340 8160 (centre)

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Abstract

Between the 18th July and 5th August 2016 an Archaeological Watching Brief was undertaken on drainage works located towards the north end of Middlesex Street, London, E1. The works comprised two drop shafts located in the vicinity of raised islands within the main carriageway. The Watching Brief was commissioned by Ilario Romano, Department of the Built Environment, City of London, due to the site falling within the Bishopsgate Conservation Area as defined by the City of London Local Development Framework.

The first drop shaft undertaken was located immediately south of a raised island, in the carriageway. It was bounded by the London Steakhouse to the south, and the entrance to Catherine Wheel Alley to the west. The trench measured 2m x 2m x 3.2m in depth, with an additional 1m³ spur extending south from the north facing section at the trench base. The work revealed two phases of post-medieval buildings. The first phase comprised a wall running east-west beneath modern services, with the northern face being exposed in the north facing section [8]. The top of this structure was encountered at a depth of 0.9m (12.71mOD). This wall was taken to adjoin a smaller section observed at the southern end of the spur, running in a north-south direction [16]. The second phase comprised a wall running east-west through the centre of the trench [4], adjoining a north-south running wall exposed in the west facing section, [17]. These walls were encountered at a depth of 0.25 and 0.65m in depth (13.36mOD and 12.96mOD respectively). The internal area of the walls contained a significant quantity of backfill and demolition rubble (9) indicating that the above ground structure had most likely been demolished into the basement. Below this, a layer of redeposited brickearth (15) within a potential pit [14], consistent with gravel or brickearth quarrying produced a small quantity of Roman finds.

The second drop shaft was located on the northernmost raised island, bounded by the carriageway to the north and a Subway restaurant to the south. The shaft measured 2m x 2m x 4m in depth, with an additional spur heading south at the trench base from the southern section, which measured 1.8m in length (N-S) x 1m in width x 1.2m in depth. Similarly to the first drop shaft, the remains of post-medieval basements were revealed at a relatively shallow depth of 0.32m (13.54mOD). The walls comprised an 'L' shaped structure in the north-west corner of the shaft [26], filled with demolition material, (27), abutting, but not adjoining a slightly offset second structure, [28] which was again filled with demolition rubble, (29). Below these was a series of waterlogged silty deposits, extending down to the natural brickearth. A small quantity of Roman material was recovered from the uppermost part of the brickearth, however no further features were observed.

The finds and features observed in both drop shafts are consistent with both the post-medieval development known to have existed along Windsor Street and Catherine Wheel Alley, and earlier Roman industrial activity. Natural geology, recorded as (13) in drop shaft 1 and (36) in drop shaft 2 was observed at 11.31mOD and 11.10mOD. The geology was characterised as an orangey clay in drop shaft 1, and a darker orange, siltier material containing more gravel in drop shaft 2.

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Front cover- Selection of plain and decorated clay tobacco pipes from Drop Shaft 1.

1 Introduction

1.1 This document forms a summary of results for an archaeological watching brief conducted on drainage works located towards the northern end of Middlesex Street, City of London, E1 6AN. The work took place between the 18th July and 5th August 2016.

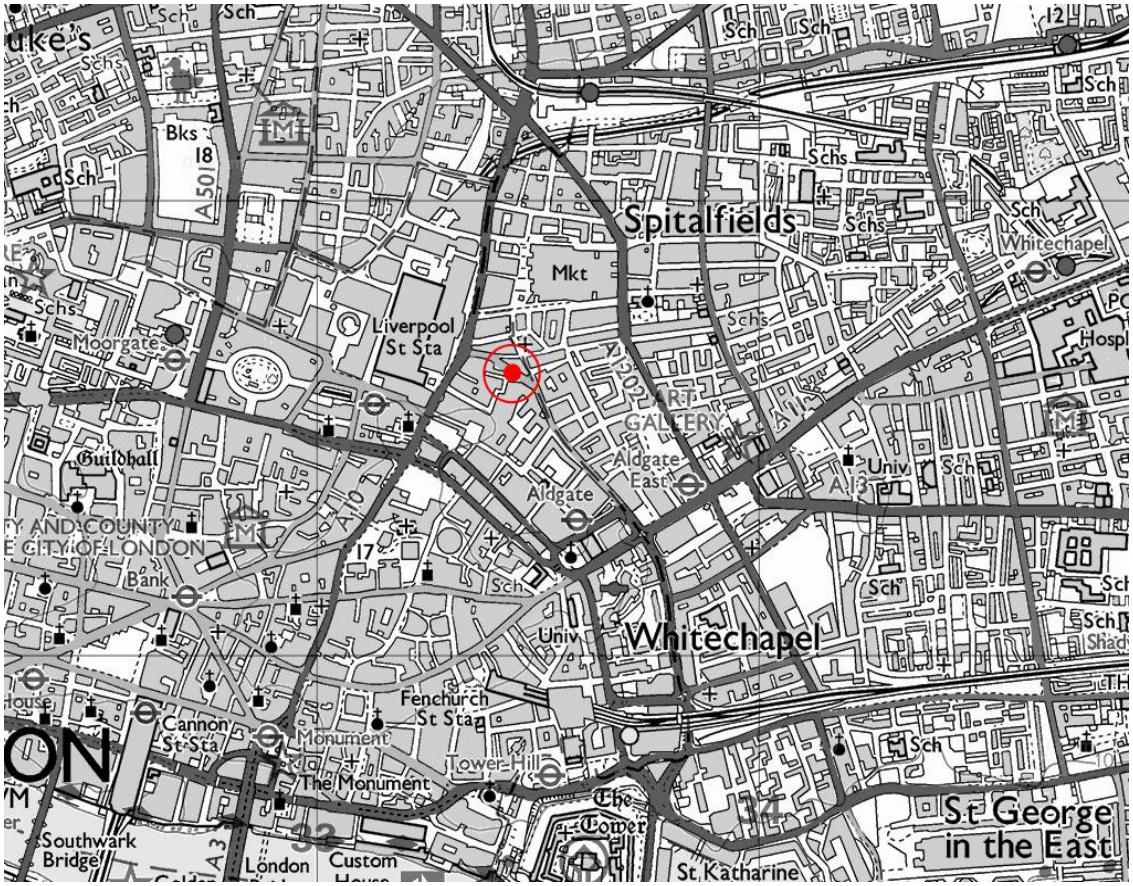

Figure 1: Site location, marked in red.

1.2 The watching brief was commissioned by Ilario Romano, Department of the Built Environment, City of London, in anticipation of the proposed scheme of groundworks taking place in the vicinity.

1.3 The site lay within the Bishopsgate Conservation Area, as defined by the City of London Local Development Framework and as such archaeological monitoring was deemed necessary (fig.2).

1.4 The programme of archaeological works entailed the monitoring of two drop shafts located near raised pedestrian islands within the main carriageway in the vicinity of Catherine Wheel Alley and Middlesex Street (fig.3).

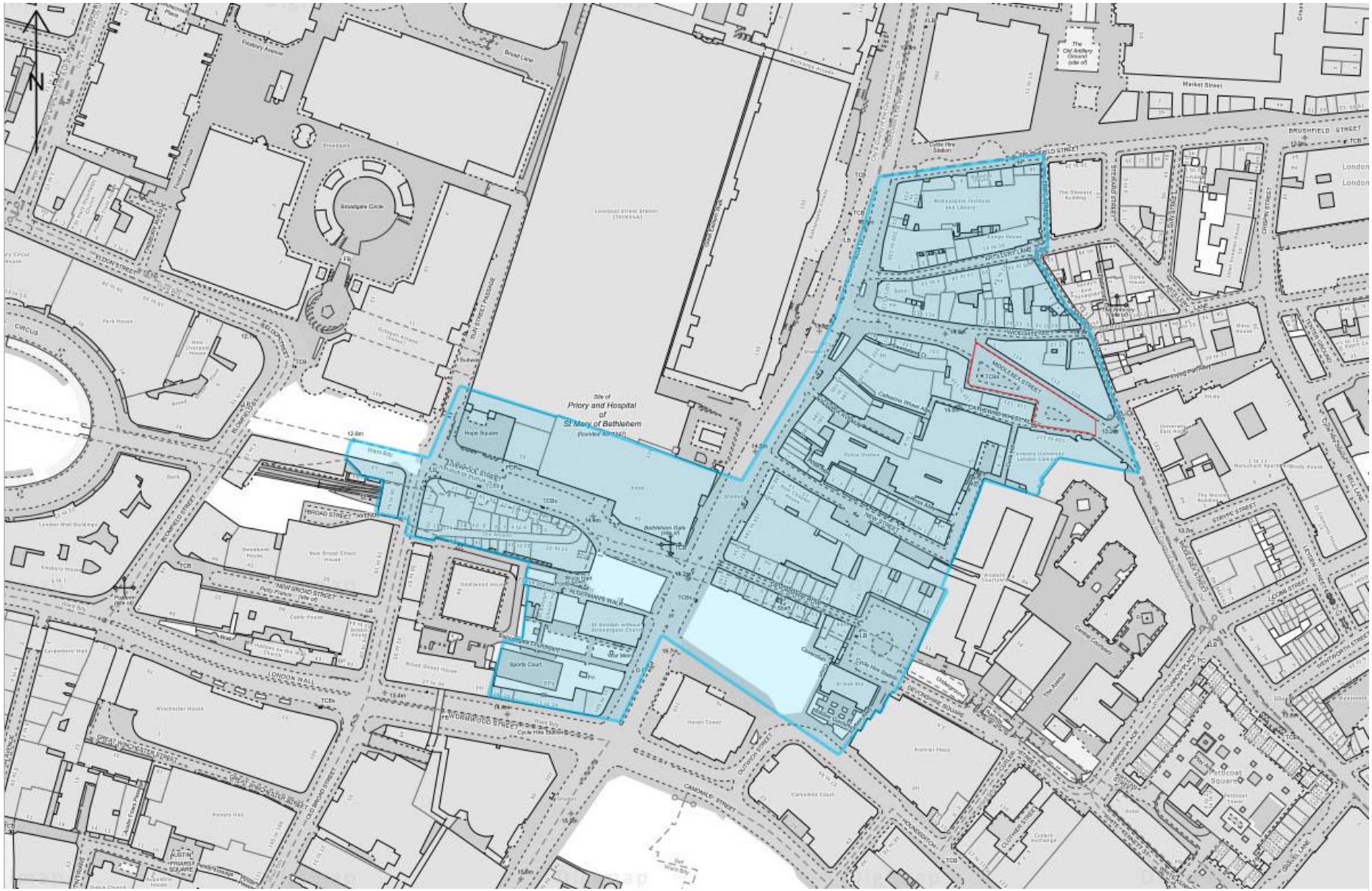

Figure 2: Bishopsgate Conservation Area (blue) in relation to the site (outlined in red). Adapted from CoL (2014) Conservation area boundary map.

Figure 3: Location of drop shafts 1 and 2 (shown in red).

2 SITE LOCATION, GEOLOGY AND TOPOGRAPHY

2.1 The site is situated in the carriageway at the northern end of Middlesex Street, between the junctions of Widegate Street and Sandy's Row. The carriageway is bounded by commercial properties to the northeast and southwest, and a pub, the Astronomer, to the west.

The drop shafts are located on the south side of two traffic islands, separating lay-bys from the main carriageway. The southernmost island forms a junction with Catherine Wheel Alley.

2.2 According to the British Geological Survey (sheet 256: North London) the site overlies the north-western edge of a pocket of Langley Silt (a brickearth deposit), within a large deposit of Taplow Gravel.

2.3 The site rests on relatively level ground, towards the centre of a slight southeast-northwest rise from 13.2mOD at the junction of Sandy's Row to 14mOD towards the junction with Widegate Street.

3 ARCHAEOLOGICAL AND HISTORIC BACKGROUND

3.1 The history of the area surrounding the site has been much occupied over time, lying close to the eastern extent of the Roman city, the medieval complex of St Mary Spital and more recent phases of Post-medieval occupation. The area has been well documented, and shall not be reproduced at length, however, a short summary for each of the main historical periods is given below.

3.2 *Prehistoric*

There is little evidence of substantial occupation taking place in the vicinity of the site. Much of the archaeological evidence dating to the prehistoric period has been recovered from closer to the river Thames – a logical and more likely location for a settlement. Excavations at 41-63 Bishopsgate by the Department of Urban Archaeology (BIP88) revealed stained surfaces, probably dating from the Late Bronze Age or early Iron Age, in addition to a number of pits containing pottery, struck flints, ash, charcoal and burnt timber. This evidence is most likely indicative of small scale industrial activity taking place in the area, rather than domestic occupation. It is therefore considered that the likelihood of encountering prehistoric deposits is low.

3.3 *Roman*

The site lies outside of the limits of the Roman city, north-east of Bishopsgate, one of the original access routes into the city. To the west runs Ermine Street, a major Roman road which began at Bishopsgate and ran to Lincoln and York. An extensive series of archaeological investigations have taken place in the area surrounding the site location over the past few decades and have revealed substantial occupation layers. Evidence suggests the site lies in an area on the fringe of the main Roman settlement, and was utilised for its natural resources. Excavations by JM Oetgen and S Poole for the DUA at 158-164 Bishopsgate (1988-89 OPS88) uncovered a sequence of large early Roman quarry pits cutting into natural gravels in addition to a number of pits dug into dark soil.

It is thought that these pits were accessed by gravel trackways adjoining Ermine Street. Similar features were recorded in a separate excavation at the same site in 1989 (ISH88) comprising intercutting rubbish and cess pits, and brickearth quarrying pits. Further quarry pits were recorded at 192-200 Bishopsgate, in addition to a possible cobbled trackway (DUA BHS87). At 109-115 Middlesex Street an east-west ditch was recorded (MSE88), which was superseded by a less substantial ditch in the mid-3rd century.

The general picture appears to be one of steady occupation and use, highlighting the various extramural activities taking place throughout the Roman period – specifically, industrial quarrying of natural materials.

Significantly, whilst most of the occupation was contained within the city walls, Roman burial practices dictated that burials must occur outside of this boundary. Immediately to the west of the site, excavations at 192-200 Bishopsgate (DUA BHS87) revealed 8 inhumations, 2 cremation pits and a further 8 possible graves. Directly adjacent to the southernmost drop shaft, between 109 and 115 Middlesex Street, excavations by the DUA (MSE88) recorded four or five burials, taken to be part of an extramural cemetery. A further single 3rd century inhumation was recorded during a separate watching brief at 110-116 Middlesex Street by the DUA (MDX87), adjacent to the site of the drop shafts. The cemetery is well documented, and is thought to extend along the Bishopsgate roadside, incorporating the areas of Spitalfields, Moorfields, Artillery Lane and Middlesex Street[1]. The cemetery included both inhumations and cremations and has provided a number of grave goods including samian pottery and glass bottles. It is thought to have been in use between the 1st and 4th centuries, with an apparent peak in the 1st-2nd centuries. The presence of both burials and cremation urns indicates the longevity of the cemetery, as whilst cremation was initially the favoured form of burial, this was gradually replaced by inhumation from the second century onwards[2].

At the end of the Roman period the area fell into decline, characterised by the presence of so-called 'dark earth' (recorded at 158-164 Bishopsgate) and eventually became an area of marshland. It is likely that, if not truncated by later structures, Roman stratigraphy will be observed during the proposed works.

3.4 *Saxon*

During the Saxon period the settlement, *Lundenwic,* was focused to the west of Londinium and established by the early 7th century. Lundenwic was incorporated into the Kingdom of Essex and became a key trading town, easily accessible via the River Fleet. It is believed to have covered the area between the High Holborn/Oxford Street Roman road to the north, the Thames to the south, Charing Cross / Trafalgar Square to the west, and somewhere beyond Kingsway to the east. Archaeological evidence has been extensive, particularly on the site of the Royal Opera House, where streets of over 60 buildings, (both houses and workshops), plus pits and yard surfaces, were recorded. Similarly, an excavation at 67-68 Long Acre uncovered Saxon yards, rubbish pits, ditches, etc. The Saxon settlement is believed to have fallen into decline after the Viking

[1] 'Appendix 1: Burials in Roman London', in An Inventory of the Historical Monuments in London, Volume 3, Roman London (London, 1928), pp. 152-169. British History Online http://www.british-history.ac.uk/rchme/london/vol3/pp152-169.
[2] Toynbee, JMC. (1996). P33-34.

raids of 850-70, but then reoccupied between 886-9 and its walls repaired as part of the defensive system established by King Alfred.

There is no evidence of Saxon activity directly on the site, however, the Saxon foundations of St Botolph-without-Bishopsgate were uncovered during construction of the existing church. St Botolph was the patron saint of travellers, and thus it was deemed an appropriate designation for a church near a city gate. It is likely that as a result of the marshy ground and concentration of occupation further to the south-west that the archaeological impact on the site would be low.

3.5 *Medieval*

By the thirteenth century the area encompassing the site had become the property of the priory and hospital of St Mary without Bishopsgate, later known as St Mary Spital. Documentary evidence has shown that the priory and hospital were first established in or just after AD 1197, on the eastern side of the road from Bishopsgate to Shoreditch (now Norton Folgate). Excavations failed to reveal much of the priory church, which probably lies under the modern roadway of Spital Square. The priory and hospital of St Mary Spital ceased to exist with the Dissolution of the monasteries in 1538 and a number of the buildings were converted to courtiers' residencies, with the land regularly changing hands. The church building itself was carefully dismantled and removed, although parts of the transept walls were incorporated into subsequent buildings and no significant demolition horizons have yet been identified from the north transept or chancel. The complex was located to the north of the site, on what is now Spital Square, however, there is little evidence to suggest it extended as far south as Middlesex Street.

Much of the area continued to be utilised in a similar fashion to the Roman period. Excavations by the DUA in 1990 (CCT90) at 20-26 Cutler Street revealed widespread pitting for the disposal of rubbish and cess, as well as gravel extraction. Many of the pits contained quantities of human bone, including a trepanned skull, which presumably came from the disturbance of pre-existing burials. Closer to the site, at 226-230 Bishopgate and evaluation undertaken by MoLAS in 1994 (BIY94) uncovered a dump of redeposited brickearth containing a number of burnt cooking ware sherds of London Type ware and grog tempered wares – dating to the 12th/13th centuries. This dump is thought to be associated with constructional activity which took place along Bishopsgate, potentially with the hospital complex although this is unclear. Again, human remains were uncovered from medieval contexts however they were taken to be disturbed from Roman layers.

One of the features of archaeological interest closest to the site is a plague pit, recorded at 37-39 Artillery Lane. The pit has been dated to the 14th/15th century and may be one of several Black Death mass graves located throughout London. The site appears to have been located on top of an early 2nd century Roman cemetery.

During the medieval period much of the occupation was concentrated around the priory and hospital of St Mary Spital, with the area of the site being used for quarrying and refuse. It wasn't until the later medieval/early post-medieval period that Middlesex Street itself began to develop. As a result, there was the potential of uncovering medieval deposits, particularly at the lower levels of the completed works.

3.6 *Post-medieval*

Middlesex Street appears to have come into existence at the end of the medieval/beginning of the Post-medieval period. Originally known as Berwardes Lane, and soon after, Hog's Lane, the routeway was a country lane lined with elms[3] leading north from Aldgate High Street. The track appears on the Agas Map, which depicts London in the 1560s, as a narrow lane running parallel with Houndsditch and Bishopsgate. Strype suggests it derived its name from the hogs which ran in the nearby fields[4]. By Ryther's Map of 1608 the lane had become known as Peticote Lane, possibly in response to the cloth and bric-a-brac traders moving into the area. This prompted the building of a number of cottages, garden plots and tenter-yards in the area. Notably, the benefits of the open fields and fresh air made it a desirous location, and was said to be the home of the Spanish ambassador during reign of James I.

From the late 17th century onwards the name appears as 'Petticoat Lane', finally becoming Middlesex Street in c1831. French Protestant silk weavers settled in the area owing to religious persecutions, and eventually a large Jewish community was also established. Petticoat Lane was badly affected by the Great Plague of 1665, and much of the archaeological evidence recovered from the Artillery Lane plague pit may date from this second epidemic.

The northern part of Petticoat Lane became what is now Sandy's Row, first appearing on Horwood's map of 1799. Excavations at 120 Middlesex Street and 12-18 Artillery Lane (MoLAS 2008; MIX08) revealed extensive deposits dating to the 16th and 17th century, comprising a series of intercutting refuse pits and occupation layers. Much of the evidence relates to domestic occupation, with only limited evidence of other industries being recorded. Two horn-core lined pits, using in tanning, were recorded in excavations at 109-115 Middlesex Street (DUA MSE88) and quantities of slag and crucible or mould fragments were recovered from 20-26 Cutler Street. This would suggest that cloth trade was still the main occupation in the area.

Catherine Wheel Alley, to the south of the southernmost drop shaft was first mentioned in 1810, derived from two separate courts, 'Catherine Wheel Court' and 'George Yard' which over time became conglomerated[5]. Prior to the extension of Middlesex Street into its present layout, the two laybys on which the drop shafts are situated were referred to as Sandy's Street and Windsor Street, a small L-shaped complex adjoining Widegate Street at the north end and Catherine Wheel Alley to the south. By 1914 Middlesex Street had been extending to meet Bishopsgate the present day layout came into existence, bounded by commercial and residential properties on both sides of the road.

Sufficient archaeological evidence has been uncovered from Middlesex Street to indicate that there is a high potential for exposing evidence relating to the post-medieval expansion of the area during the proposed groundworks. It is unclear as to how much this development will have truncated earlier features of archaeological interest.

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[3] Henry A Harben, 'Middle Temple Hall - Miles's Lane', in A Dictionary of London (London, 1918a), British History Online http://www.british-history.ac.uk/no-series/dictionary-of-london/middle-temple-hall-miless-lane.
[4] Ibid.
[5] Henry A Harben, 'George (St.). Botolph Lane - George and Catherine Wheel Alley', in A Dictionary of London (London, 1918b), British History Online http://www.british-history.ac.uk/no-series/dictionary-of-london/botolph-lane-george-and-catherine-wheel-alley.

4 ARCHAEOLOGICAL RESEARCH QUESTIONS

4.1 The watching brief presented the opportunity to answer the following general and more specific questions:

- Is there any evidence associated with the Roman cemetery located to the north of the site?
- Are there any finds/features associated with the medieval plague pit known to be located in Artillery Lane?
- What is the evidence for post-medieval occupation of the area? What form does this take?
- If encountered, what is the natural geology and at what level does it exist across the site?

5 METHODOLOGY

5.1 Standards

5.1.1 The field and post-excavation work was carried out in accordance with Historic England guidelines (*Greater London Archaeology Advisory Service: Standards for Archaeological Work, 2015*). Works also conformed to the standards of the Chartered Institute for Archaeologists (*Standard and guidance for archaeological field evaluation, 2014*). Overall management of the project was undertaken by a full member of the Chartered Institute.

5.1.2 Fieldwork was carried out in accordance with the Construction (Health, Safety & Welfare) Regulations. All members of the fieldwork team have valid CSCS (Construction Skills Certificate Scheme) cards, and wore hi-vis jackets, hard-hats, steel-toe-capped boots, etc., as required. All members of the fieldwork team also followed the contractors' health and safety guidelines.

5.1.3 The City of London was informed of the progress of fieldwork and finds recovered.

5.2 Fieldwork

5.2.1 The watching brief involved the monitoring of both drop shafts and recording of several features of archaeological interest. Access to the drop shafts was provided. Adequate time was allowed for investigation and recording, although every effort was made not to disrupt the development programme. During excavation, spoil from archaeological levels was deposited separately, to facilitate archaeological examination and finds recovery.

5.2.2 The main objective of the watching brief was to define the character, extent and significance of any observable remains, and to recover dating and environmental evidence.

5.2.3 No additional techniques, such as environmental sampling, were utilised in this instance. Samples of brickwork were taken for specialist analysis.

5.2.4 Archaeological contexts were recorded as appropriate on *pro-forma* sheets by written and measured description, and/or drawn in plan or section, generally at scales of 1:10 or 1:20. The investigations were recorded on a general site plan and related to the Ordnance Survey grid. Levels were taken on the top of both drop shafts, transferred from the nearest Ordnance Datum Benchmark located on New Street *(Warehouse SE Side New St NE Face)*. The fieldwork record will be supplemented by digital photography, in .jpeg and RAW formats.

5.2.5 The recording system followed the procedures set out in the Museum of London recording manual. By agreement the recording and drawing sheets used will be directly compatible with those developed by the Museum.

5.2.6 No human remains were encountered during the watching brief.

5.2.7 No finds identified as treasure under the Treasure Act (1996) and the Treasure (Designation) Order (2002) were observed during the watching brief.

5.3 Post-excavation

5.3.1 Assessment of finds was undertaken by appropriately qualified staff (see Appendices III-VI). Finds and samples were treated in accordance with the appropriate guidelines, including CIfA's '*Standard and Guidance for the collection, documentation, conservation and research of archaeological materials' (2014)*.

5.3.2 All identified finds and artefacts have been retained and bagged with unique numbers related to the context record, although certain classes of ceramic building material were discarded after an appropriate record was made. Sensitive artefacts will be properly treated, in line with the appropriate Standards as stated above.

5.4 Report and Archive

5.4.1 Copies of this report will be supplied to the City of London, Historic England and the Museum of London Archive.

5.4.2 The report contains a description of the fieldwork plus details of any archaeological remains or finds, and an interpretation of the associated deposits. Illustrations are included as appropriate. A short summary of the project has been appended using the OASIS Data Collection Form and in paragraph form suitable for publication in the London Archaeologist excavation round-up.

5.4.3 At present there is no provision for further analysis or publication of significant findings. Should these be deemed necessary the requirements would need to be discussed and agreed with the Client and with Historic England.

5.4.4 Once the project is completed an ordered indexed and internally consistent archive will be compiled in line with CIfA standards and guidance, (CIfA 2014b), and will be deposited in a local archive. The integrity of the site archive should be maintained, and

the landowner(s) will be urged to donate any archaeological finds to the appropriate local museum.

6 RESULTS

6.1 The watching brief was conducted between the 18th July and 5th August 2016, comprising regular intervals of monitoring the work, examining the spoil and accessing the drop shafts to record the archaeological features in section. Observations made during these works are detailed below in chronological order. Fills and layers are shown in (rounded brackets), whilst cuts and structures are shown in [square brackets]. A context list for both drop shafts has also been appended to the report; see appendix I.

6.2 Drop Shaft 1

6.2.1 The first drop shaft undertaken was located on the south side of the southernmost raised island, within the carriageway of the lay-by. The shaft measured 2m N-S x 2m E-W and dug to a maximum depth of 3.2m below ground level (10.41mOD). Natural brickearth, consisting of a fairly clean orangey clay, was encountered at a depth of 2.10m (11.51mOD). A variation in this level, observed in the east-facing section was observed, with a small slope from south to north, attributed to post-medieval activity occurring above.

The stratigraphy in the uppermost part of the drop shaft comprised 100-130mm of tarmac sealing 200-400mm of concrete, together forming the carriageway. These layers were sealing an extensive sequence of Post-medieval building, and subsequent demolition. A large wall [4] ran through the centre of the shaft on an east-west alignment, with both north and south faces visible.

Figure 4: Post-medieval wall [4]. Facing E. Scale 1m.

The wall was constructed from red bricks (measuring 240 x 100 x 50-60mm) bonded with a gritty grey mortar, laid down fairly thickly in places. It measured 0.47m in width comprising 4 courses x 2.0m in length x 1.42m total in height, with alternating rows and headers and stretchers. The upper courses had been truncated by the concrete for the carriageway (2). No foundation courses were observed, the base of the wall being built directly on to made ground. The section of wall observed in the east-facing section had a rendered north face, indicating that this was an internal area.

Figure 5: Walls [4] and [17] beneath concrete (2). Facing NE. Scale 1m.

An adjoining wall [17] was recorded running in a north-south direction. This section was a minimum of two courses wide, comprising red bricks bonded with a gritty grey mortar – the pattern was unclear. The feature measured 0.52m in length (N-S) x 0.24m in width x 1.02m in height, with a truncated, stepped top. The west (internal) face was covered with a thin lime wash coat. Immediately behind this wall was a block of stony concrete (3) which is taken to be a later intrusion. The base of both walls was at the same depth of 1.67m (11.94mOD).

The area taken to being internal (to the north of [4]) was filled with demolition rubble (9) consisting of a mixture of bricks, brick fragments and stone fragments.

Figure 6: Upper 2m of Post-medieval stratigraphy, including wall [4], backfill to north (9) and fill (5) to south. Facing W. Scale 1m.

To the south, the structure had been backfilled with a fairly well compacted deposit of dark brown soil (5), abundant with brick fragments, and charcoal and mortar flecks. This deposit measured 1.35m in thickness x 0.40m in width, tapering towards the base. It had once again been truncated at the top by concrete (2). This deposit contained a quantity of post-medieval finds including pottery, ceramic building material (CBM), glass and clay tobacco pipe.

6.2.2 The feature described above was taken to be the later phase of post-medieval building which had taken place on the study site. The second, earlier phase is outlined below.

6.2.3 A second building was recorded in the southern part of the drop shaft, observed in the north facing section. An orange brick wall was noted beneath a modern service, somewhat erratically truncated in its upper levels. A degree of spalling on the north face was noted, partially as a result of the groundworks. The top of the feature was recorded at a depth of 0.91m (12.7mOD).

Figure 7: Upper part of wall [8] observed in the north facing section below modern services (which can be seen in green). The feature had been severely truncated on the east side. Facing S. Scale 1m.

The feature consisted of bright orange bricks bonded with a gritty sandy mortar. It appeared to be fairly messily built, with an irregular pattern of headers and stretchers. The upper part had been truncated at an earlier date and backfilled first with a thick layer of mortar/concrete (8), which measured 0.45m on the east side, reducing to 0.2m on the west. A smaller deposit of moderately compacted dark brown silty soil was recorded above. This layer was roughly rectangular in section, following the shape of (22) below and measured 0.58m in length x 0.17-0.35m in thickness. The deposit contained fairly frequent finds including clay tobacco pipe, oyster shell and CBM (an orange tile of which can be seen in fig.7 above).

To the west (right) of the main structure, seen in fig.7 a smaller section of brickwork was observed, consisting of approximately 5 messy courses. It is unclear if this is the remains of a separate wall or part of the recorded feature.

However, the lower section survived in a much better condition as can be seen in fig.8 below.

Figure 8: Base of wall [8] observed in the north facing section. Facing SE. Scale 1m.

The base of the wall was recorded at a depth of 2.9m (10.71mOD), in total measuring 1.4m in length (E-W) x 2.0m in height. The wall cut into the natural brickearth and was built directly on to this deposit with no foundation courses observed. A single coin was recovered from the south side of the trench towards the base of (6) inscribed on the obverse: HOLLANDIA 1710 and reverse: Image: Standing Lion.

6.2.4 At the base of the drop shaft, 3.2m (10.41mOD) a head was dug in the south section, running in a southwards direction. This spur measured 1m^3 and a further section of the feature noted above was recorded.

Figure 9: Wall [16] see in the north facing section of the N-S spur, to the right of a possible pit feature (18). Facing S. Scale 1m.

This small section, [16], comprised orange bricks bonded with a pale mortar which has since been covered by discoloured brickearth. It measured 0.3m in width x 0.45m in height, with seven visible courses, built directly on to the brickearth (13). The base was recorded at c2.95m (10.66mOD) – similar to the section observed in the main shaft: [8]. The wall was taken to be truncated at the top and had subsequently been filled by a fairly well compacted layer of dark brown clayey soil, containing frequent charcoal and mortar flecks, and small fragments of brick. Given the direction of the two walls, this was taken to be an internal deposit however its function is unclear. At this stage, a feature such as a cess or rubbish pit created in the post-demolition period is proposed.

The wall [16] and 'pit' (18) were sealed by a series of demolition layers. The lower of the two layers comprised a light to mid brown fairly loosely compacted soil, abundant with debris including brick fragments, chalk and mortar, and sand and charcoal flecks. The observable section measured c0.8m in length x 0.15-0.25m in thickness, with a visible tip line sloping from east to west. Several fragments of pottery were recovered

from this context. The upper layer (19) comprised a fairly well compacted mid to dark brown soil abundant with large flecks or charcoal and regular brick fragments. It measured c0.85m in length x 0.1-0.3m in thickness, although it is taken to continue above the horizontal shuttering. Several fragments of pottery were recovered from this context.

Notably, a large dump of post-medieval material was observed within this deposit, sitting above wall [16].

Figure 10: post-medieval dump above [16]. Large fragments of jars can be seen within the loose bricks. Facing SE. Scale 1m.

The dump contained large fragments of almost complete domestic wares, including jars, cooking pots and chamber pots, interspersed with loose bricks. This dump continued above the horizontal shuttering however was not examined for safety reasons. This material in taken to be demolition rubbish, thrown in when the buildings were dismantled.

6.2.5 No further features associated with the post-medieval development of the area was observed in this drop shaft. At a depth of 2.70m (10.91mOD) a possible quarry pit was cut into the natural brickearth.

6.2.6 The feature was noted on the base of the drop shaft. The cut [14] was only partially observed, however it was roughly circular in plan, with a minimum radius of 0.6m. The cut had relatively steep sloping sides with a minimum depth of 200mm.

Figure 11: Possible quarry pit - the curved edge of which can be seen immediately left of the scale. Scale 0.5m.

It was filled with fairly well compacted, but friable mid orange sandy clay with occasional stone inclusions. This fill (15) contained two unidentifiable fragments of bone and a single sherd of Roman samian ware pottery, and is taken to be redeposited brickearth. The feature is consistent with a Roman quarry pit, one of several which has previously been recorded in the area[6].

6.2.7 Natural brickearth was encountered at a depth of 2.10-2.30m, sloping slightly from south to north due to the post-medieval activity immediately above.

[6] DUA 1988-89 OPS88, ISH88 & BHS87.

Figure 12: Level of excavation. Brickearth beneath post-medieval made ground. Facing W. Scale 1m.

6.2.8 No further finds or features of archaeological interest were recorded in this drop shaft.

6.3 Drop Shaft 2

6.3.1 The second drop shaft monitored as part of the archaeological watching brief was located on the northernmost raised island within the layby. It was bounded by the main carriageway of Middlesex Street to the north, and the layby, and a Subway restaurant to the south. The shaft measured 2m x 2m x 4m in depth (9.86mOD), with an additional head running north-south extending from the south section measuring 1.8m in length x 1m in width x 1.2m in height. Natural brickearth was recorded at a depth of 3.75m (10.11mOD).

The stratigraphy in the uppermost part of the shaft comprised 80mm thick paving slabs (24) and 50mm of coarse bedding sand (25) sealing a series of post-medieval walls.

Figure 13: Drop Shaft 2. Walls [26] (west) and [28] (east). Facing N. Scale 1m.

The largest section of wall, [26], can be seen in the north-west corner of the shaft, encountered at the relatively shallow depth of 0.32m (13.54mOD). It is 'L-shaped' in plan, four courses wide, and is built from orange-red bricks (measuring 200 x 100 x 60mm) bonded with a gritty grey mortar. The bond appears to be alternating rows of headers and stretchers. The east-west section emerges from the west section, running for 1.25m before turning ninety degrees and continuing for c0.9m before disappearing into the north section. The upper courses had been truncated by the cable seen in fig. 13 above. In total, the feature measured 0.47m in width x 2.18m in height. The base was encountered at 2.4m (11.46mOD).

The second section of development, [28] was consistent in design with [26], comprising orange-red bricks bonded with a mid-grey gritty mortar in alternating rows of headers and stretchers. This section measured 0.40m in width x 0.71m in length x c2.08m in height. The base was encountered at a similar level to that of [26] however due to the shuttering this could not be accurately confirmed.

Figure 14: Detail of the relationship between [26] (left) and [28]. Scale 0.5m.

Whilst stylistically similar [28] was offset from [26], lying approximately 60-70mm further north and 40mm east, creating a narrow gap between the two sections. There was no evidence to suggest the walls had ever seen tied in to each other, or [28] had been truncated to make space for [26] at a later date. During the removal of this wall it was noted that at a depth of approximately 1.75m the two walls were potentially on the same alignment, suggesting the upper part may have been an alteration.

The south faces of both walls were taken to be external and both structures had been infilled with demolition rubble: contexts (27) and (29). This material consisted of fairly loosely compacted light to mid-brown soil, containing frequent stone and CBM fragments, in addition to several complete bricks. It was observed to a minimum of 2m in depth and towards the base became more abundant with roof tile and window glass fragments. A deposit of loosely compacted greyish black silt was observed below (29) in the north-east corner of the shaft, abundant with mortar flecks. This was taken to be a variation of the demolition material within the building. A quantity of finds were recovered including pottery, clay tobacco pipe, animal bone and oyster shell.

6.3.2 The southern half of the drop shaft contained a moderately well compacted mid brown silty soil with frequent fragments of mortar, brick and CBM, and occasional stone slabs (30). This deposit was observed across the entirety of the southern part of the shaft to a depth of 3m (10.86mOD), becoming slightly looser in compaction towards the base. The lower 0.5m of this deposit, within the north facing section in particular consisted of a layer of well compacted very dark brown/black/green silty soil was recorded. This deposit was extremely waterlogged and sticky, and was mostly clean apart from infrequent angular stones.

6.3.3 *Note:* The groundworks undertaken during a depth of 2m and 3m were monitored and recorded but not photographed. Due to the fragility of the shaft sections, as a result of loose rubble and waterlogged material) the metal shuttering was lowered into position as each section was completed.

6.3.4 At a depth of 3m the sections became more stable and the material more compacted. The stratigraphy comprised a layer of well compacted fairly fine grained mid grey silty clay containing infrequent small rounded stones and charcoal flecks, measuring 0.62m in thickness, above natural brickearth.

Figure 15: (35), becoming sandier towards the base, above brickearth (36). Facing W. Scale 1m.

Figure 16: Detail of east facing section through shuttering. The rubble seen at the top marks the base of wall [26]. Facing W. Scale 1m.

A concentration of CBM (seen to the left of the scale bar in fig.16) was noted, however as no clearly defined edges were seen it is taken to be part of (35) rather than a discrete feature.

6.3.5 The natural brickearth consisted of well compacted orangey coarse sand, becoming darker at c3.9m in depth (10.16mOD) and more gravel abundant. A small quantity of Roman pottery was recovered from the spoil, taken from the horizon between (35) and (36) and may indicate that the upper levels of brickearth had been redeposited, similar to that observed in Drop Shaft 1. This brickearth continued to the level of excavation (9.86mOD) and was observed in the north-south head connecting to the existing sewer.

6.3.6 No further finds or features of archaeological interest were recorded.

7 ANALYSIS

7.1 The archaeological features observed in both drop shafts is consistent with the post-medieval development shown on historic maps to have taken place in the vicinity of the site.

7.2 It can be suggested that the walls seen in Drop Shaft 1 relate to two phases of building. Walls [8] and [16] are taken to belong to an earlier phase of buildings, aligned further south than the later phase, walls [4] and [17]. Analysis conducted on the ceramic building material (see Appendix V) had determined that wall [4] contains bricks dating from 1666-1800, whilst wall [8] contains bricks dating from 1450-1700. Therefore, it is most likely that the first phase of building was indeed [8], and this was later truncated and [4] constructed on a similar alignment, but approximately 0.5m further north. This may be a reflection of the shifting street frontages which appeared throughout the post-medieval period with the creation of Sandy's Street and Windsor Street.

7.3 A collection of buildings is shown on *Ogilby and Morgan's Survey of London 1676* to the south of Whitegate Alley (now Widegate Street) and it is likely they correlate to the remains seen in the north facing section and subsequent head.

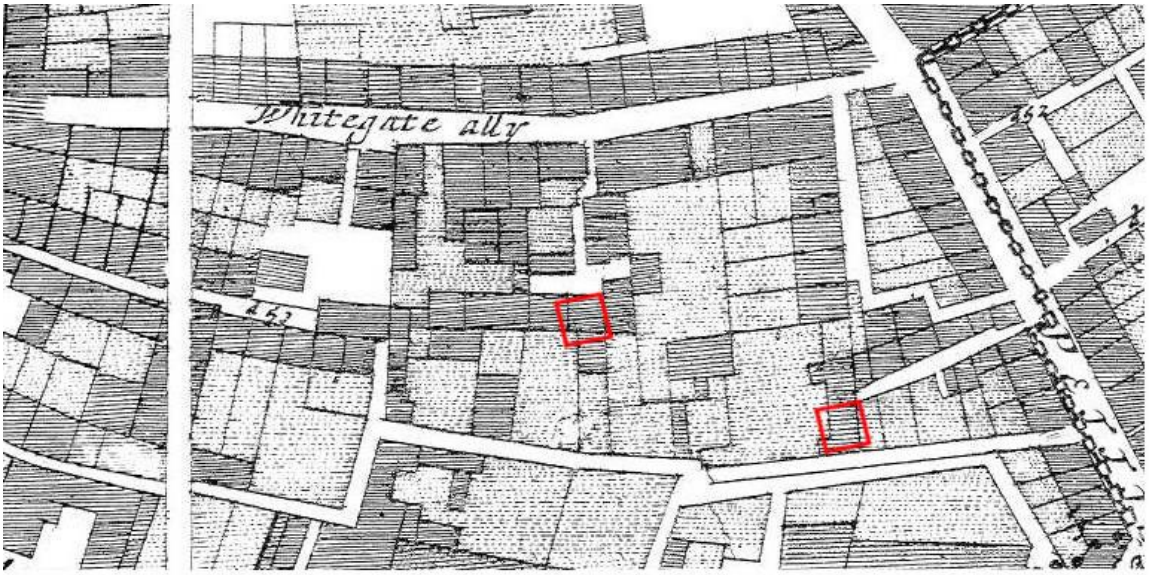

Figure 17: Extract from Ogilby and Morgan 1676 with drop shaft locations marked in red (1 to the right, 2 to the left).

A similar format is seen on Rocque's Map of 1746, published prior to the creation of Sandy's Street (not shown). However, Horwood's map of 1799 shows three large square premises and four smaller rectangular dwellings on the northern side of Catharine Wheel Alley (the drop shaft being situated over no.7), which at the time of the map's creation continued eastwards, adjoining Petticoat Lane. This differs from the previous versions mentioned above and may therefore be an indication of redevelopment in the area. It can be argued that with the formal creation of Sandy's Street and Catherine Wheel Alley the standing buildings were demolished and a new configuration constructed.

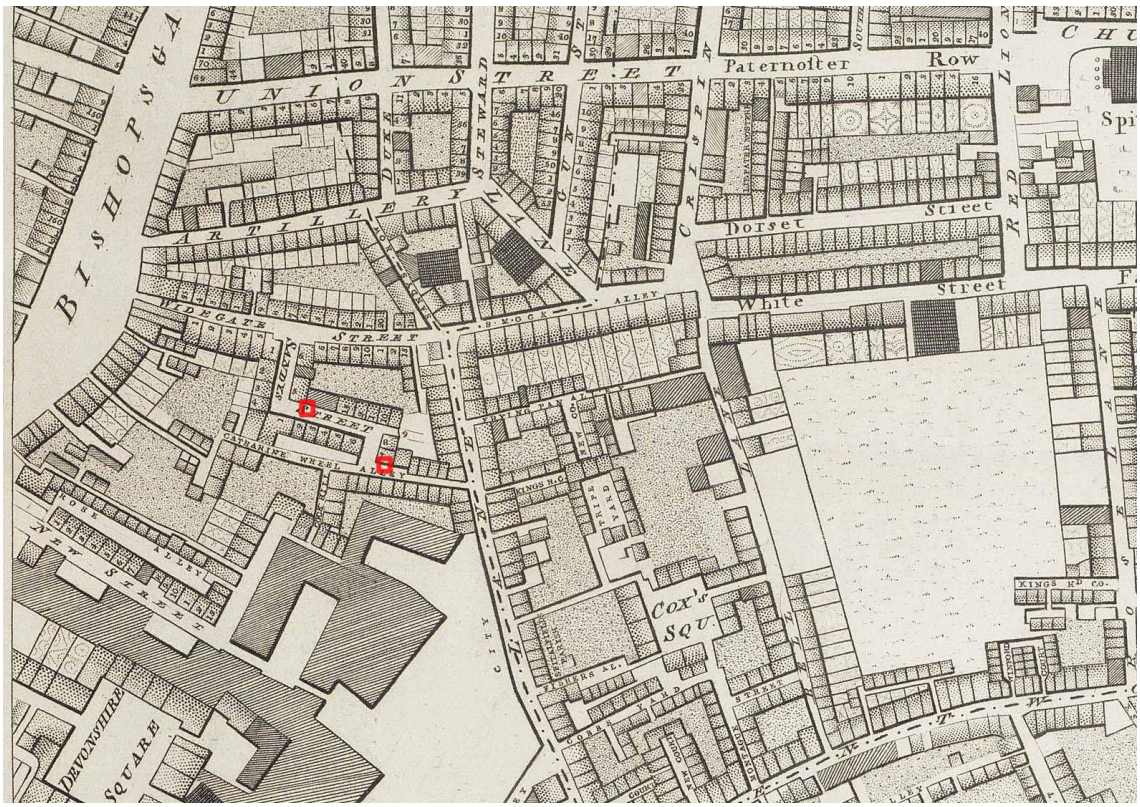

Figure 18: Extract from Horwood 1799, with drop shaft locations marked in red.

A century later, Goad's Insurance Plan of 1890 shows the subdivision of Sandy's St into Sandy's Street and Windsor Street, with the larger dwellings labelled as Tenement blocks. There appears to have been little change to the layout of the street, suggesting the buildings seen on the 1799 map are those shown on the plan of 1890.

Figure 19: Extract from Goad's Insurance Plan of 1890, showing location of drop shafts marked in red. The basic layout of the street remains consistent from Horwood's Map.

Further, by the creation of the First Edition OS Map in 1896 (fig.17) no buildings are shown in the vicinity of Drop Shaft 1, strongly indicating that by 1896 they had been demolished to make way for the new alignment.

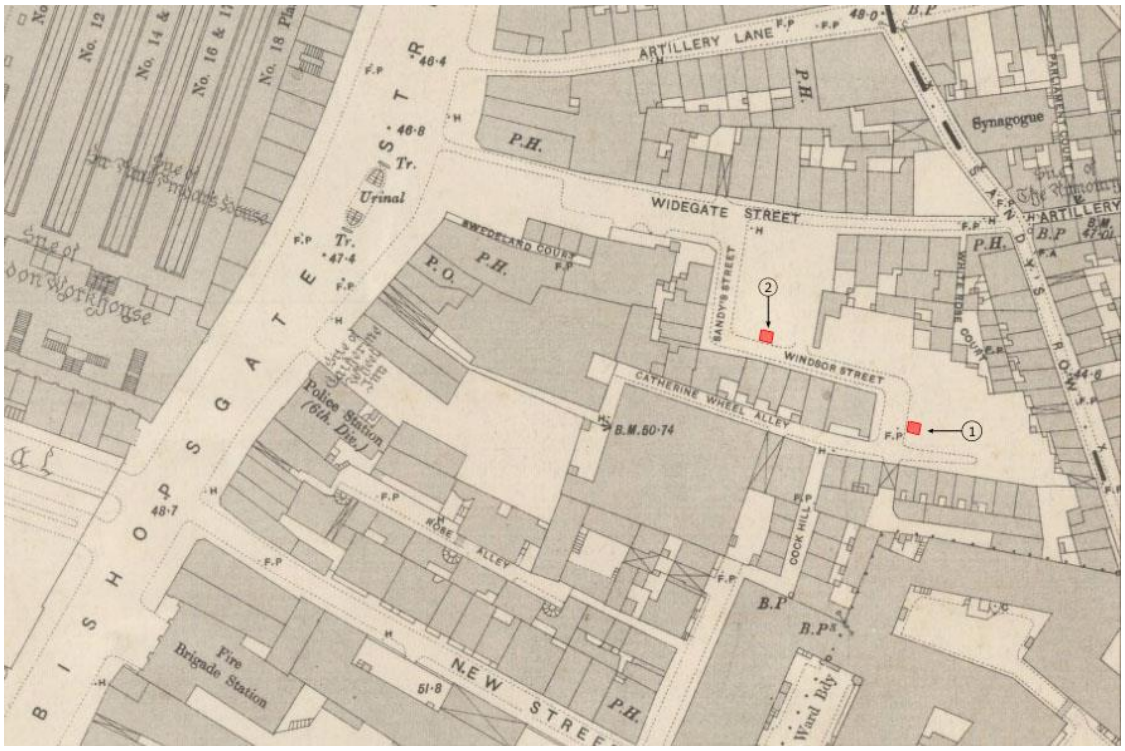

Figure 20: Extract from the OS Map 1896 with drop shaft locations marked in red.

By the 1916 edition Middlesex Street is shown in its present day layout.

Figure 21: Extract from the OS Map 1916 showing the new course of Middlesex Street.

7.4 The evidence in favour of activity predating the post-medieval period is consistent with the localised Roman industrial activity taking place in the vicinity. Previous excavations along Middlesex Street and Bishopsgate have recorded quarry pits cutting into natural gravels, trackways and intercutting cess pits (cf. DUA OPS88; BHS87; MSE88; ISH88). Investigations at 192-200 Bishopsgate (BHS87), 109-115 Middlesex Street (MSE88) and 110-116 Middlesex Street (MDX87) revealed a small number of graves, both inhumations and cremations, believed to be part of an extramural cemetery. In spite of the site's close proximity to these findspots no evidence of burial or funerary activity was found during the watching brief.

8 CONCLUSIONS

8.1 The following section provides a summary of the work undertaken with reference to the original research questions set out in the WSI.

8.2 ***Is there any evidence associated with the Roman cemetery located to the north of the site?***

Roman finds were recovered from a layer of redeposited brickearth encountered at a depth of 2.70m (10.91mOD) in Drop Shaft 1, and from a deposit of commingled silt and brickearth (and cleaner brickearth further down) at a depth of 3.5m (10.36mOD) in Drop Shaft 2. The finds predominantly comprised coarse and fine ware pottery, with a few fragmentary animal bones.

These finds are taken to be associated with localised quarry pitting and are not thought to be related to any burial contexts. No direct evidence of the extramural cemetery was observed during the watching brief.

8.3 ***Are there are finds/features associated with the medieval plague pit known to be located in Artillery Lane?***

No evidence of medieval features associated with any burial/plague pits was recorded during the archaeological works. It is possible however that any surviving evidence from this period may have been destroyed when the post-medieval expansion of Catherine Wheel Alley began, particularly as many of the properties were basemented thereby truncating earlier stratigraphy.

8.4 ***What is the evidence for post-medieval occupation in the area? What form does this take?***

Post-medieval occupation layers were encountered in the upper 3m of both drop shafts, consisting of substantial sections of standing building remains. This includes two phases of occupation, the first dating from at least the end of the 17th/beginning of the 18th century (based on a coin dated 1710) until its demolition towards the end of the 18th century (based on Horwood's map of 1799) and the second, dating from the late 1700s to the late 1800s – as the site is shown as being cleared by the creation of the OS map in 1896.

8.5 ***If encountered, what is the natural geology and at what level does it exist across the site?***

The natural geology consisted of a mid-orange coarse sandy brickearth clay. This became a darker orange, with more frequent stone and gravel inclusions towards the level of excavation in both Drop Shafts 1 and 2. In Drop Shaft 1 this material was encountered at 10.91mOD and in Drop Shaft 2 at 10.36mOD, possibly indicating a slight slope from west to east, discounting later disturbances.

9 SOURCES

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APPENDIX I: LIST OF CONTEXTS

Drop Shaft 1

Number	Description
1	Tarmac carriageway
2	Concrete
3	Stone abundant concrete behind [4] and [17]
4	Post-medieval wall running E-W through centre of shaft
5	Dark brown soily fill between contexts [4] and [8]
6	Mid brown soil
7	Rubble/clay deposit between (5) and [8]
8	Post-medieval wall running E-W below services in the N facing section
9	Rubble/loose stone deposit to the north of [4]
10	Stone/Clinker observed in the S facing section
11	Cut for modern water pipe
12	Fill of cut [11]
13	Natural brickearth
14	Cut of a quarry pit
15	Fill of cut [14]
16	Post-medieval wall observed in N-S spur at base of Drop Shaft
17	Post-medieval wall running N-S. Adjoining [4]
18	Dark brown clay east of [16]
19	Demolition layer above (18)
20	Loose fill abundant with CBM and finds
21	Post-medieval fill above (19)
22	Extensive mortar spread above [8] in N facing section
23	Small Post-medieval dump above (22)

Drop Shaft 2

Number	Description
24	Stone paving
25	Bedding sand below (24)
26	'L' shaped wall
27	Rubble fill behind [26]
28	E-W wall to the west of [26]
29	Rubble fill behind [28]
30	Mid brown soil
31	Concrete below (24) on S side of shaft
32	Blackish loose silt below (19)
33	Waterlogged deposit below (3)
34	Rubble backfill beneath base of [26]
35	Brown silty clay above (36)
36	Natural brickearth

APPENDIX II: TRENCH PLANS, LEVELS AND SECTIONS

Drop Shaft 1

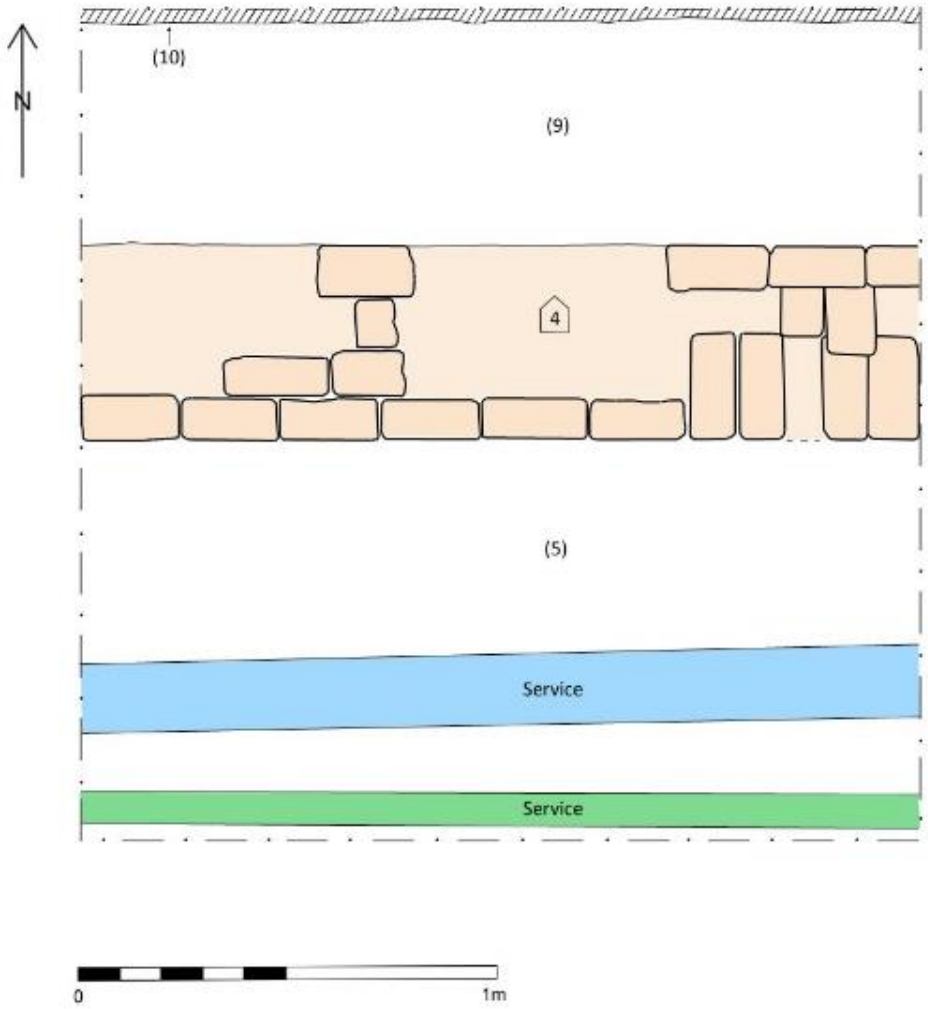

Figure 22: Plan of Drop Shaft 1, as observed at a depth of 0.4m (13.21mOD). Original drawn at 1:20.

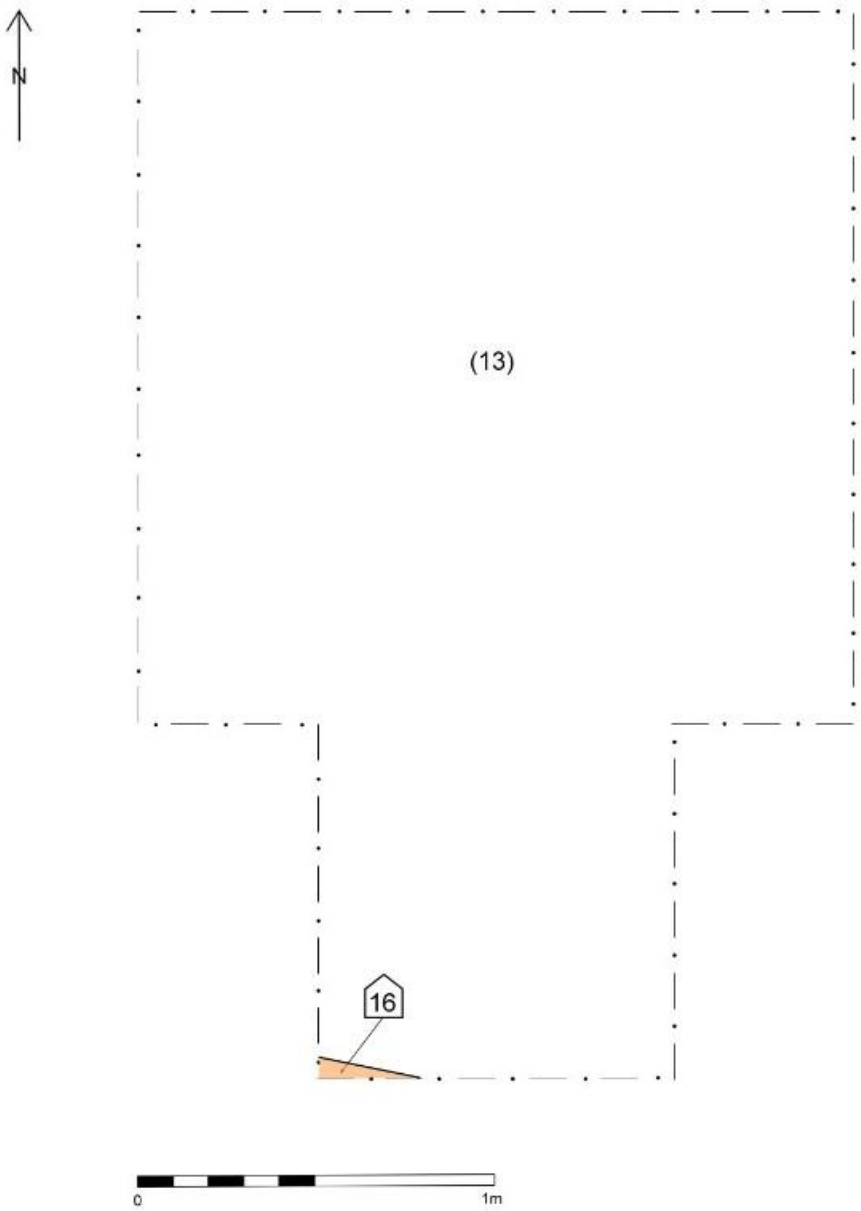

Figure 23: Plan of Drop Shaft 1: base, including N-S head, recorded at a depth of 3.2m (10.41mOD). Original drawn at 1:20.

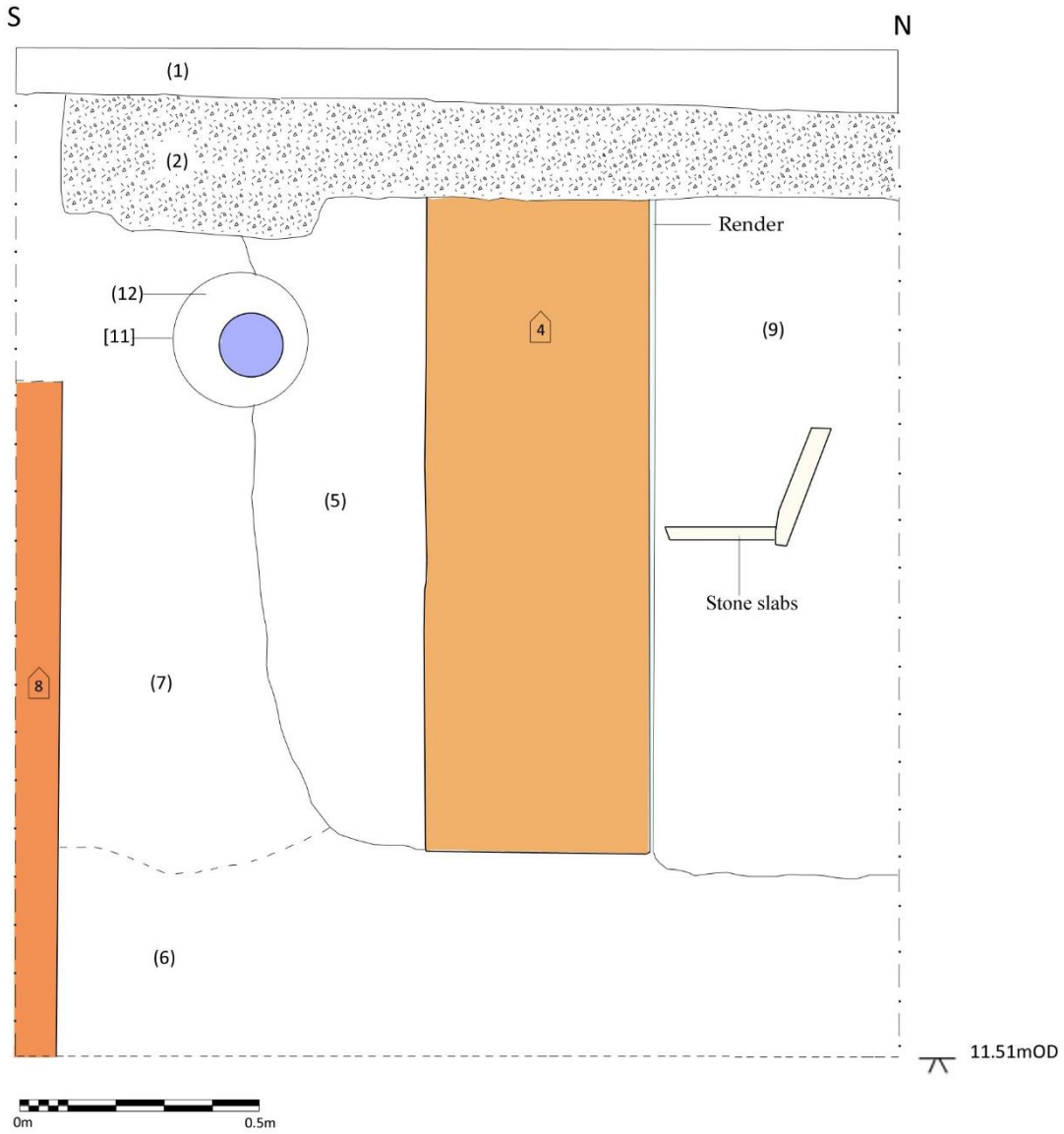

Figure 24: Drop Shaft 1. East facing section. Original drawn at 1:10.

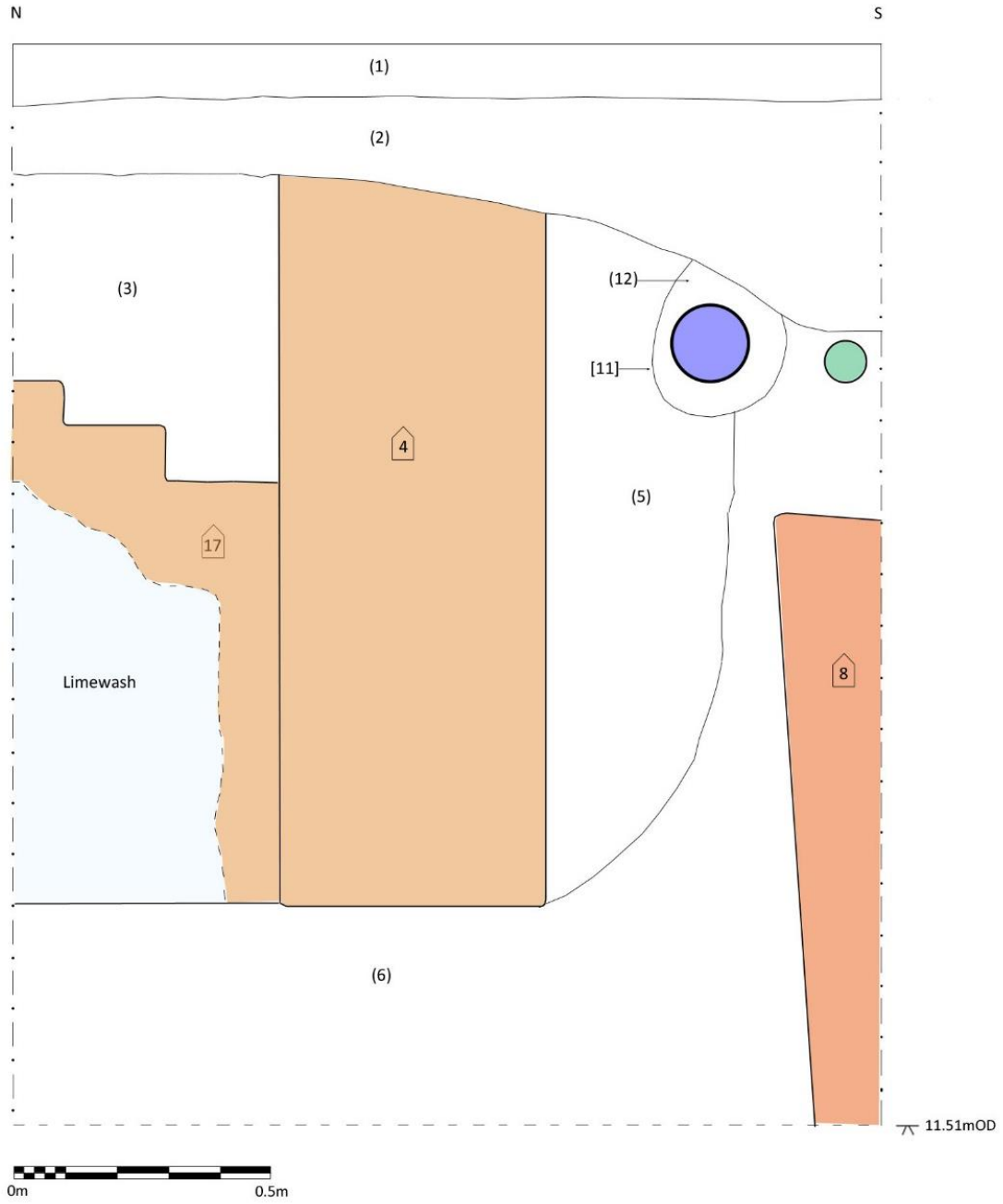

Figure 25: Drop Shaft 1. West facing section. Original drawn at 1:10.

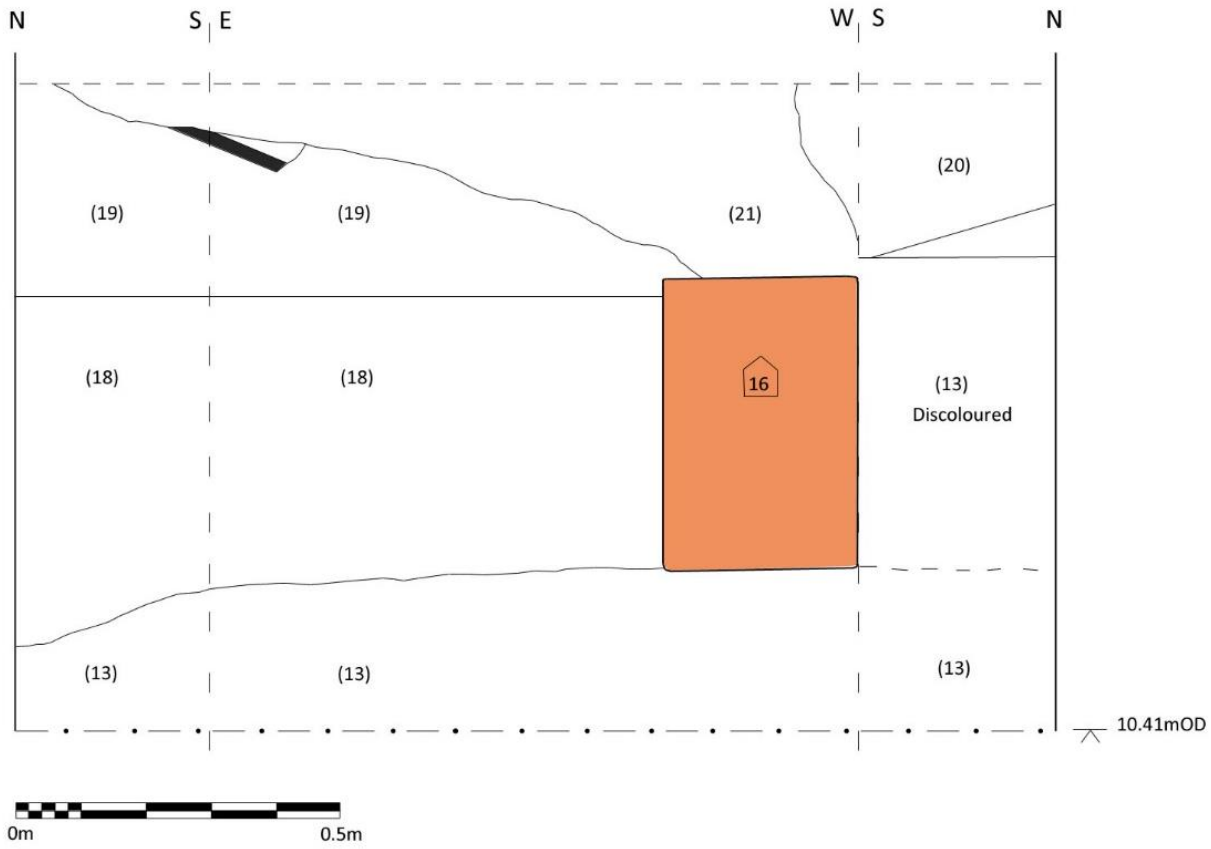

Figure 26: Drop Shaft 1. North facing section of N-S head at base of shaft. Original drawn at 1:10.

Drop Shaft 2

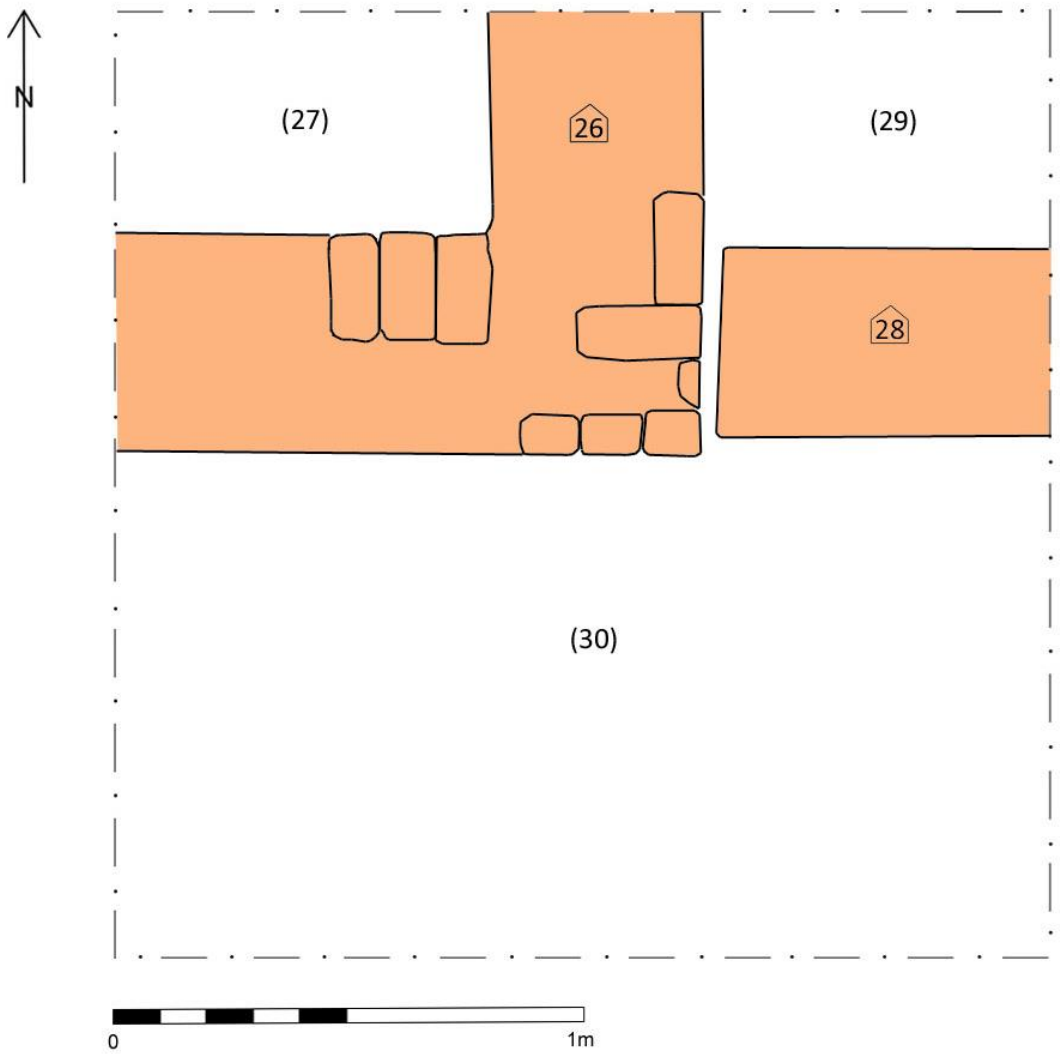

Figure 27: Drop Shaft 2. As observed at a depth of 0.32m (13.54mOD). Original drawn at 1:20.

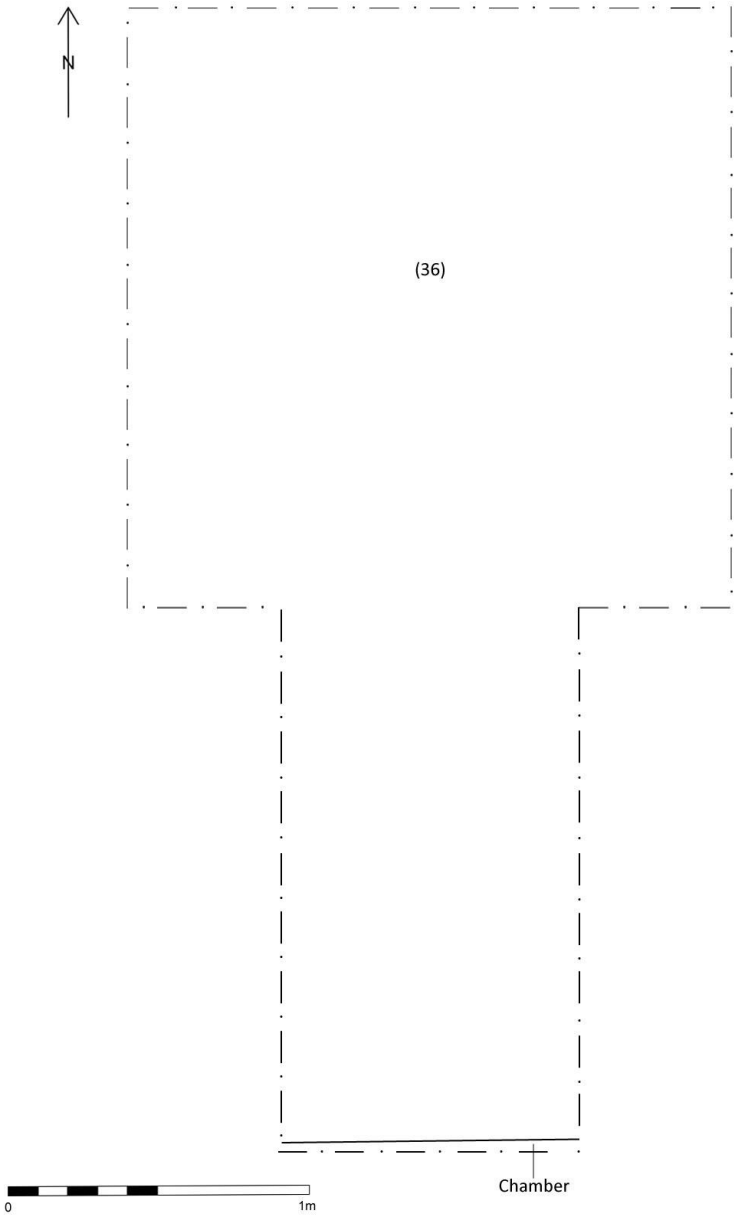

Figure 28: Drop Shaft 2. Level of excavation, including N-S head at trench base. Recorded at a depth of 4m (9.86mOD). Original drawn at 1:20.

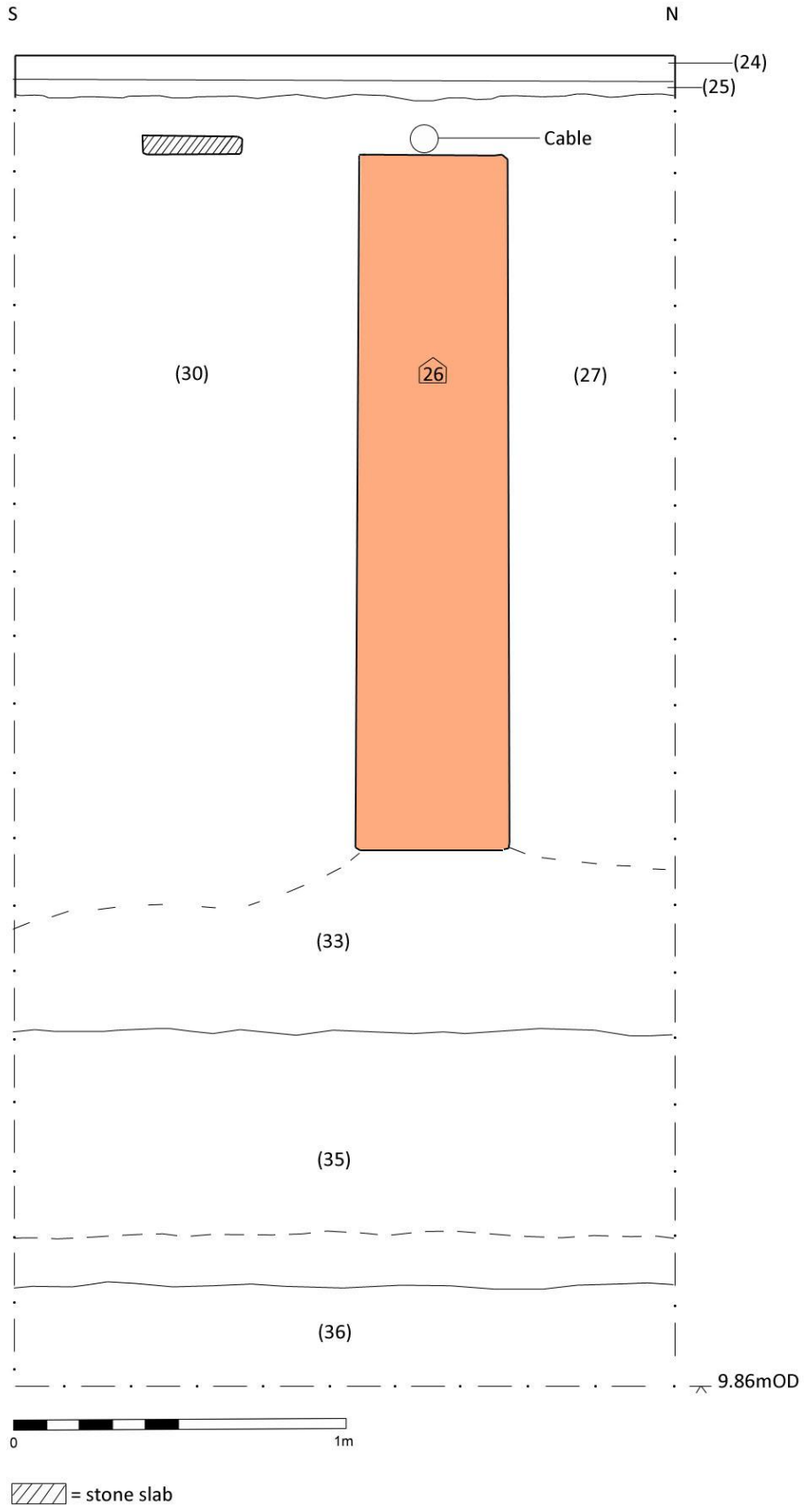

Figure 29: Drop Shaft 2. East facing section of shaft in its entirety. Original drawn at 1:20.

APPENDIX III: Post-medieval Pottery *by Paul Blinkhorn*

The pottery assemblage comprised 172 sherds with a total weight of 10894g. It was all post-medieval, and largely of 17th century date. It was recorded using the conventions of the Museum of London Type-Series (eg. Vince 1985), as follows:

BORDB: **Brown-glazed Border Ware**, 1620 – 1700. 3 sherds, 798g
BORDG: **Green-Glazed Border Ware**, 1550-1700. 11 sherds, 679g.
BORDY: **Yellow-glazed Border Ware**, 1550-1700. 10 sherds, 726g.
CHPO: **Chinese Porcelain**, 1580 -1900. 2 sherds, 6g.
LIGU: **Ligurian Berettino Tin-glazed Ware**, 1520-1700. 3 sherds, 67g
LMSR: **Late Medieval Sandy Transitional Redware**, 1480-1600. 1 sherd, 13g.
LONS: **London Stoneware**, 1670 – 1900. 3 sherds, 135g.
METS: **Metropolitan slipware**, 1480 – 1900. 1 sherd, 42g.
OLIV: **Spanish Olive Jar**, 1550-1750. 2 sherds, 34g.
PMR: **Post-medieval Redware**, 1580 – 1900. 51 sherds, 5343g.
REFW: **Refined Whiteware**, 1800-1900. 4 sherds, 69g.
STSL: **Staffordshire Slipware**, 1650 – 1800. 3 sherds, 72g.
TGW: **English Tin-Glazed Ware**, 1600-1800. 75 sherds, 2447g.
WEST: **Westerwald-type Stoneware**, 1590-1800. 4 sherds, 421g.

The pottery occurrence by number and weight of sherds per context by fabric type is shown in Table 1. Each date should be regarded as a *terminus post quem*. The range of fabric types is typical of sites of the period in London (eg. Orton 1988, 299). Overall, the sherds are large and well-preserved, and the assemblages appear reliably stratified. In the cases of the material from D2 32 and D2 33, the few small sherds of REFW may be intrusive. If so, then the former group has a *terminus post quem* of the late 16th century and the latter, the late 17th century.

Most of the pottery is of 17th century date, with the range of fabric types indicating that the main period of pottery deposition stopped around 1700. Certainly, common early – mid 18th century pottery types such as Creamware (CREA) and White Salt-glazed Stoneware (SWSG) are entirely absent, and others which were introduced at the end of the 17th century, such as LONS, are very poorly represented.

The extremely large dump of pottery from Drop-shaft 1, context 20 comprised mainly largely complete chamber-pots in a wide range of fabrics. There is one in BORDY, another in BORDG, and a further example in BORDB, with at least two and possibly three in plain white TGW, and two or three in PMR. The only pottery from the group which was not such vessels are fragments of two dishes/plates in TGW and STSL, single small fragments of a jar and a bowl in the former, the neck of a jug in WEST and the base of a large flower-pot in PMR. The Border Ware chamber-pots are all Holling's form L2c, with typical fairly wide, flattened rims. These forms are largely of mid-late 17th century date in London (Pearce 1988, 34). The plain white TGW examples all have rolled, everted rims which are typical of the period 1675 – 1725 (Orton 1988, 309).

The rest of the assemblages are a fairly typical mixture of a wide range of utilitarian earthenwares and finer table and display wares, with most of the vessels being types associated with the storage, preparation, transportation and consumption of food and drink.

Figure 30: Fragment of a Westerwald jug, a salt glazed stoneware imported from Rheinland-Pflaz, Germany. Scale 10cm.

Figure 31: Fragment of Staffordshire Slipware from drop shaft 1. Scale 10cm.

Figure 302: A selection of pottery from drop shaft 1, including Metropolitan Slipware (top), Chinese Porcelain (Middle left), Ligurian Berettino Tin glazed ware (middle and right) and Staffordshire Slipware (bottom). Scale 10cm.

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Table 1: Pottery occurrence by number and weight (in g) of sherds per context by fabric type

		LMSR		BORDG		BORDY		OLIV		LIGU		WEST		PMR		BORDB		METS		TGW		STSL		LONS		CHPO		REFW		
DS	Cntxt	No	Wt	No	Wt	No	Wt	No	Wt	No	Wt	No	Wt	No	Wt	No	Wt	No	Wt	No	Wt	No	Wt	No	Wt	No	Wt	No	Wt	Date
D1	20			6	557	7	692					2	195	10	2628	3	798			26	1634	1	38							L17thC
D1	23	1	13											2	163					1	9									17thC
D2	U/S									2	30			4	117			1	42	6	77	1	6			1	3	1	14	U/S
D2	29					1	24							1	84					3	25									17thC
D2	30									1	37			5	570							1	28	1	78					L17thC
D2	32													5	103													1	3	19thC
D2	33			5	122	2	10	2	34			2	226	24	1678					39	702			2	57	1	3	2	52	19thC
	Total	1	13	11	679	10	726	2	34	3	67	4	421	51	5343	3	798	1	42	75	2447	3	72	3	135	2	6	4	69	

APPENDIX IV: Roman Pottery *by Heidi Archer*

The Roman pottery assemblage comprised 18 sherds, weighing a total of 192g, consisting of both coarse and fine wares. All fragments were catalogued in a Microsoft Excel spreadsheet and sorted by context. Details of the form, fabric, date, use and wear were noted, along with any notable features.

The assemblage consisted predominantly of coarse grey wares, with a small quantity of buff sandy wares and fine wares recovered from both drop shafts. Almost all of the sherds displayed degrees of wear consistent with being in the ground for a considerable period of time, suggesting they were recovered from their primary deposition site, whilst one or two sherds were noted to have been accidentally scratched. Broadly, the assemblage covers the entire Roman period, from the later 1st to the 4th century, with a potential peak around the 1st-2nd century.

Summary of material

FABRIC	SHERD TOTAL
Grey ware	**5**
White ware	**3**
Nene Valley colour coat	**1**
Samian ware	**3**
Black Burnished ware	**1**
Shell tempered ware	**1**
North Gaulish grey ware	**1**
Reduced sandy ware	**1**
Coarse ware	**2**
	18

The majority of the assemblage comprised coarsewares, typical of domestic vessels used for storage, food preparation and dining. Grey ware, often encountered in Roman deposits, was primarily produced at the Alice Holt/Farnham kilns and distributed to the London region during the 1st and 2nd centuries, peaking again in the late 3rd century. Notably, larger storage vessels and amphorae were missing entirely, suggesting the assemblage represents a small domestic collection rather than being part of an industry.

The fine wares, samian and Nene Valley colour-coated are typical, better quality wares distributed to Britain between the 1st and 4th centuries and are often well represented across civilian and military sites. With the exception of a single repair hole there was no evidence of alteration, such as graffiti, burning or reuse.

	Context	Type	Count	Comments	Repair/reuse	Weight	Date
D1	13	samian	1	SG dish. Frag of wall/base junction. Smoke spots on interior. 1 scratch, taken to be accidental	filed edge and 2 repair holes with faint traces of lead rivet	10g	AD80-110
D2	36	Nene Valley colour coat	1	fragment of beaker/hunt cup decorated with an animal running left.	n/a	4g	2nd-3rd century
	36	samian	2	1 x CG? Moulded bowl 37. Fragment of rim and blurred ovolo.	5% of rim	24g	AD120-200
				1 x CG moulded bowl. Frag of bifid wreath and rosette decoration		2g	AD120-200
	36	North Gaulish greyware	1	Rim and wall fragment of beaker		10g	1st-2nd century
	36	Grey ware	5	Alice Holt/Farnham grey wares. Varying degrees of firing.		28g	1st-4th century
	36	Black burnished ware	1	Taken to be a rim/flange fragment of BB1		10g	2nd-4th century
	36	Shell tempered	1	North Kent variety. Fragment of jar.		22g	1st-2nd century
	36	white ware	3	3 fragments of jug/flagon		22g	1st-4th century
	36	Reduced sandy ware	1	Base of a wheel thrown beaker		40g	1st-4th century
	36	coarseware	2	2 unidentified frags		5g	1st-4th century

Table 2: Roman pottery by context.

APPENDIX V: Ceramic Building Material *by Sue Pringle**

The assemblage from Middlesex Street consisted of 20 fragments of ceramic building material, dating from the Roman to the post-medieval period. The material included a Roman tessera, a medieval peg and post-medieval pantiles, floor tiles and bricks, recovered from both drop shafts.

Drop shaft 1 produced two fragments, comprising a post-medieval pantile, dated 1480-800 and a post-medieval peg tile, dated 1630-1900. The bricks recovered from wall [4], taken to be the later wall which ran through the centre of the trench in an E-W direction was dated to 1666-1800, with traces of two types of mortar. The second wall, [8] observed in the southern section was constructed of bricks dated to 1450-1700, indicating that it was most likely in existence before [4].

Drop shaft 2 produced significantly more material, including pantiles, floor tiles, peg tiles and a fragment of Roman tessera tile. The L-shaped wall in the centre of the shaft, [26] was constructed of bricks dated to 1666-1850. This would suggest it was associated with the building exposed in drop shaft 1 and probably comprised another building fronting Windsor Street.

The single tessera recovered from drop shaft 1 context (27) is a small cubic tile, one of several thousand which were used to make simple and ornate mosaic floors throughout the Roman period. This example is identified as MoLA fabric 3006 and contained faint traces of white plaster. It is broadly dated to 50-500AD. As it was recovered from a context primarily consisting of demolition backfill to the north (interior) of [26] it is taken to be residual and cannot be used as firm dating evidence. It may however be indicative of Roman activity having taken place at a lower level.

**Analysis and table by Sue Pringle, above summary compiled by Heidi Archer.*

Context	Type	cbm date	Period	Fabric	Form	Count	Weight	L	B	T	Condition	Comments	Fabric notes	Illust	Keep	e date for type	l date for type
20	D1	1480-1800	PM	2276	peg	1	58	0	0	12	M	Well made with sharp arrises		x	x	1480	1800
23		1630-1900	PM	2275	pantile	1	94	0	0	13				x	x	1630	1900
27	D2	1630-1900	R	2815	tessera	1	16	25	23	23		Trace white plaster.	MoL fabric 3006	x	x	50	500
27	D2	1630-1900	PM	2275	pantile	1	172	0	0	15	Rd	Reduced surfaces?		x	x	1630	1900
27	D2	1630-1900	PM	2275	pantile	1	350	0	0	18	Rd	Reduced top surface		x	x	1630	1900
27	D2	1630-1900	PM	?	floor tile	1	245	79+	84+	28	Rd, M, Ru?	Unglazed; knife-trimmed sides with very slight bevel. Lime mortar on broken edge. Cut-down or re-used?	Fabric reduced - contains abundant fine quartz.	x	x	1600	1900
30	D2	1630-1900	PM	2276	peg	1	147	0	0	11				x	x	1480	1900
30	D2	1630-1900	PM	?	pantile	1	240	0	0	16		Rectangular nib c.58 x 21 x 14 mm.	Abundant fine quartz; sparse fine calc carb.	x	x	1630	1900
30	D2	1630-1900	PM	?	pantile	1	482	0	0	16			Abundant fine quartz; sparse calc carb and dark red iron-rich inclusions	x	x	1630	1900
32		1480-1800	PM	2276	peg	2	224	0	0	0	M x 1		Both are lumpy version of fabric	x	x	1480	1900
35		1480-1800	M	2271	peg	1	29	0	0	10				x	x	1200	1500
35		1480-1800	PM	2276	peg	1	39	0	0	14				x	x	1480	1900
<4>	D1	1666-1800	PM	3032	brick	1	1956	220	105	58-64	M	Unfrogged; sharp arrises; yellow speckled skin. Dark grey lime mortar with coarse white lime, charcoal and ?coal inclusions. 1 header has white paint/limewash over thick		x	x	1666	1850
<4>	D1	1666-1800	PM	3034?	brick	1	1956	225	106	67	M	Unfrogged; sharp arrises; smooth flat faces. 2 mortars? Fine white mortar appears to underlie coarse grey mortar on bedfaces, but could be re-deposited calc carb.	Orange fabric, very fine calc carb speckle; very coarse dark red and white inclusions	x	x	1666	1850
<8>	D1	1450-1700	PM	3033	brick	1	2078	230	105	62	M, Rd, V	Unfrogged; creased base and sides. Indented margin. Lime mortar on bedfaces and 1 stretcher (where it looks	Later version of fabric?	x	x	1450	1700
<8>	D1	1450-1700	PM	3033	brick	1	1857	220	107	61	M	Unfrogged; creased base and sides. Indented margin. Lime mortar on base and headers. 17th c?	Later version of fabric?	x	x	1450	1700
<26>	D2	1666-1850	PM	3034?	brick	1	1826	220	108	66	M	Unfrogged; sharp arrises; yellow skin. Grey lime mortar with lime and charcoal inclusions on bedfaces.	Lenses of yellow calcareous speckling. Fabric ID not secure.	x	x	1666	1850
<26>	D2	1666-1850	PM	3034?	brick	2	1789	229	105	65	M, A	Conjoin. Unfrogged; sharp arrises. Yellow skin. 1 stretcher worn smooth - flooring. Grey lime mortar with white lime spots and charcoal on bedfaces and both headers. Re-	Fabric has lenses of fine, yellow speckling.	x	x	1666	1850

Table 3: Ceramic Building Material by context

APPENDIX VI: Clay Tobacco Pipe

The clay pipe recovered from Middlesex Street is fairly typical of the type of assemblage one finds in London both in terms of the make-up and the state of preservation. A total of 27 partial or complete bowls with attached stem fragments were recovered with an additional 98 stem fragments.

Figure 33: A selection of plain and decorated clay tobacco pipes recovered from drop shaft 1. Scale 10cm.

Drop Shaft 1, context (5) produced the majority of the assemblage; 19 bowls and 72 stem fragments. This context was taken to be a deposit of post-medieval date, backfilled behind a basement wall [4]. However, due to the date of the assemblage – the earliest pipe dating to 1660-1680 it is possible to suggest that the deposit was in fact a pit, cut into by the wall at a later date.

Five of the pipes bore marker's initials on the heel, whilst one bore a six pointed star. There were no duplications of initials which may suggest the finds were individual deposits, rather than a job lot bought *en masse*. Equally, the typology of the pipes varied between a number of forms, spanning a period of c150 years, further suggesting they may be accidental losses rather than deliberate deposition. Only two bowls, recovered from context (5) were decorated, using a moulded vertical leaf motif on both the near and far sides of the bowl.

Many of the bowls and stems displayed varying degrees of smoke staining and blackening on both their interior and exterior surfaces, associated with general use. Due to the close proximity of the two phases of building discussed above and the methodology used to complete the shaft,

there may be a degree of commingling between finds and should therefore not be taken in isolation.

There follows a catalogue of the assemblage compiled using the guidelines set out in the DAACS Cataloguing Manual: Tobacco Pipes, by Kate Grillo, Jennifer Aultman and Nick Bon-Harper, (updated February 2012).

Bibliography

Atkinson, D and Oswald, A, (1969). *'London Clay Tobacco Pipes' Journal of the Archaeological Association. Third Series Vol.XXXII.*

Cessford, C, (2001). The archaeology of the clay pipe and the study of smoking, Assemblage: The Sheffield graduate journal of archaeology Issue 6.

Catalogue

There follows a catalogue of the assemblage compiled using the guidelines set out in the *DAACS Cataloguing Manual: Tobacco Pipes*, by Kate Grillo, Jennifer Aultman and Nick Bon-Harper, (updated February 2012)

Key:

Abbreviations across head of table

BH = Bowl height
BW = Bowl width
SL = Stem length
SW = Stem width
BS = Borehole size

Abbreviations within text of table

BF = On bowl, facing smoker
SH = On sides of heel

All bowls have been identified using the following guides:

Atkinson, D and Oswald, A, (1969), *'London Clay Tobacco Pipes' Journal of the Archaeological Association. Third Series Vol.XXXII*

All dates are approximate, all measurements are given in millimetres, (mm).

Drop Shaft 1

Context	Form	Type	Date	Count	BH	BW	SL	SW	BS	Comments
(5)	Bowl with partial stem	27	1780-1820	1	30	19	40	6	2	Moulded leaf motif decoration on bowl, facing smoker (BF) and away (BA). Stamp (SH): 'U', illegible.
(5)	Bowl with partial stem	27	1780-1820	1	39	20	50	6	1.5	Moulded leaf motif decoration on bowl, facing smoker (BF) and away (BA). Borehole at base of stem. Blackened bowl interior and exterior at top of side facing away from smoker. Stamp (SH) 6 pointed star with a central dot, on both sides.
(5)	Bowls with near complete/ partial stems	25	1700-1770	14	39-42	18-21	13-145	8-9	2-2.5	Varying degrees of smoked interiors, two with exterior staining. 3 stamps (SH): - TW - TB - W[ ]
(5)	Bowl with partial stem	13	1660-1680	1	36	16	50	10	3	-
(5)	Partial bowl with partial stem	-	-	1	28	-	16	9	2.5	Fragment
(5)	Partial bowl	-	-	1	>35	-	-	-	-	-
(5)	Near complete – partial stems	-	-	72	-	-	34-152	4-11	2-3.5	Variety of forms: uniform thickness, and tapering stems. Approximately 2/7 display staining.

(6)	Bowl and partial stem	25	1700-1770	1	38	20	9	9	2	-
(6)	Near complete stem	-	-	1	-	-	145	7-9	2-3	Tapering stem
(9)	Partial stems	-	-	1	-	-	84-105	7-9	2	1 slightly bent, 1 partially blackened
(20)	Bowl and partial stems	25	1700-1770	2	38-40	19	71-100	8.5	2	One complete bowl and partial stem, one partial bowl and partial stem.
(20)	Partial stem	-	-	1	-	-	65	9	2	-

Table 4: Clay Tobacco Pipe recovered from drop shaft 1

Drop Shaft 2

Context	Form	Type	Date	Count	BH	BW	SL	SW	BS	Comments
(29)	Bowls with partial stems	15	1660-1680	2	32-36	8-16	35-101	8-9	3	Taken to be at the earlier stage of this typology c1660, possibly even a variant of Type 9 c1640-1660.
(29)	Bowl with partial stem	25	1700-1770	1	40	19.5	34	9	2	Stamp (HS):WP
(29)	Partial stems	-	-	10	-	-	29-70	7-10	2-3	-
(33)	Bowl and partial stems	21	1680-1710	2	38-41	20	42-78	8-9	2-3	1 squashed rim, giving it an oval profile.
(33)	Partial stems	-	-	13	-	-	31-73	5-9	2-3	1 partially blackened.

Table 5: Clay tobacco pipe recovered from drop shaft 2

APPENDIX VII: Glass

A small quantity of window and vessel glass was recovered from both drop shafts undertaken at Middlesex Street. This comprised a total of 12 fragments and 2 near complete vessels, categorised as follows:

(20)

1. 1 x almost complete green glass globular onion bottle, with a relatively shallow punt base and filed pontil scar. Most often mouth/free blown, missing rim. Neat and of a uniform thickness. European in origin, and used for storing wine. Potentially of the transitional type, dated 1710-1740.

2. 1 x near complete green glass globular onion bottle. Smaller than the above example, with a slightly deeper, more angled put. Relatively uniform in profile, with a heavy patina. Rim missing. Provisionally dated 1680-1740.

3. 1 x fragment of green glass globular onion bottle. Fragment of neck and trimmed string rim. Provisionally dated 1700-1740.

(27)

4. 9 x fragments of slightly green/blue transparent window glass. Neat rectangular panels, uniform thickness and quality indicating mass production. 19th century.

(30)

5. 1 x fragment of vessel glass. Basal fragment of a light green transparent bottle. Free blown, with a neat pontil scar and single large bubble. Slightly sub-circular in plan, with a pronounced lip. Post-medieval, probably 18th-19th century.

(32)

6. 1 x almost complete dark brown glass bottle. Missing neck. Two piece hinge mould production. Front: 'To HRH THE PRINCE OF WALES REGISTERED' with feathers heraldic badge in centre. Back: 'FLEET & Co WALWORTH'. Fleet and Co occupied the Walworth premises between 1870 and 1887, producing alcohol bottles and soda torpedo bottles[7].

[7] http://www.bottledigging.org.uk/forum/PrintTopic255389.aspx.

Figure 34: Glass bottle (32) and onion bottles (20).

The vessel glass assemblage is typical of domestic use, and several examples may have been imported (onion bottles have both Dutch and English origins, with their wide shape making them stable for transportation at sea). The window glass came from a demolition context containing roof tiles and probably represents the top part of the house as it was cleared into the basement. The finds represent both the 17th/18th and 18th/19th phases of building recorded on site.

APPENDIX VIII: Animal bone and oyster shell

The animal bone was assessed by direct observation. Each element was identified according to its species, bone type, and where applicable, fragmentation, modification and weathering. The identification of elements was carried out following Hillson (1992) and Schmidt (1972), when the distinction between goat and sheep was not possible the element was categorized as ovicaprines. Estimation of age by observation of the fusion stage of the epiphyses was recorded following Silver (1969). Teeth identification and ageing was carried on following Hillson (2005). The positions of butchery marks and fragmentation were recorded according to Binford (1981). Evidence of gnawing and condition were also recorded. The oyster shell was quantified.

The assemblage breaks down as follows:

D1	**23**	Bos Taurus	1
		Ovis	
		Sus scrofa	
		Medium sized mammal	1
D2	**27**	Bos Taurus	
		Ovis	1
		Sus scrofa	1
		Medium sized mammal	
	30/33	Bos Taurus	3
		Ovis	2
		Sus scrofa	1
		Medium sized mammal	
	35	Bos Taurus	1
		Ovis	2
		Sus scrofa	1
		Medium sized mammal	1
		unknown	2
		oyster shell	25

In total 14 animal bones and 3 teeth, belonging to 4 different classes were recovered. The material was evenly divided between *Bos Taurus, Ovis, Sus Scrofa* and other medium sized mammals. No bird or fish bones were recovered.

No traces of modification, weathering or butchery marks were observed, although two displayed signs of copper staining, likely a result of their proximity to metal objects in the ground. The lack of one particular bone group, for instance a large number of hooves and skulls would suggest a tannery, suggests the assemblage of bone and shell is consistent with domestic waste, rather than industrial processes, such as a butchery.

Similarly, the oyster shell is likely to be domestic waste. Throughout much of the post-medieval period oysters were cheap and readily available, making them a popular lunchtime food. It is possible that some of the shells are remnants of meals eaten by the workmen who were demolishing/constructing one of the buildings – however this is based solely on speculation.

Bibliography

Binford, L. (1981). *Bones Ancient men and modern myths.* London: Academic Press.

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Lyman, R. L. (1994). *Vertebrate Taphonomy*. Cambridge: CUP.

Schmidt, E. (1972). *Atlas of Animal Bones for Prehistorians, archaeologist and quaternary geologist.* Amsterdam: Elsevier Science LTD.

Silver, I. (1969). The Ageing of Domestic Animals, In D. Brothwell and E. Higgis (eds) *Science in Archaeology.* London: Thames and Hudson, 283-302.

APPENDIX IX: OASIS Recording Form

OASIS ID: compassa1-261916

Project details

Project name	Middlesex Street Highway Improvement Scheme
Short description of the project	A watching brief conducted between the 18th July and 5th August 2016 on two drop shafts located to the northern end of Middlesex Street E1. A series of post-medieval walls were recorded, taken to be from two separate phases of construction. The evidence can be used to chart to the street frontage progression along the road formerly known as Windsor Street (now part of Middlesex Street). Additionally, some evidence of Roman quarry pitting was encountered cutting into brickearth. Both post-medieval and Roman finds were recovered. Natural brickearth was observed in drop shafts 1 and 2 at 11.31mOD and11.10mOD respectively.
Project dates	Start: 18-07-2016 End: 05-08-2016
Previous/future work	Yes / No
Any associated project reference codes	CWA16 - Sitecode
Type of project	Recording project
Site status	Conservation Area
Current Land use	Transport and Utilities 1 - Highways and road transport
Monument type	CARRIAGEWAY Modern

Significant Finds	WALL Post Medieval
Significant Finds	FOOD AND DRINK SERVING CONTAINER Post Medieval
Investigation type	"Watching Brief"
Prompt	City of London Local Development Framework requirement

Project location

Country	England
Site location	GREATER LONDON CITY OF LONDON CITY OF LONDON Middlesex Street
Postcode	E1 6AN
Study area	0.1 Kilometres
Site coordinates	TQ 533452 181610 50.941895533937 0.182945714102 50 56 30 N 000 10 58 E Point
Height OD / Depth	Min: 11.1m Max: 11.31m

Project creators

Name of Organisation	Compass Archaeology
Project brief originator	City of London Department of the Built Environment

Project design originator	Compass Archaeology
Project director/manager	Geoff Potter
Project supervisor	Heidi Archer
Type of sponsor/funding body	City of London Corporation
Name of sponsor/funding body	City of London Department of the Built Environment

Project archives

Physical Archive recipient	Museum of London archaeological archive
Physical Contents	"Ceramics","Glass"
Digital Archive recipient	Museum of London Archaeological Archive
Digital Contents	"Ceramics","other"
Digital Media available	"Images raster / digital photography","Spreadsheets"
Paper Archive recipient	Museum of London Archaeological Archive

Paper Contents	"Ceramics","Glass"
Paper Media available	"Context sheet","Photograph","Plan","Report","Section"

Project bibliography 1

Publication type	Grey literature (unpublished document/manuscript)
Title	Middlesex Street Highway Improvement Scheme, City of London, E1. An Archaeology Watching Brief.
Author(s)/Editor(s)	Archer, H.
Date	2016
Issuer or publisher	Compass Archaeology
Place of issue or publication	250 York Road, London SW11 3SJ
Description	A comprehensive report summarising the results of a watching brief. Report comprises background information, including local geology, historical and archaeological background, and details pertaining to the requirement for archaeological investigation. The second part comprises results of both drop shafts containing maps and photographs, with an analysis and concluding remarks. Finally, a series of specialists reports are appended outlining the major artefact groups.