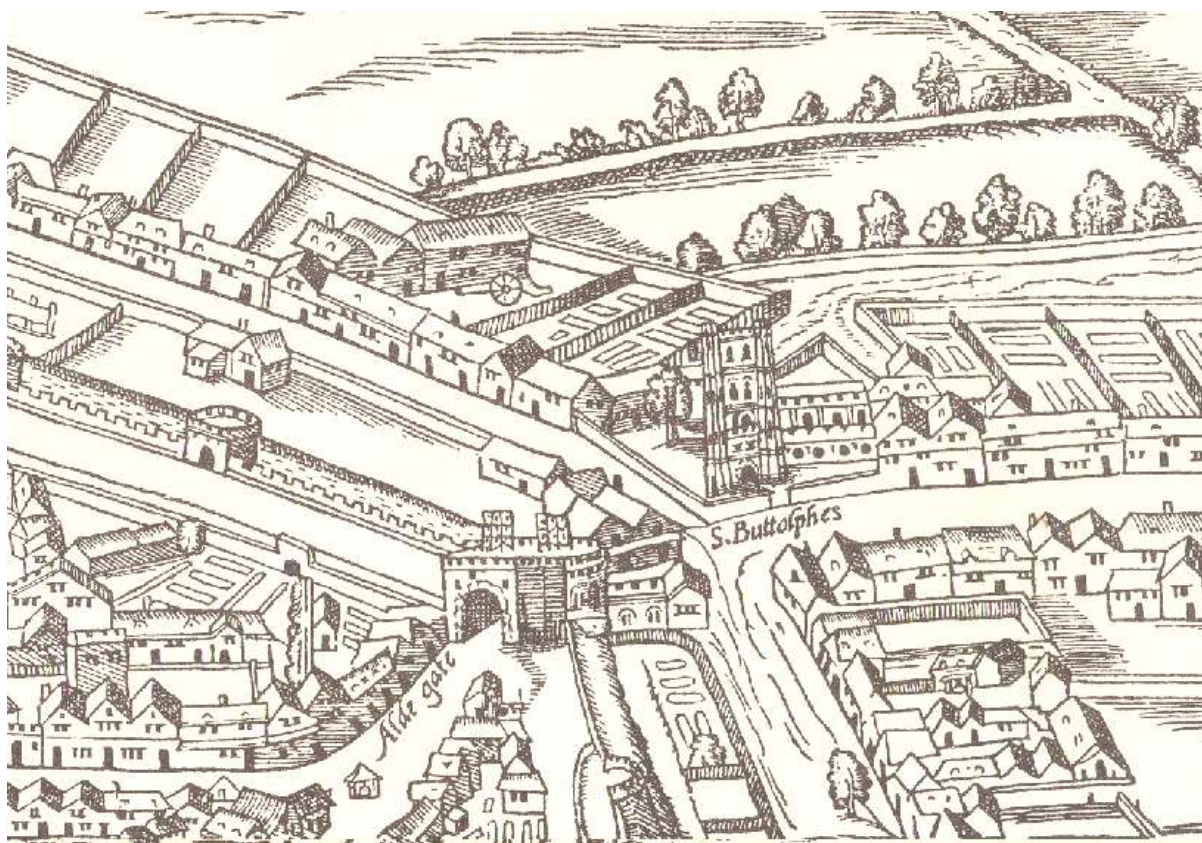


ALDGATE HIGHWAY CHANGES AND PUBLIC REALM PROJECT, CITY OF LONDON EC3A

An Archaeological Assessment Report



December 2018

ALDGATE HIGHWAY CHANGES AND PUBLIC REALM PROJECT, CITY OF LONDON EC3A

An Archaeological Assessment Report

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Abstract

Between August 2013 and March 2018 Compass Archaeology conducted a programme of archaeological evaluation and watching brief on the site of Aldgate, City of London EC3A. The work was commissioned by the City of London Department of the Built Environment and undertaken as part of the Aldgate Highway Changes and Public Realm Project, transforming the 1960-70s gyratory system into an open pedestrian space. The site is located within the City of London Archaeological Priority Area and partially within the Scheduled Monument of the Roman and medieval City wall and gate at Aldgate (LO26K).

The earliest features recorded were sections of the Roman City wall and ditch running NNW-SSE along Duke's Place, to the east of the Aldgate. The extramural occupation of Roman Londinium was represented by a series of brickearth and gravel extraction pits, rubbish pits and a potential land surface.

Following the Roman withdrawal the City ditch began to silt up and the land was reclaimed. The medieval occupation of the area was represented a sequence of ditch fills and further quarry / rubbish pits. Several trenches along the eastern side of the open space exposed a linear feature comprising well-compacted burnt daub and ceramic building material overlain by a thin lens of gravel. The feature was interpreted as the remains of the Houndsditch routeway, which ran NNW-SSE to the west of St Botolph's Church through the medieval and post-medieval periods.

Moving into the post-medieval period, development was prolific. The completion of the infilling of the City ditch and clearance of the City wall and gate in the 18th century enabled the construction of new properties fronting Duke's Place and Houndsditch. The post-medieval period was well represented on the site by numerous coal cellars, basements and associated stratigraphy. The pre- and post-1740s church was represented by two brick foundations for an entrance staircase on the western aspect of the building, and approximately thirteen coffin burials, twelve of which were infants or juveniles.

Widespread truncation of many of the earlier features was caused by extensive bomb damage in the area and subsequent post-war clearance, and the erection of a large multi-storey building which existed on the site between the 1940s and 1960s.

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1 INTRODUCTION

- 1.1 This document forms an archaeological assessment report detailing the findings of a recent programme of evaluation and watching brief carried out on the site of the Aldgate gyratory road system, City of London EC3A (fig.1).



Figure 1: Site location, marked in red.

- 1.2 The archaeological works were undertaken as part of the Aldgate Highway Changes and Public Realm Project between August 2013 and March 2018. The project involved the redevelopment of the 1960s-70s gyratory road system into an open public space (fig.2).
- 1.3 The programme comprised two evaluations, undertaken between 2013 and 2015 by Compass Archaeology, followed by a watching brief monitoring the majority of groundworks associated with the project.
- 1.4 The archaeological programme was commissioned due to the area of works containing several sites and historic and archaeological importance, including the Scheduled Ancient Monument of the Roman and medieval City wall and gate at Aldgate (LO26K), the church of St Botolph-without-Aldgate, and its location within the City of London Archaeological Priority Area (fig.3).

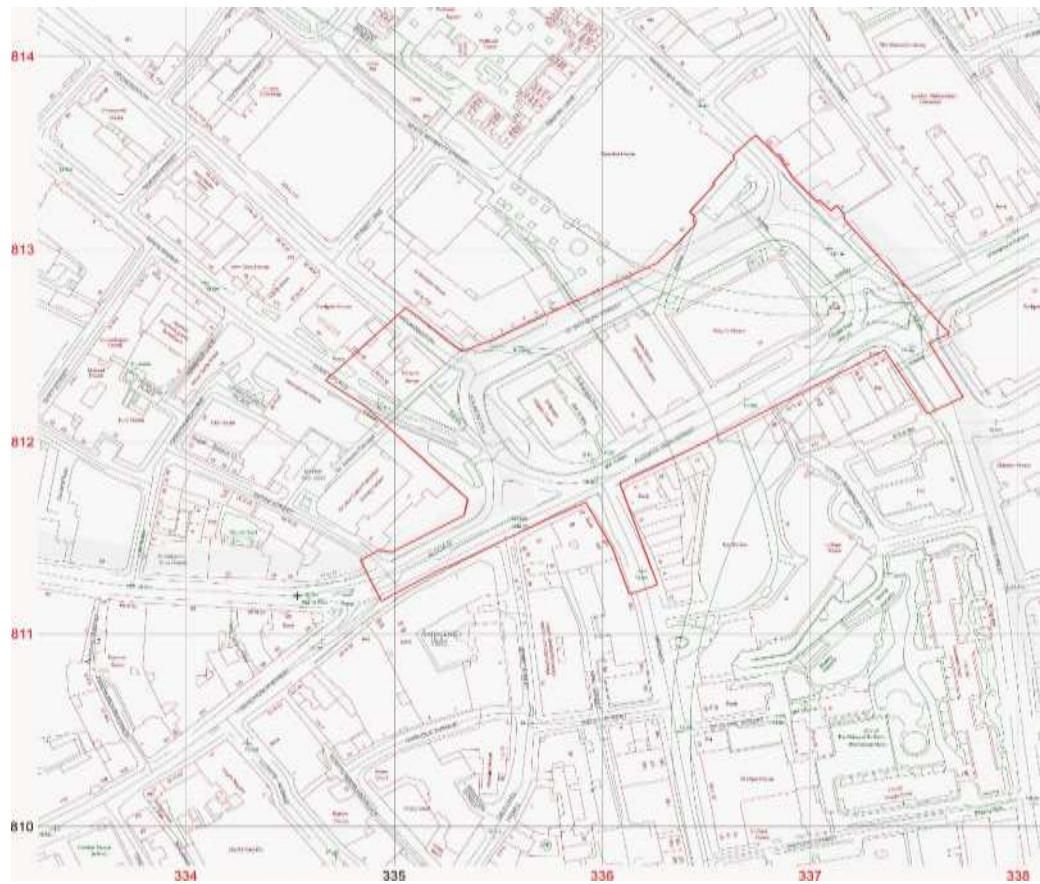


Figure 2: Plan showing the works area covered by the AHCRP.



Figure 7: Scheduled Monument LO26K (red). Adapted from Historic England designation.

2 ACKNOWLEDGMENTS

- 2.1** Compass Archaeology would like to thank the City of London Department of the Built Environment and Historic England for commissioning the programme of archaeological works.
- 2.2** Compass would like to thank all of our internal and external specialists who provided relevant analysis of the archaeological finds and samples, and for their vital insights and contributions towards the understanding of the site.
- 2.3** Thanks also to Kier and JB Riney for providing accessibility and support on site during the project, with particular thanks to Steve James, Christian O’Keefe and Simon Rollinson.

3 SITE LOCATION, GEOLOGY, AND TOPOGRAPHY

3.1 Site location

- 3.1.1** The area of works covered a large area extending from Leadenhall Street in the west to Middlesex Street in the east. The northern extent lies at the junction of St Botolph’s Street and Houndsditch, with the southern extent lying beyond the junction of Minories and southern entrance to Aldgate bus station. The approximate site centre is TQ 33626 81241.
- 3.1.2** The majority of the works undertaken were associated with the removal and redevelopment of the gyratory road system, covering the area between the Sir John Cass Foundation Primary School in the west and St Botolph’s Row in the east (now the Dorsett Hotel).

3.2 Site geology

- 3.2.1** According to the British Geological Survey (Sheet 256: *North London*) the site overlies Langley Silt (a brickearth deposit) above Kempton Park Gravels (fig.4). The brickearth deposit is generally found at c12.2-12.3mOD along Aldgate High Street, c2.75m below the present ground surface.

3.3 Site topography

- 3.3.1** The site lies on a spur of high ground which crosses Aldgate. The land slopes by just over 1.1m from east to west, with a level of c16.2mOD at its western end, falling to c15.1mOD at its east. A slight drop is also present, from c16.1mOD at the northern end to c15.8mOD at the southern.
- 3.3.2** Certain areas have been partially or wholly truncated by modern activity. These include the London Underground cut and cover construction and 1960s pedestrian subway, also cut and cover. The first of these will have removed all potential archaeological deposits, though the latter is more localised and adjacent areas may have survived.

Previous archaeological investigations in the area have shown some considerable but concentrated areas of disturbance, ranging in depth between 1 and 2.5m below the present ground level.

Figure 8: Extract from the BGS sheet 256: North London, with site outline marked in red.

4 ARCHAEOLOGICAL AND HISTORICAL BACKGROUND

The archaeological and historic background of the site has been discussed at length in the previous Desk-Based Assessment and associated Written Scheme of Investigation (Compass Archaeology 2014; 2015) so will not be reproduced at length here. Instead an overview of the major historic periods, with particular reference to the City wall and ditch is given.

4.1 Prehistoric

During the prehistoric period much of the archaeological evidence for activity / occupation is concentrated close to the River Thames, often on gravel islands, or eyots, which afforded higher and dryer ground, space and regular subsistence supply favoured by a hunter-gatherer lifestyle.

Almost no prehistoric finds or features of archaeological significance have been recovered from the immediate area surrounding the development site. This is taken to be a result of either, activity being sparse in this area, or, later more intensive human activity has truncated any earlier remains.

4.2 *Roman*

Following the successful Claudian invasion of AD43 the settlement of *Londinium* was established. The city comprised a playing card shaped fortress, centred on the present day London Wall / Wood Street, surrounded by a walled civilian settlement extending from Ludgate in the west to Tower Hill / Aldgate in the east. An extensive road network was created linking the city to Colchester and on to the south coast, promoting communication and trade links with mainland Europe. The route of this road is believed to be preserved in the line of modern Aldgate High Street.

In the late 2nd / early 3rd century a defensive wall was constructed surrounding the civilian settlement, with access tightly controlled by 4 gates. The eastern gate – Aldgate was situated along the south-western boundary of the AHCPRP near the junction of Aldgate and Jewry Street. The walls had an external V-shaped ditch as a further liner defence, and in internal bank of earth mounded up against it. The wall and ditch broadly follows the line of Duke's Place and Jewry Street, with numerous sections being recorded during previous archaeological investigations.

Within the city walls domestic and small scale industrial processes are known to have occurred. Larger scale activity was exclusively conducted beyond the limit of the walls, including burying and cremating the dead and quarry pitting / gravel extraction.

Londinium served as a major port and commercial centre for Roman Britain until its eventual abandonment during the 5th century. The fort and surrounding vicus began to decline in the early – mid 4th century AD as troops were relocated further north to defend the border near Hadrian's Wall. Eventually, in the early 5th century trade and communication links with Britain had broken down due to territorial disputes in mainland Europe, leading to the complete withdrawal of a Roman presence.

4.3 *Saxon*

In the post-Roman period the commercial centre moved further west, with the Saxon settlement of *Lundenwic* being established in the area of Covent Garden. The wall however continued to be maintained as a defensive feature; documentary evidence indicates the utilisation of Cripplegate into the 10th and 11th centuries. The establishment of a settlement to the north of Cripplegate, with easy access to the nearby village of Islington, resulted in somewhat of a resurgence for the wall and a programme of rebuilding was undertaken in the 1490s.

Scant evidence for Saxon occupation has been found in the vicinity of the site area, however it is known that the church of St Botolph-without-Aldgate was founded in the 10th century by the Knighten Guild. Elements of this 10th or 11th century foundation have been observed alongside cess pits and seventeen east-west aligned burials present within the Church grounds.

4.4 *Medieval*

There was intensive settlement and activity within the City throughout the medieval period. This is well reflected in the archaeological record, with numerous investigations in the area recording cess pits, yard surfaces and wells – particularly towards the western end of the public space. Beyond the City limits activity was just as prolific, with quarry pitting and heavy industrial activities being undertaken.

St Botolph-without-Aldgate continued to be an important church, gaining in influence through its association with the Priory of the Holy Trinity. The Priory, situated on what is now the area of Duke's Place / the Sir John Cass Foundation Primary School, was founded in 1107 by Queen Matilda, wife of Henry I on the site of the former Holy Cross and St Magdalene Church. The complex was substantial, comprising a cloister, main church, dormitory and refectory, evidence of which has been found at Leadenhall Street and Mitre Street, in addition to 42 articulated burials. St Botolph itself was rebuilt at least once, with excavations on the site uncovering an earlier eastern boundary wall of the churchyard, dated to the 15th century, and an earlier southern aisle of the church. Originally the church was aligned east-west (as opposed to the unconventional north-south alignment of the present incarnation) and was positioned closer to the road.

A number of roads in the surrounding area were established during the medieval period as the city began to develop. These include Minories, Middlesex Street, Duke's Place and Houndsditch.

The city walls and ditch were maintained and even improved, with the walls being heightened and the gate rebuilt and strengthened. The ditch was partially backfilled and then re-cut, wider and shallower, positioned further away from the wall.

4.5 *Post-medieval - Modern*

From the 17th century onwards the study area developed exponentially to form the densely occupied area it is today. Both domestic and industrial processes began to share space and the distinction between the inner and outer parts of the City became blurred, until the ditch was filled in during the 17th century, with the gate and walls being demolished by the late-18th.

St Botolph's, although surviving the Great Fire of 1666 was rebuilt by Wren in 1744. The churchyard was cleared and converted into a public garden in 1892 (figs.5-10).

The area was subject to considerable bomb damage during the Second World War and post-war clearance as a result, particularly the central area of the site between Duke's Place / Duke Street and Houndsditch. The area was then partly rebuilt and redesigned to incorporate the present gyratory system and pedestrian subways in the 1970s.

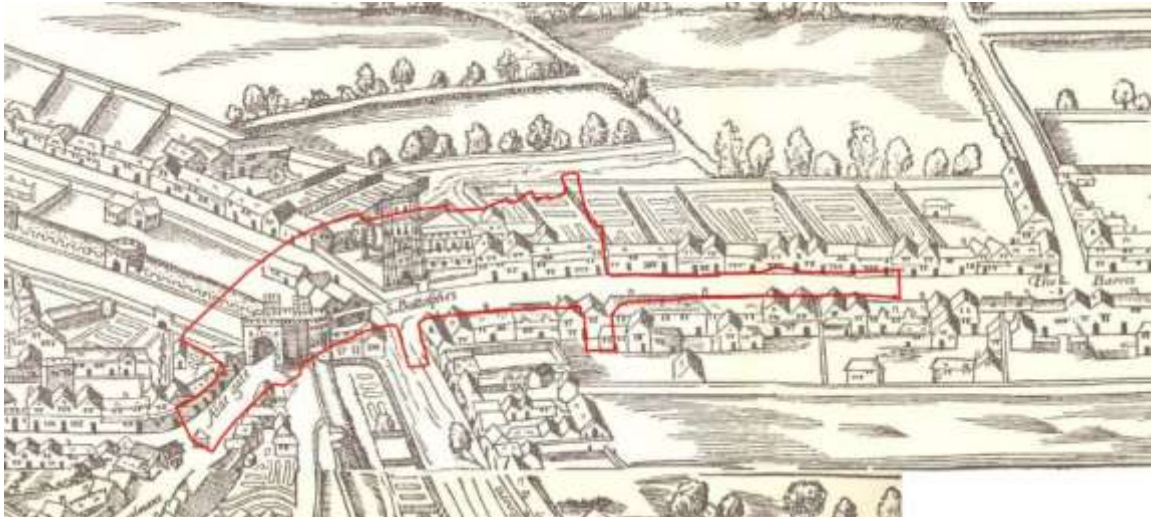


Figure 9: Extract from the Agas map of London c1562, with site outline marked in red. The City wall and ditch are visible, running parallel to Houndsditch and the Church of St Botolph's.

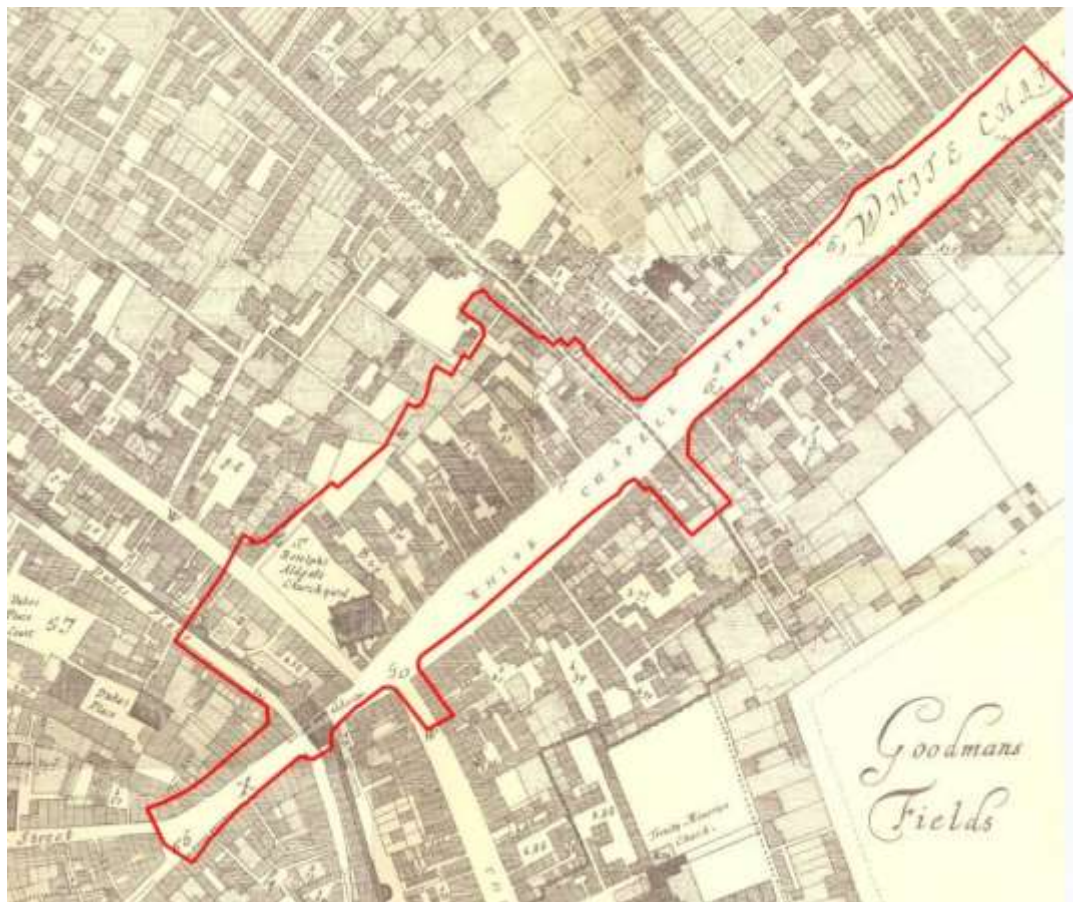


Figure 10: Extract from Ogilby and Morgan's Survey of the City of London (1676) with site outline marked in red. The City wall and gate are still depicted, however houses now occupy the area of the City ditch. St Botolph's is depicted with a clearly defined churchyard

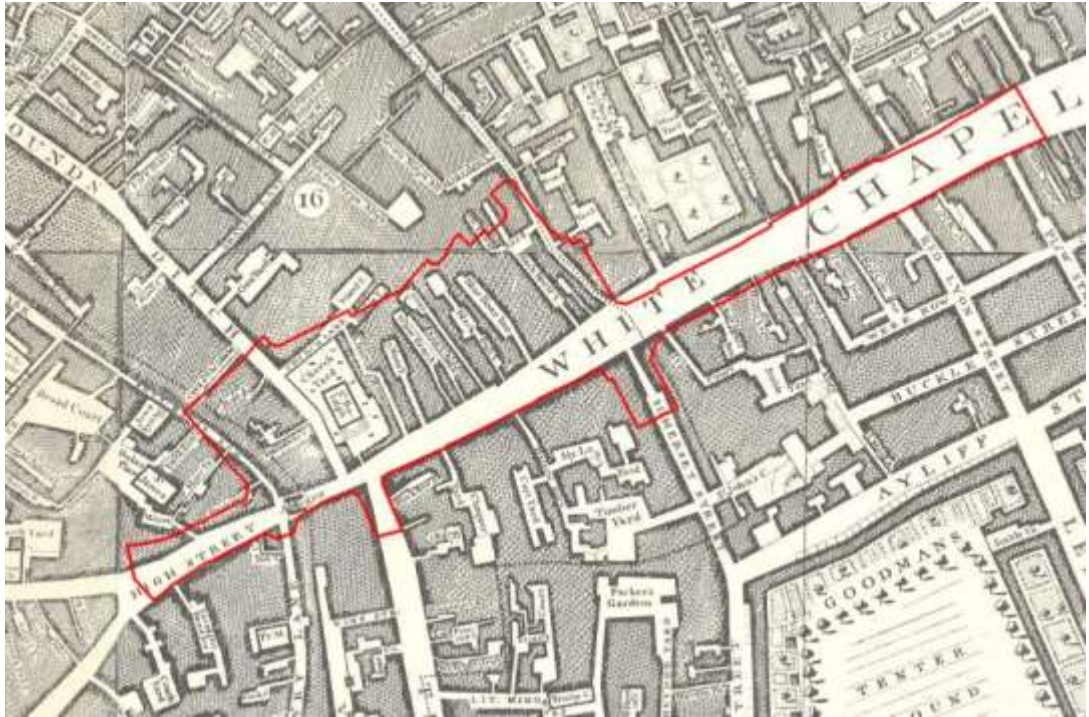


Figure 7: Extract from Rocque's Map of London (1744-6) with site outline marked in red. The map depicts the present St Botolph's Church building, built in 1744 with a slightly altered boundary. Extensive development has occurred along the line of the former wall, with the creation of the Great Synagogue, St James's Church and Duke's Place, and rows of housing fronting Duke's Place (then Shoemaker Row).

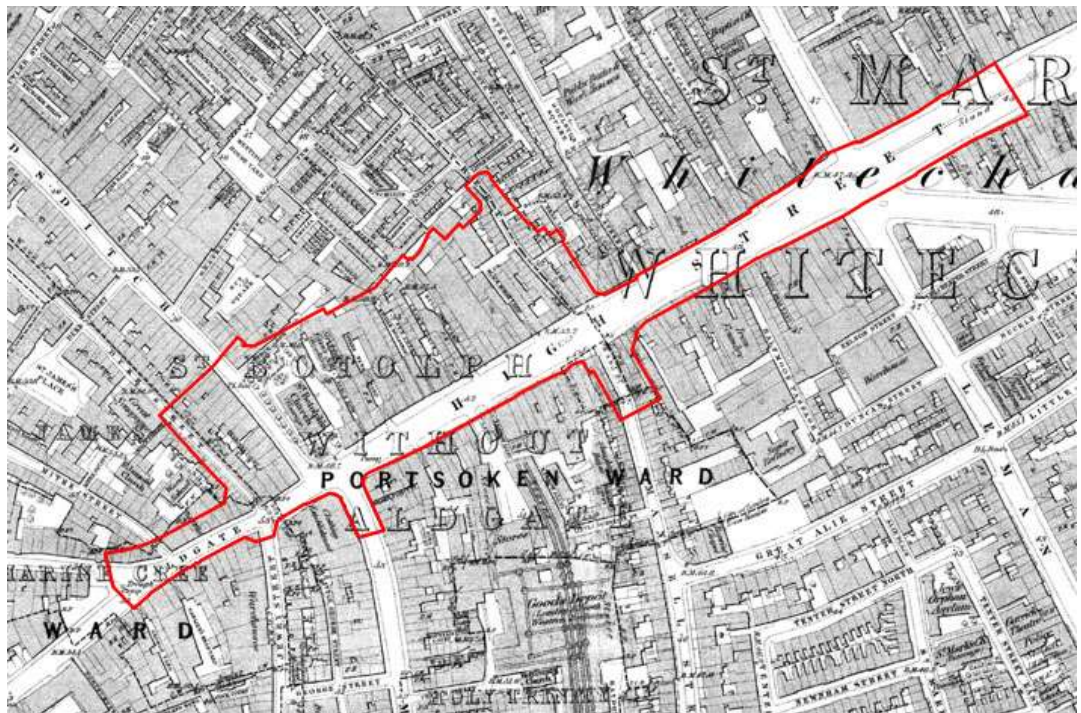


Figure 8: Extract from the Ordnance Survey 25-inch First Edition map (1870) with site outline marked in red. The extent of the post-medieval development is clearly shown, with buildings fronting Houndsditch, Duke Street and Aldgate High Street. St Botolph's churchyard is now disused and further alterations have been made to the grounds.



Figure 9: Extract from Goad's Insurance Plan vol.III sheet 69 (1887) showing the development between Houndsditch and Duke Street.

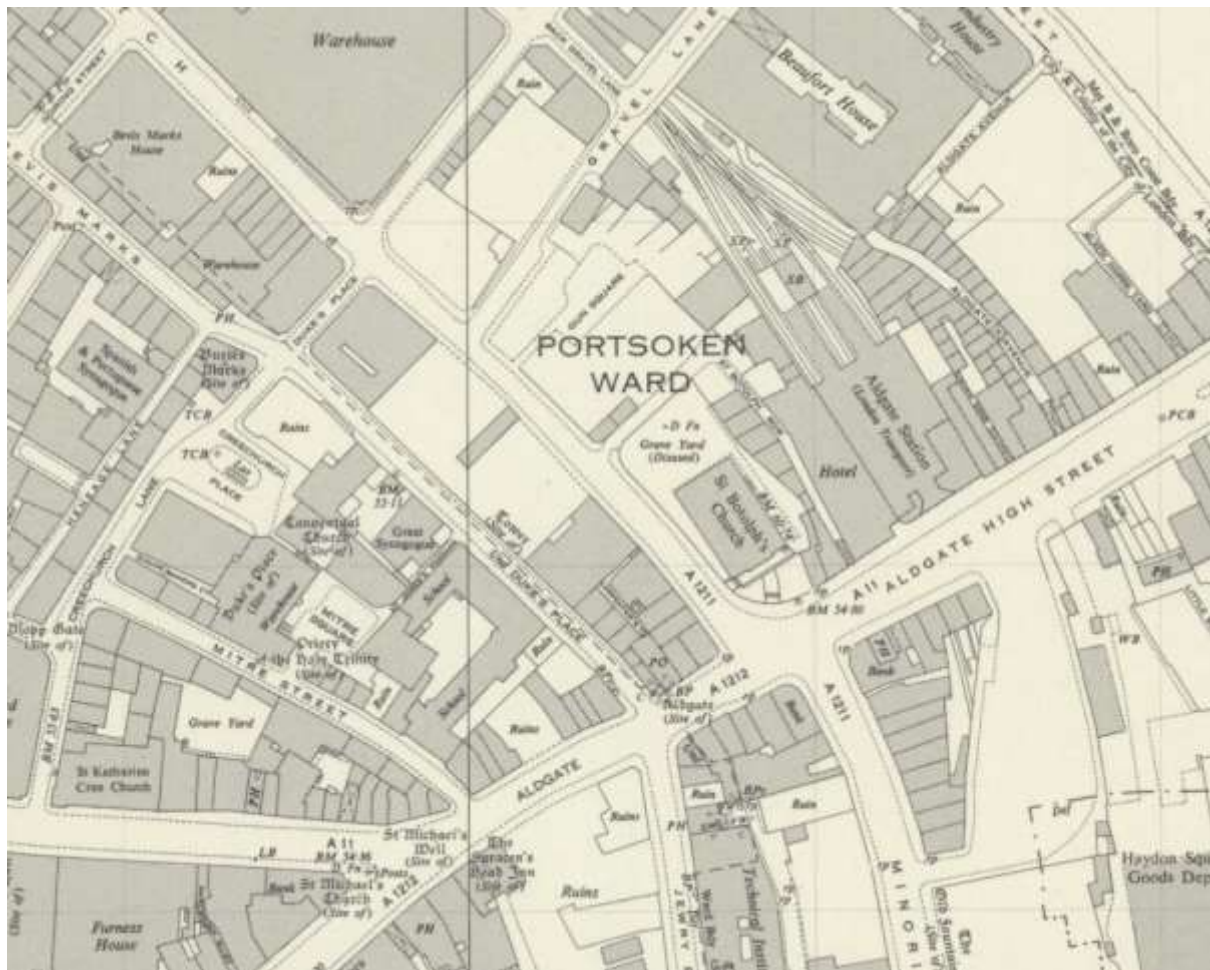


Figure 10: Extract from the 1951 OS 1:1250 map TQ3381-A, showing the Aldgate area in the post-war area.

5 PLANNING BACKGROUND AND OBJECTIVES

- 5.1** The Government adopted the National Planning Policy Framework (NPPF) in March 2012 (updated 2018), replacing PPS 5 '*Planning for the Historic Environment*' and policies HE6 and HE7.

The NPPF integrates planning strategy on 'heritage assets' - bringing together all aspects of the historic environment, below and above ground, including historic buildings and structures, landscapes, archaeological sites, and wrecks. The significance of heritage assets needs to be considered in the planning process, whether designated or not, and the settings of assets taken into account. NPPF requires using an integrated approach to establishing the overall significance of the heritage asset using evidential, historical, aesthetic and communal values, to ensure that planning decisions are based on the nature, extent and level of significance.

The archaeological programme conformed to the requirements of the NPPF.

- 5.2** The study-area lies within the City of London. The City of London has policies on archaeological remains and development; Local Development Scheme: Historic Environment Strategy (adopted 2017), with *Core Strategic Policy CS12: Historic Environment* being most relevant.
- 5.3** The works also conformed to the London Plan (adopted 2011, draft 2018) Chapter Seven: London's Living Spaces and Places.
- 5.4** Part of the groundworks took place within the footprint of the SAM of the City Wall and Aldgate (LO26K), under Scheduled Monument Consent. Alterations to the proposal plans were made to conform to the requirements of the SMC.
- 5.5** There are a number of Listed Buildings within the general area of the groundworks, specifically the Grade I Listed Church of St Botolph-without-Aldgate.

6 METHODOLOGY

6.1 Standards

- 6.1.1** 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.
- 6.1.2** Fieldwork was carried out in accordance with Construction (Health, Safety & Welfare) Regulations. All members of the fieldwork team held valid CSCS (Construction Skills Certificate Scheme) cards and wore hi-visibility jackets, hard hats, and steel toe capped boots etc. as required. All members of the fieldwork team also followed the contractors' health and safety guidelines.

- 6.1.3** Representatives of the AHCPRP, City of London Department of the Built Environment and Historic England were kept informed of the progress of fieldwork and any significant finds.

6.2 Fieldwork

- 6.2.1** All fieldwork was conducted primarily by one archaeologist on site to monitor groundworks, with additional team members providing support when significant remains or features were exposed.
- 6.2.2** All bulk reductions and machine work was undertaken using a mechanical excavator fitted with a toothless grading bucket. All subsequent hand-excavation of archaeological deposits was undertaken by archaeologists.
- 6.2.3** When significant finds were encountered, Compass informed all parties and soon as possible and further mitigation measures were agreed upon and implemented. These included additional archaeological recording work, as well as preservation of remains *in-situ*. In the area of the Scheduled Ancient Monument preservation *in-situ* of any structural remains was observed at all times, sometimes requiring modifications to the design.

Every effort was made to keep delays to the works programme to a minimum, whilst recording any archaeological finds and features to the appropriate standards.

- 6.2.4** All archaeological deposits and features were investigated and recorded in stratigraphic sequence, and where appropriate, finds dating evidence recovered. No significant environment deposits were encountered during the excavation. Had such deposits been identified, further specialist work from QUEST (University of Reading) would have been sought, in consultation with the relevant parties.
- 6.2.5** Archaeological remains were recorded on *pro-forma* sheets by written and measured description, and where necessary were drawn in plan and / 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. The fieldwork record was supplemented as appropriate by photography (.jpeg and RAW formats) and as shapefile data (.shp).
- 6.2.6** Levels were taken on all features and stratigraphic deposits as appropriate, derived from an Ordnance Survey Benchmark located on the southeast corner of St Botolph-without-Aldgate, valued at 18.48mOD.
- 6.2.7** All finds and samples were treated on-site in accordance with the appropriate guidelines, including the Museum of London's '*Standards for the Preparation of Finds*'. All identified finds and artefacts were retained and bagged with unique numbers related to the context record, although certain classes of building material were discarded after an appropriate record had been made. Where necessary, sensitive artefacts were properly treated in line with the appropriated Standards.
- 6.2.8** Human remains were encountered during the course of the fieldwork and, where possible, were preserved *in-situ*. Where this was not possible an AASI licence was obtained from the Ministry of Justice. The procedures were in accordance with the

Ministry of Justice's 2008 statement: 'Burial Law and Archaeology', and all human remains were treated with due respect.

Any human remains encountered were exposed and recorded by an appropriately qualified Osteoarchaeologist / Forensic Archaeologist. Where necessary, remains were removed, bagged and reburied on site in accordance with Church practices.

6.3 Post-excavation and finds

6.3.1 The fieldwork was followed by a programme of off-site processing and assessment; by compilation of interim summaries and a post-excavation assessment report; and by ordering and deposition of the site archive.

6.3.2 Appropriately qualified staff have undertaken assessment of finds and environmental remains and, where appropriate, conservation of finds. Specialist reports are included as appendices.

6.4 The Post-Excavation Assessment Report

6.4.1 This document provides details of the scope, circumstance and organisation of the report, along with original research aims, and a documented historical background to the site.

6.4.2 The report details the methodology used for excavation and recording of the archaeology, and the nature of the archaeological remains and finds, followed by an interpretation of the deposits investigated. The interpretation of the archaeology includes a discussion of potential phasing of activity and chronological development of the stratigraphy / site, as well as comment on the site's potential local, regional and international importance. Conclusions have been set out in relation to the original research aims and objective.

6.4.3 The written report has been supplemented by a series of scale drawings and illustrative photographs.

6.4.4 Sufficient supporting data in tabulated form or as appendices has also been included to allow interrogation of the stated conclusions.

6.4.5 A short summary of the fieldwork has been appended using the OASIS Data Collection form. If required an additional summary will be compiled in paragraph form suitable for publication with the 'excavation round-up' of the *London Archaeologist*.

6.5 Archive

6.5.1 Following the issue of the post-excavation report and any further work that may be agreed, an ordered, indexed and internally consistent site archive will be compiled in line with MoL *Guidelines for the Preparation of Archaeological Archives*.

6.5.2 The archive will be deposited in the Museum of London Archaeological Archive under site code DKE13. The integrity of the site archive should also be maintained, and the landowner will be urged to donate any archaeological finds to the Museum.

6.6 Archaeological research questions

The following archaeological research questions were presented in the preceding WSI (Compass Archaeology 2013) as the groundworks offered an opportunity to compiled further knowledge of the history of the area:

- Is there any evidence of prehistoric activity in the area? What form does this take?
- Is there any evidence of Roman occupation? Is this related to the City wall / ditch, the structure of Aldgate or extramural activity along the Roman road exiting the City?
- Is there any evidence of medieval occupation? Is this related to the city wall / ditch, the structure of Aldgate, or is it domestic / industrial?
- Is there any evidence related to the Saxon or medieval church of St Botolph-without-Aldgate? What form does this take and can it be related to any earlier cartographic or pictorial sources?
- Is there any evidence of earlier street lines or frontages? Can this be related to the surviving cartographic evidence?
- At what level does archaeology and natural geology survive across the site?

7 RESULTS

7.1 Introduction

- 7.1.1** What follows is a written description of the archaeology recorded during the archaeological programme of investigation in chronological order from the earliest deposits, (natural geology), to the most modern, (20th century bomb damage and subsequent redevelopment).
- 7.1.2** Contexts representing fills and layers will be referred to in round brackets thus, (xxx), and cuts in squared brackets thus, [xxx]. Walls are prefixed W[xxx] whilst surfaces will be prefixed S[xxx].
- 7.1.3** The text is supplemented by phase plans, sections and photographic illustrations at appropriate points throughout.
- 7.1.4** Figure 11 below provides an overview of the major groundworks undertaken during the project. Each section is complemented by a plan showing the groundworks which produced finds and/or features from that particular phase.



Figure 11: Plan showing the major groundworks undertaken between 2013 and 2018. Key: purple = dropshafts; pink = Compass Archaeology evaluation trenches; green = Trial pits; and blue = drainage / water works and landscaping. Many of the areas were re-excavated on several occasions.

7.2 Natural geology

7.2.1 Natural geology was encountered in ten dropshafts undertaken across Aldgate and the surrounding area (fig.12).

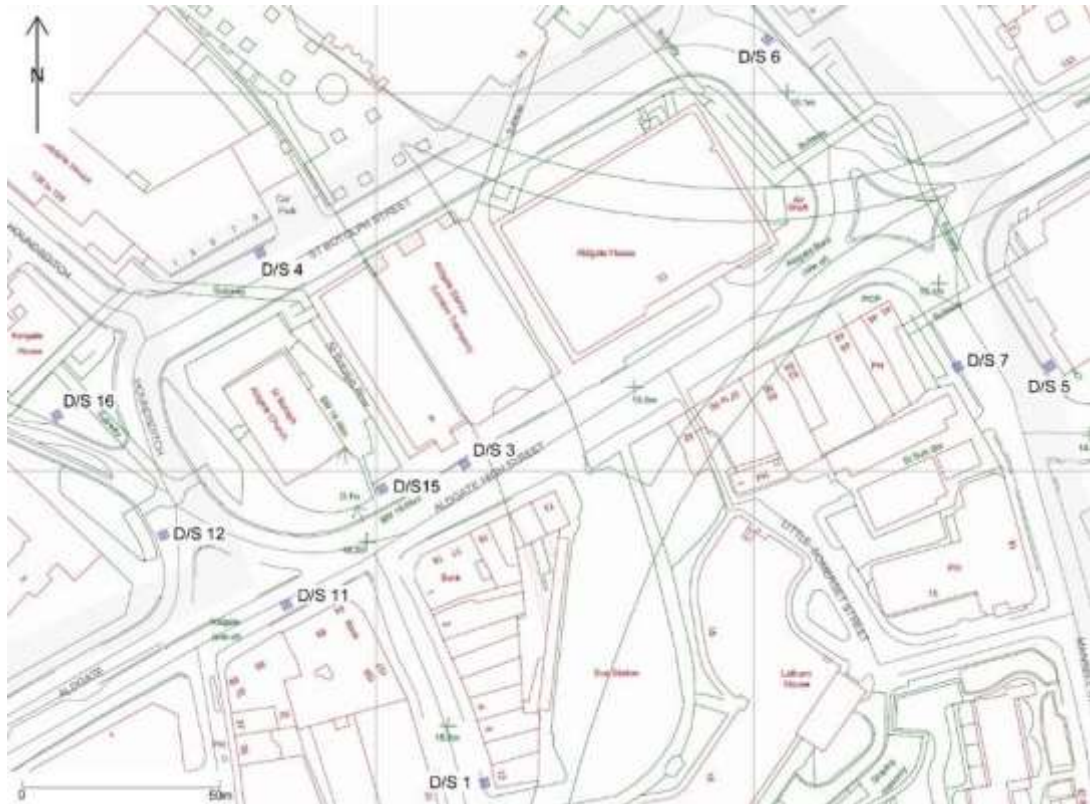


Figure 12: Plan showing the trenches in which natural geology was encountered.

7.2.2 The natural geology comprised a sequence of mottled orange-brown brickearth (42), (77), (127), (246), and (274) over a thin interface of green-yellow sand (172) and (297), above well compacted sand and gravels (173), (270) (284) and (287) (figs.13-15).



Figure 13: Dropshaft 3: natural brickearth (270) seen to the right of W[264] and concrete (283). Facing NW, scale 1m.



Figure 14: Dropshaft 5: Natural gravels (284) below (283), observed at the dropshaft base at c8.4mOD. Facing W, scale 1m.



Figure 15: Dropshaft 16: Thin sequence showing natural sand (172) overlying natural orange gravels (173). Facing N, scale 0.5m.

- 7.2.3** The brickearth was encountered between 13.02mOD and 10.96mOD, with a slight downwards slope from the south by Minories to the north at St Botolph Street. The greatest depth at which natural brickearth was encountered, 10.96mOD is reflective of truncation caused by the Roman city ditch (dropshaft 11).
- 7.2.4** Natural sand was encountered in dropshaft 7 at 9.98mOD and dropshaft 16 at 9.20mOD, again reflecting the general downwards slope from south to north.
- 7.2.5** Historically, the area was used for gravel extraction and as such the sequence is only generalised, with the natural brickearth and gravel being observed at greater depths when an extraction pit or similar feature was encountered.

7.3 Roman

7.3.1 The earliest phase of activity on the site was represented by a series of Roman features and stratigraphic deposits cut into the natural brickearth and a series of stratigraphic deposits. These features were recorded in six trenches across the site (fig.16).

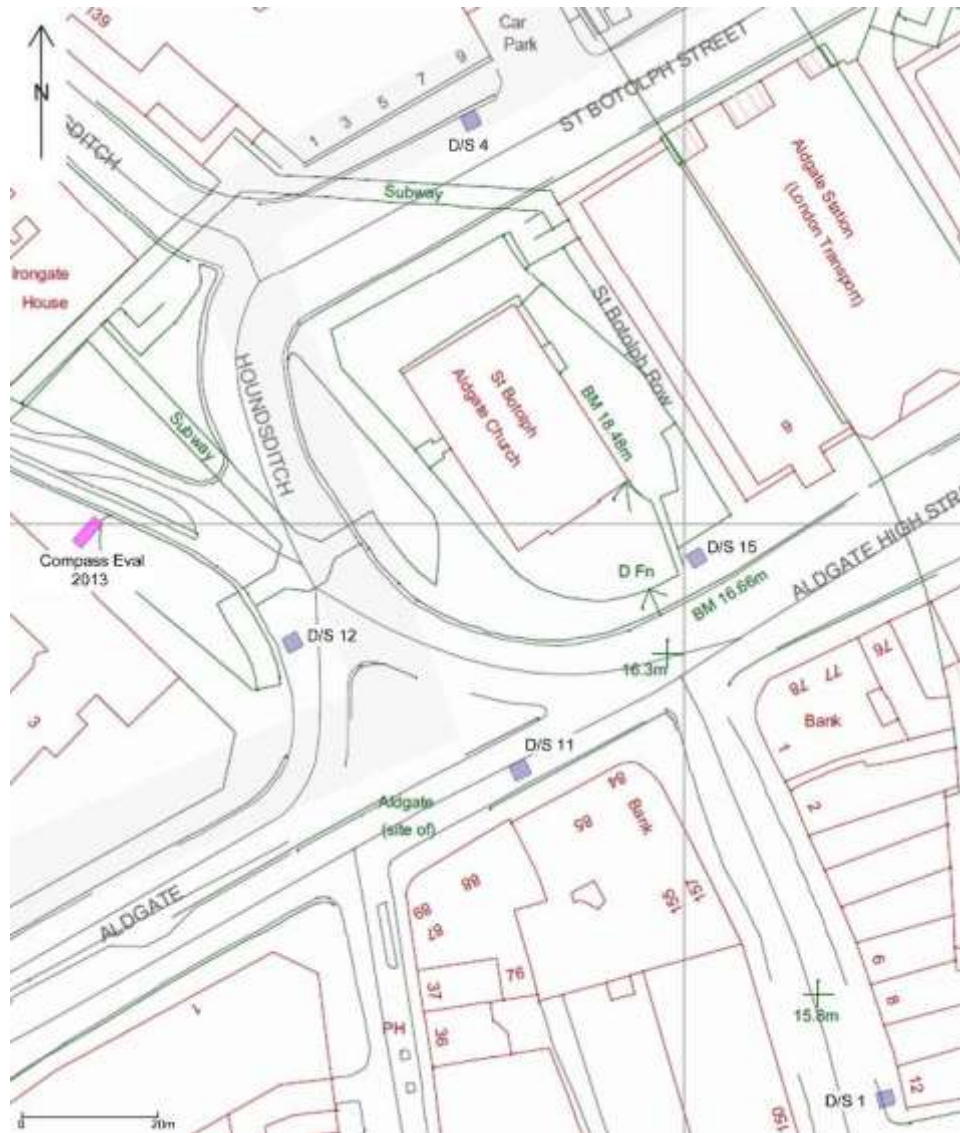


Figure 16: Plan of trenches in which Roman stratigraphy was encountered.

7.3.2 The most significant feature was a section of City wall recorded during trial hole investigations in August 2013. The feature comprised a single block of mortared masonry [15] sitting within a construction or robber cut [14]/(13) (fig.17). The masonry block measured 1.0m x 0.95m, encountered at 2.40m (13.87mOD). The robber cut, as well as truncating the west face of the City wall also truncated a deposit, (16), containing large quantities of Roman pottery¹; interpreted as a potential former Roman land surface.

¹ See Archer, H. Appendix VI



Figure 17: Remnants of the City wall [15] seen in the bottom left of frame. The scale rests within the robber / construction cut for the feature, and adjacent to Roman deposit (16), seen towards the corner of the post-medieval brick cellar. Facing SW, scale 0.5m.

- 7.3.3** The City wall was complemented by a section of the associated City ditch, observed in dropshaft 11, undertaken in January 2016. The feature comprised a linear cut [39] observed in plan and in the south, west and north sections at a depth of 4.25m (11.82mOD) (figs.18-19). The cut ran on a north-south alignment, with moderately steep east-west sloping sides terminating at a horizontal base. In total the observable section measured 0.6-0.8m in depth. The upper part of the ditch was filled by a relatively well compacted mid to dark grey silt abundant with small stones, charcoal flecks, gravel and occasional patches of redeposited brickearth (40), measuring 350-500mm in thickness. This overlay a band of mid to dark grey silt commingled with mottled orange redeposited brickearth containing frequent flecks of sand (41), measuring 200mm in thickness. The base of the ditch was encountered at 11.22mOD – 11.07mOD. Three fragments of Roman CBM were recovered from this context, two of which are taken to be fragments of tegula and imbrex roof tile².

² See Pringle, S. Appendix IV



Figure 18: Dropshaft 11: Section of the eastern part of the Roman City ditch [39] / (40) and (41), cutting into the natural orange brickearth (42). Facing NW. Scale 1m.



Figure 19: Dropshaft 11: Roman City ditch [39] / (40) and (41). The lighter band of redeposited brickearth (41) is visible to the right of the scale. Facing SW, scale 1m.

- 7.3.4** A second section of the City ditch was recorded in dropshaft 12, located on the western side of the site adjacent to the Sir John Cass Foundation Primary School. The cut, [75] was observed in plan at a depth of 4.85m (10.96mOD) running on an approximately NNW-SSE alignment. Although only a short section (2m) was exposed its alignment is consistent with the known and assumed trajectory of the Roman City wall and ditch which runs on a NNW-SSE / NW-SE direction between Minories and Duke's Place / Bevis Marks.
- 7.3.5** Comparison to the sections of City wall recorded by MoLA in 2012 adjacent to 88 Aldgate High Street indicate that the wall and ditch run parallel to each other. The close proximity of the MoLA trenches to dropshaft 11 in particular suggests that the ditch may continue in front of the gate. The western edge of the City ditch was not observed, however, it can be stated at this stage that the feature was recorded between 11.25m and 18.0m east of the wall, with it being as close as 9.0m towards the northwest corner of the site – in the area of dropshaft 12.
- 7.3.6** Evidence of general occupation and domestic activity was represent by a series of stratigraphic deposits and cut features such as rubbish and quarry pits, including (244), (257), (259) and (271)-(273). These deposits were consistent in appearance and composition, comprising a darker grey silt with moderate inclusions of charcoal (figs.20-21). The features, taken to be predominantly backfills of pits were encountered between depths of 2.75m and 3.04m below ground level (13.65-12.40mOD), cutting into natural brickearth and even into the gravel. This would suggest that some of the features may have been dug as quarries; with gravels being extracted along with the brickearth to provide raw material for the construction of metallised surfaces and clay-based structures.



Figure 20: Dropshaft 1: Roman backfill layers (244) (top) and (245) (bottom). Facing approximately S, scale 0.5m



Figure 21: Dropshaft 4: Possible truncated pit [273] observed in the western section, filled by a dark brown silt with frequent charcoal flecks. Facing W, scale 1m.

- 7.3.7** One of the highest Roman features encountered was a deposit of fairly dark clayey-silt containing fragments of pottery (20), recorded on the eastern side of Houndsditch adjacent to St Botolph's Church. The layer was encountered at a depth of 1.7m (14.24mOD) and continued below the level of excavation at 2.0m (13.94mOD). It is thought to represent the level of the Roman land surface, later truncated by medieval activity on the site, and is potentially indicative of the ground level during this period (see fig.17 above).
- 7.3.8** Context (125), observed at a depth of 2.75m (13.25mOD) beneath a post-medieval floor in dropshaft 15, located adjacent to the Dorsett Hotel, comprised a greenish-grey silty layer abundant with charcoal flecks, stones, fragments of CBM and a substantial quantity of Roman pottery predominantly dated to the 1st and 2nd century AD. This was subsequently truncated by a later Roman pit [124], and backfilled with a very dark brown-black silt containing frequent flecks and fragments of charcoal and oyster shell (126), probably the discarded remains of a small cooking fire, overlain by a darker green-brown silt. Pottery from (126) dated predominantly to the 2nd to 4th centuries (fig.22). These intercutting pits demonstrate the area was used over a prolonged period, and revisited and repurposed as required.



Figure 22: Dropshaft 15: Roman deposit (125) overlying and cutting into the natural brickearth (127), with a later pit [124] cutting into it, filled by dark brown-black silt (126), seen to the left of frame. Facing E, scale 1m.

- 7.3.9** The archaeological evidence is consistent with the general occupation and activity occurring on the very edge of the Roman city of *Londinium*. The quantity of rubbish pits and quarry pits indicate that the site was predominantly industrial, with domestic occupation confined to the intramural area.

7.4 Medieval

7.4.1 Following the withdrawal of a Roman presence in Britain in the 4th century AD the City ditch and wall continued to be maintained, although multiple recuts to create a wider, flatter profile indicate it was used less as a fortification, but more of a boundary / rubbish tip. Medieval finds and features of archaeological interest were recorded in seven trenches (fig.23).



Figure 23: Plan of trenches in which medieval finds and features were encountered.

7.4.2 The second section of City ditch, [75], observed in dropshaft 12 was filled by a homogenous deposit of moderately compact, wet, dark greenish silt containing infrequent small flecks of charcoal (76), recorded in plan at the level of excavation at 4.85m (10.96mOD) (fig.24). A quantity of animal bone was recovered, along with several fragments of pottery dated to the medieval period and a lead token. A residual Roman coin of Constantinian 'Fallen Horseman' type, dated cAD355-65 was also recovered³ (fig.25).

³ See Hammerson, M. Appendix XIII.



Figure 24: Dropshaft 12: City ditch [75] / (76) seen on the trench base cutting through the natural brickearth (77), overlain by later fills. Facing W, scale 1m.



Figure 25: 'Fallen Horseman' Roman coin recovered from the ditch fill (76). No scale.

- 7.4.3** A group of similar deposits were recorded on the eastern side of the Aldgate open space. Contexts (18), (38) and (238) comprised a well-compacted layer of burnt daub, charcoal and crushed CBM, varying in thickness between 200mm and 600mm. The layer had a relatively smooth and level upper surface, encountered across the site at a depth of 1.35-1.55m below ground level (14.72mOD-14.39mOD). Contexts (18) and (238) were overlain by a thin layer of compacted gravel, perhaps representing original metalling (figs.26-27).



Figure 26: Probable road make up (18) overlain by a thin lens of gravel (19). Facing W, scale 0.5m.



Figure 27: Section through the former road of Houndsditch (238) located to the west of St Botolph's Church. A thin lens of orange gravel, taken to be a metallised surface can be seen towards the left of the pit, over the blackened road make up. Facing E, scale 1m.

- 7.4.4** A more detailed section of this group was observed in dropshaft 11 at a depth of 1.35m (14.72mOD). The group (38) comprised 150mm of the compacted burnt daub layer over seven distinct bands of gravel of varying colour and composition. Each layer was level and uniform, varying in thickness between 100mm and 450mm in thickness, totalling 1.7m (figs.28-29).



Figure 28: Dropshaft 11: A layer of burnt daub can be seen towards the limit of excavation, taken to be the continuation of the medieval Houndsditch. Facing E, scale 1m.



Figure 29: Dropshaft 11: Gravel bands seen at a depth of c2m. Facing E, scale 0.5m

7.4.5 Several further medieval deposits were identified across the site including contexts (262)-(269), (281), (282), (294) and (295), which consisted of dark grey silty gravels (figs.30-31). The depths at which these layers were encountered varied across the central open space and wider Aldgate area, including St Botolph Street, Aldgate High Street and Minories, with some deposits being recording approximately 1.2m below ground level (c14.8mOD) and others at depths of 5.8m – 6.3m below ground level (c9.2-8.7mOD).



Figure 30: Dropshaft 3: upper part of the dropshaft showing a sequence of gravels and silts (262), (266), (267) and (269). The mottled black layer (268) seen at the base is likely to be a further continuation of the former line of Houndsditch. Facing S, scale 1m.



Figure 31: Dropshaft 7: Cut [296] and fill (295) of a pit, seen to the right of frame. The pit cuts into natural sand and gravel (297) and is overlain by a large homogenous deposit of dark grey silt (294). Facing N, scale 1m.

- 7.4.6** The difference in depths at which the medieval stratigraphy was encountered suggests that similarly to the Roman period, the events which occurred were a mix of infilling deep quarry pits and general rubbish pits, and the creation of made ground layers, either to intentionally level the area, or just general accumulation of material over a prolonged period of occupation.
- 7.4.7** The finds recovered from the medieval contexts were primarily domestic in nature, comprising animal bone, oyster shell and pottery. Analysis of a sample of the animal bone demonstrated that approximately 50% of the assemblage were cattle, followed by sheep making up 43%, domestic fowl representing 4% and pig, 3%⁴. Evidence of butchery was present on 20% of the assemblage, indicating it was the result of food production processes and subsequent disposal, rather than natural death. One of two worked fragments of bone recovered from the site was found in context (282). A bone awl measuring 143mm in length was recovered (fig.32), however, the bone was not sharp enough to pierce anything substantial suggesting it may have been used for threading or knotting materials together, such as fishing nets.

⁴ See Fulbright, M. Appendix VII.



Figure 32: Bone awl or needle recovered from (context 282). Scale 10cm.

- 7.4.8** Medieval pottery recovered from the site was also domestic in nature, with the overall typology ranging in date from 970-1500. In his assessment Blinkhorn notes that the medieval material generally suggests that there has been continual activity at the site from the earlier medieval period onwards. Earlier London Ware jugs were absent from the assemblage, suggesting there was little activity in the area before the 13th century, other than the Roman material.
- 7.4.9** The finds and features encountered appear consistent with general domestic and extramural activity, rather than being indicative of industrial activity. The infilling of the gravel and brickearth extraction pits suggests a shift in focus, or a response to the demand for space now that occupation was not limited to the intramural areas. This shift is taken to be a result of the City expanding beyond the wall and the founding of the Priory of the Holy Trinity in 1107-1108 to the north-west, in the area of what is now Duke's Place / Sir John Cass Foundation Primary School.
- 7.5 Post-medieval**
- 7.5.1** From the 17th century onwards the site developed exponentially to form the densely occupied area it is today. Both domestic and industrial processes began to occupy similar spaces and the distinction between the intra- and extramural areas blurred, until the ditch was backfilled in the 17th century and the City walls demolished by the late-18th century.
- 7.5.2** The Church of St Botolph-without-Aldgate has medieval origins, but was rebuilt in the 16th century, with further rebuilding in 1741-4 following its survival of the Great Fire of London.
- 7.5.3** The groundworks observed are described below in three sections, those relating to the church and churchyard, the City wall and ditch and those relating to the domestic occupation of the Aldgate area.

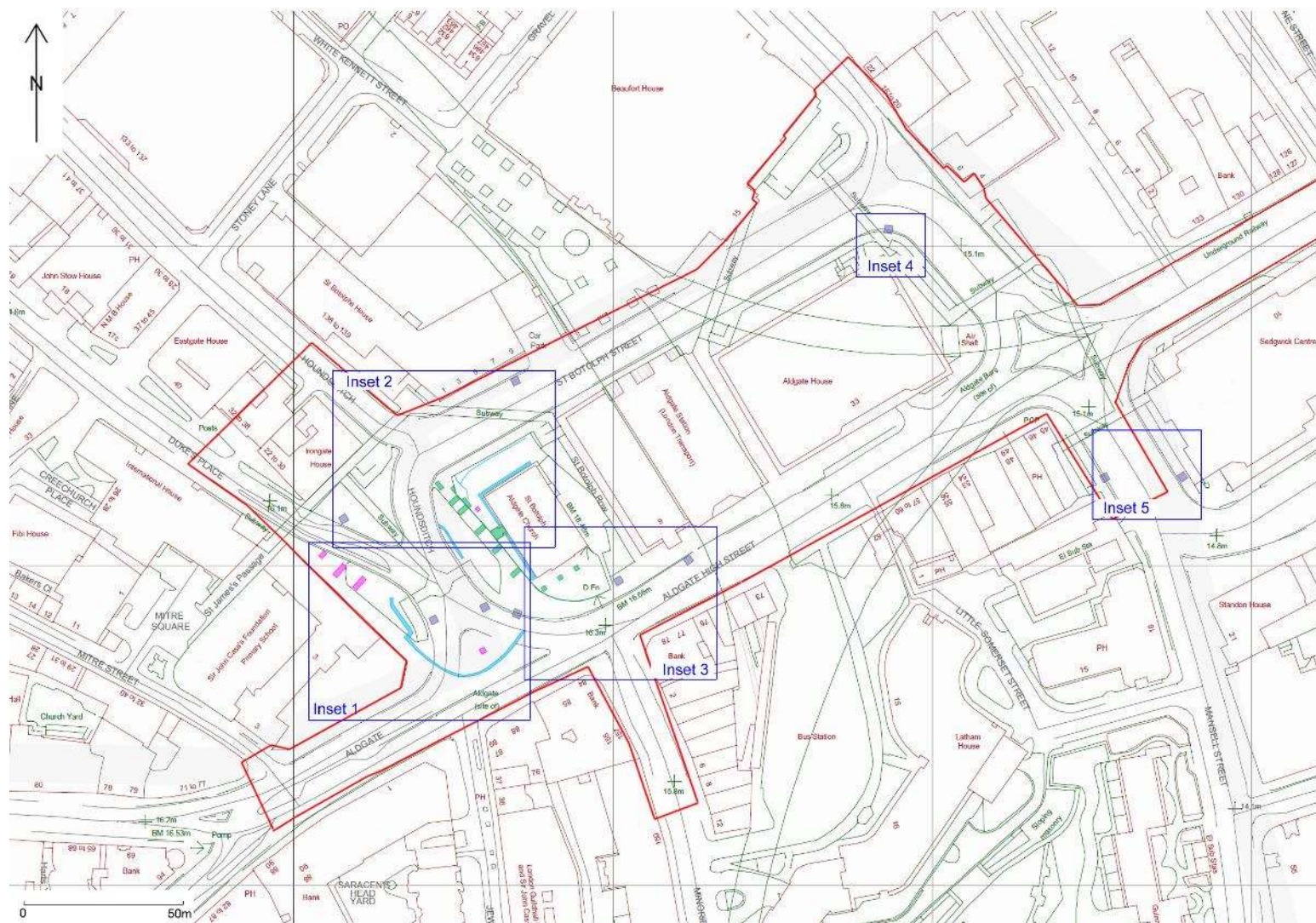


Figure 33: Overview of the trenches in which the most prominent post-medieval finds and features were recorded. In general, post-medieval stratigraphy was encountered across the entire scheme due to the extensive nature of the groundworks undertaken.



Figure 34: Inset 1.

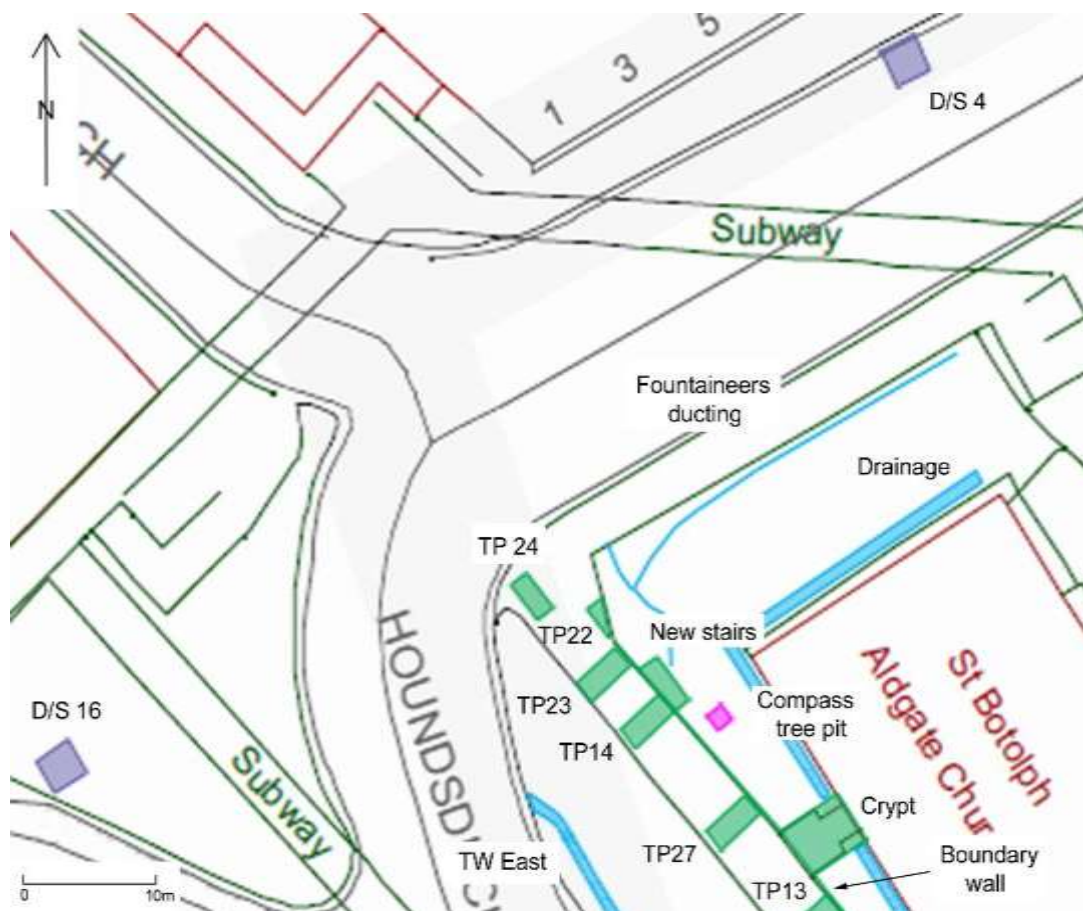


Figure 35: Inset 2.



Figure 36: Inset 3.

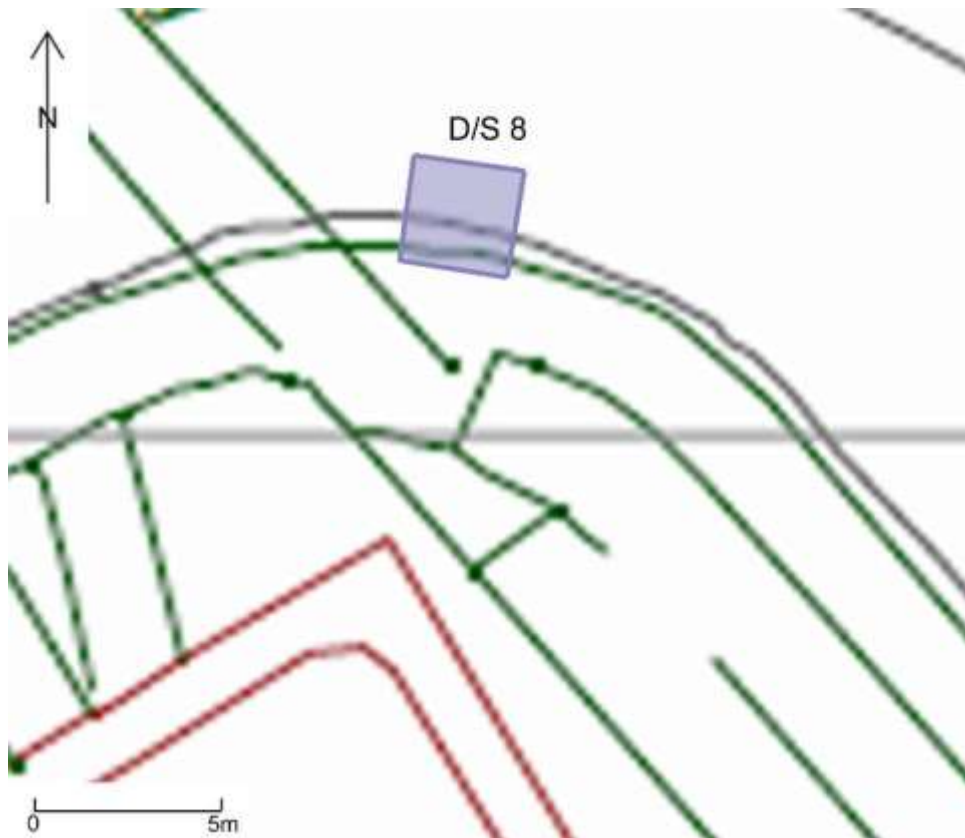


Figure 37: Inset 4.

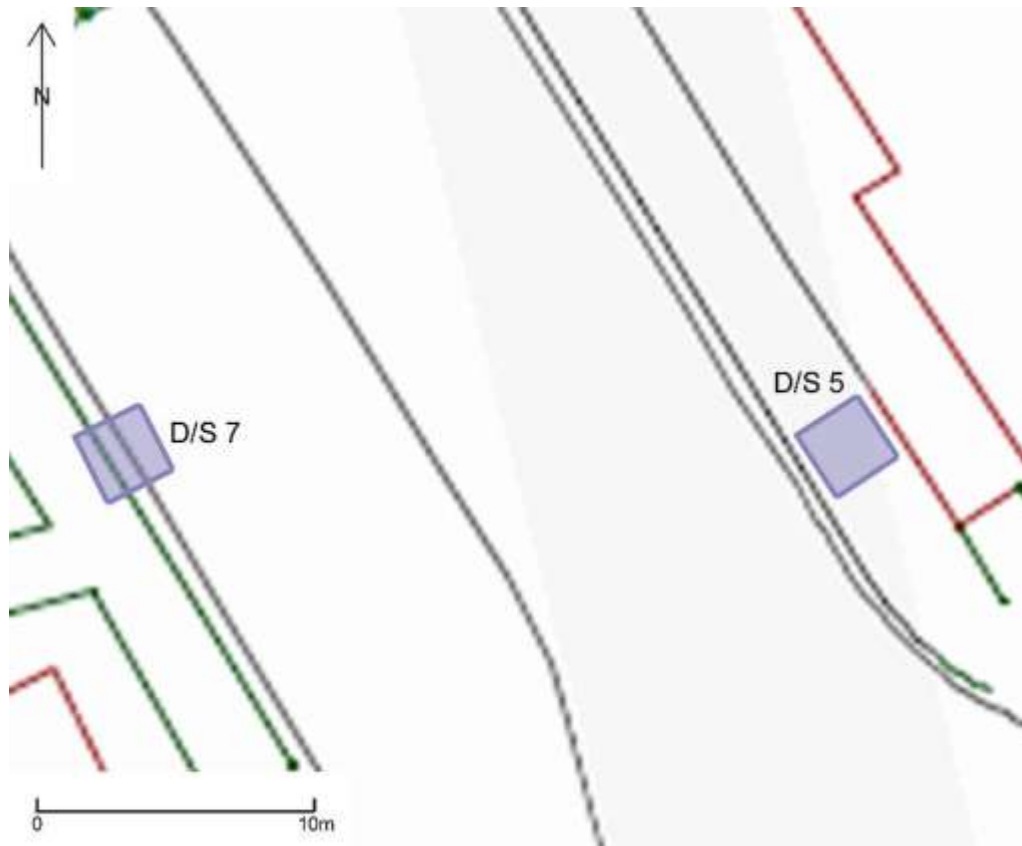


Figure 38: Inset 5.

7.5.4 Churchyard

- 7.5.4.1** Trial pitting and subsequent open area excavation undertaken in 2015 exposed substantial sections of an N-S aligned brick wall running 2.2m to the west of the present church boundary wall. The structure, W[232], was constructed from a chalk rubble and mortar core faced with red bricks bonded with a gritty light yellow to white mortar. The observable sections ranged from 0.8-1.0m in height x 0.25m-0.6m in width, with one section of a buttress also revealed. The bond was predominantly alternating rows of headers and stretchers, with some short lengths being varied – possibly as a result of repairs and partial rebuilds or infillings (figs.39-41).



Figure 39: Wall [232] observed in TP12, one of twenty seven trial pits dug to the west of St Botolph's Church. A repair can be seen behind the scale. Facing W, scale 1m.



Figure 40: TP13: W[232] seen beneath modern services, with a buttress projecting eastwards. Facing W, scale 1m.



Figure 41: Wall W[232] observed in TP27. A rebuilt or blocked up rectangle can be seen to the left of the scale. The upper part of the wall has been truncated by modern services. Facing W. Scale 1m.

- 7.5.4.2** Analysis of brick samples taken from the wall indicate a date of 1750-1850. Cartographic sources indicate that the boundary changed in the early-1800s, to run parallel with the newly rebuilt church. The boundary wall described above is therefore taken to be associated with this alteration (see section 4.5 figs.5-10).
- 7.5.4.3** A further section of the modern church boundary wall was seen at its northern extent. A small section of red and yellow brickwork W[311] measuring 3.02m in length x 0.6m in width x 0.6m in height, running NW-SE was observed at the northern end of the wall. This brickwork is taken to be the 17th-19th century continuation of the boundary wall, which led to Church Row, prior to the 1960s-70s clearance and creation of the gyratory system and remodelling of the churchyard (fig.42).



Figure 42: TP22: W[311] recorded at the northern end of the church boundary wall (prior to its rebuilding), demonstrating that the angled corner is a recent alteration to the churchyard. Facing S, scale 0.5m.

7.5.4.4 Further elements of the church were uncovered during groundworks immediately adjacent to the existing crypt entrance. Two brick structures W[64] and W[65], aligned east-west extending westwards from the western face of the church were recorded at a depth of 1.3m below ground level (14.89-14.82mOD). The structures comprised a chalk and stone core faced with red brick bonded with a gritty grey mortar. Three to four courses were visible above the level of excavation, however the feature is taken to be much truncated by later activity. Both blocks were similar in size, measuring 1.37m in length (E-W) x 0.74m in width x 0.30m in height, set 0.9m apart (figs.43-44).



Figure 43: Brick pads W[64] and W[65] seen beneath the existing crypt entrance. The top of a burial can be seen to the right of the concrete step outside the door. The churchyard boundary wall can also be seen in the foreground. Facing E, scale 1m.



Figure 44: Continuation of the two brick pads following the removal of the concrete step. Some charnel material can be seen between the concrete drain base and crypt door, and also towards the top of frame. Facing N, scale 1m.

- 7.5.4.5** It is suggested that these structures are the remains of foundation blocks for a staircase leading to a now blocked up entrance to the church. This is consistent with a c1740 illustration of the church which shows a staircase leading between two small arched windows at the former ground level, now at first floor level (fig.45).

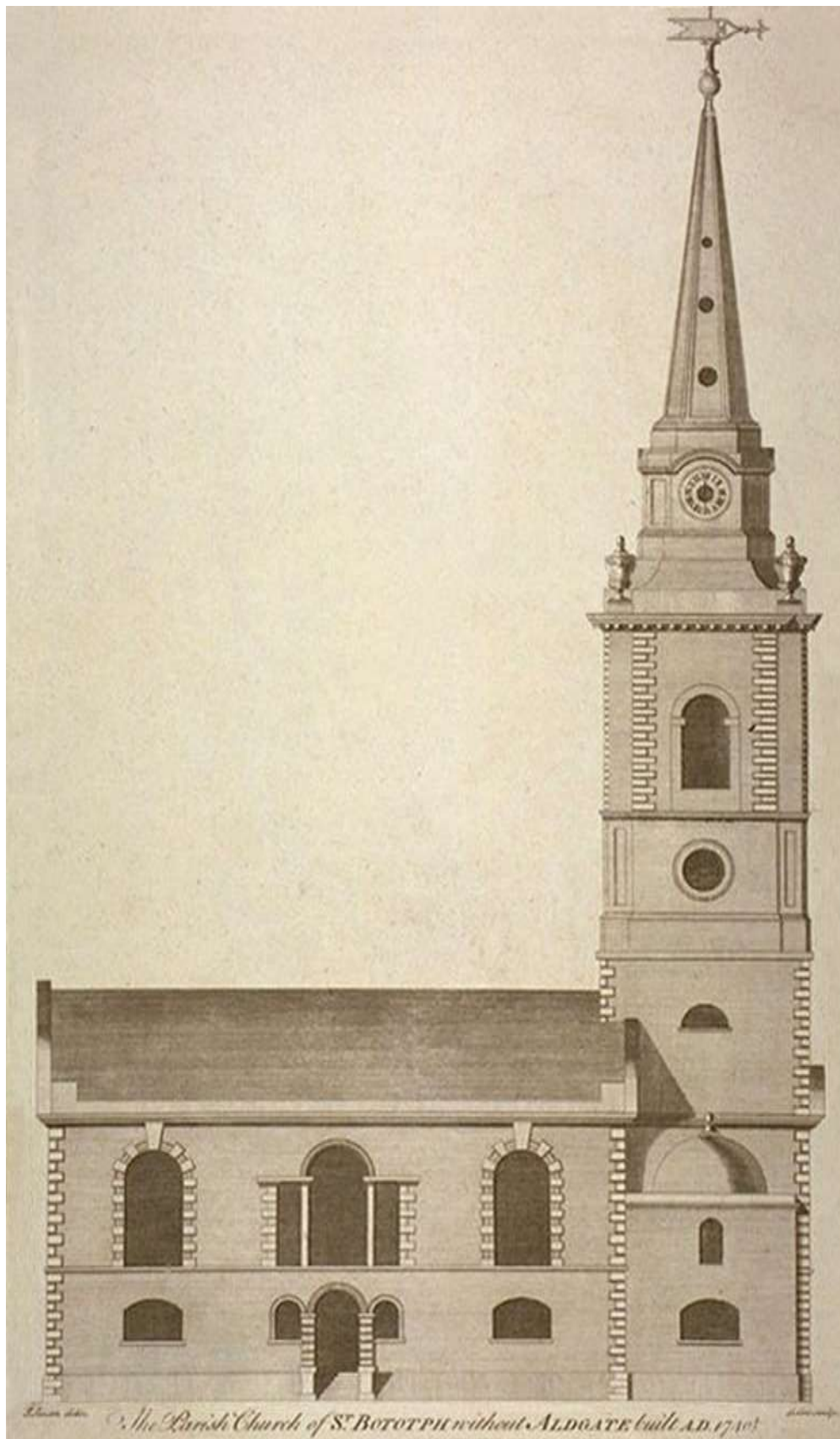


Figure 45: The Church of St Botolph without Aldgate, c1740, looking east. The stairs with the two small arched windows to either side can be seen, blocked up, on the present standing building above the crypt entrance.



Figure 46: St Botolph without Aldgate Church (2013), with the former entrance visible at first floor level. Facing SE.

7.5.4.6 To the north and south of these foundations a number of *in-situ* burials were exposed, along with a large quantity of disarticulated charnel deposited between the two pads. Twelve *in-situ* burials were recorded, encountered between 15.19mOD and 14.55mOD. The upper part of one adult was recorded, buried in a supine position with arms folded across the torso (fig.47). The skeleton was notable for its almost completely edentulous mandible and maxilla, and degree of wear on the bone as a result (fig.48). The remaining eleven burials belonged to infants and juveniles, ranging in age from 6 months \pm 3months to 6 years. Five of the burials were in wood and nail coffins, aligned east-west and stacked in very close proximity to each other. A significant degree of slumping and moving had occurred as a result of the wood rotting away (figs.49-53).



Figure 47: *In-situ* burial (skeleton 1) observed to the south of the crypt entrance. The burial was truncated at the pelvis by a modern drain. Facing E, scale 0.5m.



Figure 48: Edentulous mandible and maxilla from Skeleton 1. The degree of bone resorption indicates the individual was missing teeth for a considerable period of time. Scale 0.2m.



Figure 49: In-situ infant burial (skeleton 2), aligned east-west with the head at the eastern end. The remains of a wooden coffin can be seen, particularly below the left tibia and femur. Facing N, scale 0.5m.



Figure 50: Partial remains of a second infant burial, comprising vertebrae, ribs, sternum and manubrium, right scapula and right humerus (skeleton 3). Recovered from immediately beneath the first infant burial (skeleton 2). Scale 0.2m.



Figure 51: Infant burial (skeleton 8) found in-situ, lying on its right side facing northwards. Taken to be a result of slumping. Facing N, scale 0.5m.



Figure 52: Working shot: Infant burial (skeleton 9) prior to removal. The remains were found sitting in an upright position. Facing E, no scale.



Figure 53: Detail of metal coffin tacks and remnants of wood recovered from the burial site. Facing N, scale 0.1m.

- 7.5.4.7** Some of the coffins survived in a moderate state of preservation and the outlines of several were still visible. The coffins were constructed from wood panels affixed with metal nails. Rows of metal tacks found *in-situ* suggest a degree of decoration on the outer surfaces although no clear patterns or motifs were visible.
- 7.5.4.8** A single small copper pin was recovered from the skull of an infant burial, revealing that the body was wrapped in a shroud which has since rotted away.
- 7.5.4.9** The charnel material was observed immediately beneath the existing entrance to the church crypt, between brick pads W[64] and W[65]. Approximately 0.5m of material was removed to reach an adequate level of excavation. Its deposition would suggest it is either the remains of a burial vault beneath the former staircase, dating from the 18th century, or a later 19th or 20th century clearance of a crypt, with the bones being tipped into the pit from the existing crypt door (fig.54).



Figure 54: Charnel material beneath crypt door. The upper 0.5m of material was removed to enable the groundworks to be completed. Facing NE, scale 0.5m.

- 7.5.4.10** At this stage, a mid-18th century date is given for the burials and disarticulated remains. Initial observations suggest that the charnel material comprised predominantly adult remains and may have been redeposited below the crypt door following clearance of the churchyard. It is unclear if the charnel material is contemporary with the 1740s construction of the external staircase entrance and was part of a vault beneath the stairs, or it represents a later clearance and deposition, at the time the present crypt entrance came into use. The presence of the juvenile and infant remains are equally problematic, however a hypothesis is proposed. The burials are again taken to be mid to late-18th century date, occurring after the 1740-44 church rebuild and it is suggested that the coffins were stacked against the south face of the staircase walls. The stacking would account for the degree of slumping and unusual positions in which some of the remains were found in, however it is unclear if this

stacking was a deliberate burial within a dedicated vault or crypt, or whether they were merely placed there temporarily and subsequently remained undisturbed.

7.5.4.11 A further two burial vaults / charnel pits were exposed during the removal of the existing churchyard wall. The first structure, W[44] comprised a red brick and yellow stock brick chamber with an arched roof. The vault measured at least 1.0m in height x 1.05m in width x 1.2m in depth (front to back), aligned east-west, encountered at 16.28mOD. The front had been truncated by the construction of the churchyard wall. The roof was partially collapsed and built from different brick types bonded with a messy mortar suggesting it had been repaired on at least one occasion (figs.55-56). The fill of the vault was a fairly loosely compact light to mid-brown soil containing frequent disarticulated human remains and some clay tobacco pipes. To the immediate south of the vault was a section of horizontally laid bricks and stone slabs, visible in the west facing section. The structure measured 1.3m in length x 0.12-0.34m in width, with the base being encountered at a depth of 0.45m below ground level (15.94mOD). A small headstone or marker had been re-used to create the base. The structure was interpreted as a drain, although its relationship with the vault is unclear (fig.57).



Figure 55: Burial vault W[44] encountered following the removal of the churchyard boundary wall. Facing E, scale 1m.



Figure 56: W[44] interior detail. Facing E, scale 0.5m.



Figure 57: Vault and drain structure to south. The small headstone or grave marker can be seen towards the right of frame. Facing approximately ENE, scale 1m.

7.5.4.12 The upper part of a second burial vault was uncovered in June 2017, immediately beneath the western face of the steps leading between St Botolph Street and the church, at the southwestern corner of the church building. The visible section of the structure, W[175] comprised a brick arch measuring 1.46m in height x 1.97m in width, with an internal space of 0.92m. The maximum depth of the structure is unknown. The chamber was filled with disarticulated human remains and some sandy mid-brown soil (176) (fig.58).



Figure 58: Interior of W[175], encountered at the south end of the churchyard boundary wall following its removal. Facing approximately E, scale 0.5m.

7.5.4.13 Further evidence of the former burial ground was recorded during drainage and landscaping works at the northern end of the site. Trenching undertaken to connect mains drains and to accommodate ducting for the water feature (completed by Fountaineers) exposed a thick layer of soil – taken to be made ground associated with the churchyard, containing numerous fragments of headstone / grave ornaments (figs.59-61), in addition to quantities of disarticulated human remains, phalanges in particular, which are often easy to miss during clearances.



Figure 59: In-situ stone slabs exposed at the northern end of the church, buried beneath fragments of broken headstones. Facing E, scale 1m.



Figure 60: Examples of fragmentary furniture remains removed from the Fountaineers's ducting trenches. Scale 1m.



Figure 61: The collection was predominantly stone and comes from ledgers, slabs, vaults or tombs, rather than smaller, thinner headstones. The material was predominantly stone, with some fragments of white marble also observed. Scale 1m.

7.5.4.14 Much of the material is taken to have been dumped during the clearing and re-landscaping of the burial ground into a public park / churchyard in 1892.

7.5.5 City Wall and ditch

7.5.5.1 In response to the increasing demand for space and lessening demand for fortification the City ditch was partially infilled by the 1560s. This final phase of the ditch was represented by a series of heavily truncated fills recorded in dropshaft 16. The sequence, observed from a depth of 4m below ground level (12mOD) consisted of a moderately compacted dark brown soil relatively abundant with rubble (164) above a dark brown silty soil containing mortar, CBM, pottery and animal bone (165) over a very gritty and gravelly dark brown soil (169) and a final, less disturbed layer of dark brown silty soil containing frequent stones (171). The fills were observed to a depth of 6.8m (9.2mOD) overlying natural sand and gravel (172) and (173) (fig.62).



Figure 62: Post-medieval ditch fills seen to the left of the scale, truncated by the later brickwork. Facing S, scale 1m.

7.5.5.2 Analysis of the post-medieval pottery recovered from the fills suggests a backfilling date of 1550-1700. There was no clear differentiation in typology dates between contexts further suggesting that the backfilling was done over a relatively short period of time.

7.5.6 Development and Occupation

- 7.5.6.1** By the mid-17th century the City wall and gate were still standing although a dense row of houses had been constructed on the area once occupied by the outer ditch. Extensive development occurred in the late-17th century in the area between the Wall and St Botolph's Church, with buildings fronting Duke's Place and Houndsditch. This intensive expansion continued away from the central space, with archaeological evidence of development being recorded between St Botolph Street in the north and Mansell Street in the south.
- 7.5.6.2** Sections of brickwork were observed in dropshafts 3, 5, 7, 13 and 15-16, Evaluation trenches undertaken in November 2015 and Thames Water rerouting trenches undertaken in December 2015 (figs.63-66). The sections of brickwork generally survived in a good state of preservation, with *in-situ* floors recorded in dropshafts 5 and 15 (fig.67).



Figure 63: Brick wall W[264] topped by granite blocks. A timber beam appears to mark the extent of the structure, seen to the right of the scale. Facing W, scale 1m.



Figure 64: Wall W[279] observed in the north section, to the left of the scale, which was later cut by wall W[276] seen to the right of the scale with the concrete base and yellowish mortar. Taken to represent a sequence of post-medieval buildings in the area of the former Stern's Hotel and 17 Mansell Street, prior to modern redevelopment. Facing N, scale 1m.



Figure 65: Dropshaft 13: E-W aligned wall W[189] and concrete floor S[194]. Taken to be part of a post-medieval basement belonging to a building fronting the former line of Houndsditch, facing St Botolph's Church. Facing W, scale 1m.



Figure 66: Compass Evaluation Trench 2 (November 2015), showing a series of post-medieval walls. W[209] can be seen running N-S towards the top of frame, W[204] E-W through the centre of the trench and a possible return, W[205] in the northern section to the right of the scale. Taken to be remnants of buildings fronting formerly fronting Duke's Place. Facing W, scale 1m.



Figure 67: Dropshaft 5: Tile floor S[275] encountered at a depth of 2.60m (12.40mOD), sealing walls W[279] and W[276] in fig.64 above. Scale 0.5m

- 7.5.6.3** The majority of the structures were built from red brick bonded with a gritty grey mortar, with analysis of brick samples suggesting an overall construction date of 1650-1850, with two identifiable phases dating to 1650-1700/50 and 1750-1850. Wall W[231], recorded on the western side of the site, comprising a row of coal cellars, was constructed from yellow stock bricks, suggesting a later-19th century and second phase of building after the initial 17th century expansion over the line of the former ditch. Render and limewash was observed on some interior faces.
- 7.5.6.4** The sections of brickwork were encountered from a depth of c0.3-0.5m below ground level (c15.59mOD), reaching depths of c2m to 2.5m (c13.9mOD).
- 7.5.6.5** All of the sections of brickwork were interpreted as surviving basements and coal cellars belonging to post-medieval buildings which occupied the site prior to post-Second World War redevelopment. The observed sections survived in a good state of preservation, varying between a single wall being recorded and entire basements. Walls W[115] to W[117] recorded in dropshaft 15 represented the most complete structure, comprising a coal cellar and adjoining basement, with room divisions still visible.
- 7.5.6.6** The basement structure, located immediately south of the Dorsett Hotel, consisted of a north-south and east-west yellow stock brick wall with a limewash finish, forming the south and west faces of the dropshaft, and a complete yellow stock brick coal cellar projecting to the south beneath the existing pavement. The coal cellar W[117] measured approximately 5m² with an arched roof and coal hole in the ceiling. Wooden shelves on the western wall of the cellar contained crockery and glass jars and bottles, and a fuse box was fixed to the eastern wall. In the basement, W[115] and W[116] a concrete floor S[120] was encountered at a depth of 2.56m (13.9mOD). A small ledge running through the centre of the dropshaft was taken to be an internal

division, separating a room from a corridor providing access to the coal cellar. The foundations of the basement consisted of four stepped courses of yellow stock bricks 0.37m in depth, with the base encountered at 13.53mOD (figs.68-71).



Figure 68: Dropshaft 15: Partially excavated basement W[115] looking into the coal cellar W[117]. A wooden shelf with cans and jars on is visible in the gap between the metal pipe and wooden doorframe. Facing SW, scale 1m.



Figure 69: Dropshaft 15: Floor S[120], with division, separating an internal room from a corridor leading to the coal cellar (to the right of frame). Facing NE, scale 1m.



Figure 70: Dropshaft 15, excavated to floor level (13.90mOD), showing limewashed interior and access to coal cellar. Facing SW, scale 1m.



Figure 71: Dropshaft 15: Brick foundation courses below floor S[120], cutting to post-medieval drainage trenches, Roman deposits and natural brickearth. Facing NW, scale 1m.

- 7.5.6.7** Cartographic sources indicate that the basement and coal cellar is most likely to be the below ground portion of Wattam's Hotel and Restaurant which occupied the site in the late-19th and early-20th century (fig.72).



Figure 72: J. Wattam's Hotel, No. 8 Aldgate High Street c1911. The hotel is separated from the Three Nuns Hotel by an entrance leading to St Botolph Row.

7.5.6.8 Substantial sections of brickwork were also recorded during Thames Water rerouting groundworks on the western side of the site, adjacent to the Sir John Cass Foundation Primary School. Structures W[228] to W[230] comprised sections of yellow stock brick wall measuring 10.2m in length x 0.36m in width x 0.96m in height, encountered between 15.81mOD and 14.67mOD. The interior faces were rendered and/or limewashed, with a curved top, representing the now missing arched roof. The wall, taken to be the remains of two to three coal cellars running on a NNW-SSE alignment fronting the former line of Duke's Place (figs.73-74).



Figure 73: Row of coal cellars W[214] - W[219] observed on the western side of the central space. Taken to belong to buildings formerly fronting Duke's Place in the late-19th to early-20th century. Facing SSW, scale 1m.



Figure 74: Southernmost cellar, with rendered interior indicating the structure had a vaulting roof. Facing SW, scale 1m.

7.5.6.9 The majority of the stratigraphy recorded throughout the archaeological investigation dated to the post-medieval period, predominantly comprising made ground and dumping, levelling and construction layers associated with the rapid expansion of the area.

7.5.6.10 Finds recovered include large quantities of post-medieval pottery, clay tobacco pipes, vessel glass and domestic objects such as stoneware bottles and inkwells.

7.6 Modern

7.6.1 During the Second World War the area was extensively damaged, particularly around Houndsditch, Jewry Street and to the east of Middlesex Street. Many of the buildings which fronted the former Duke's Place and Houndsditch were damaged beyond repair and cleared in the post-war period. The majority of the above ground structures were demolished and backfilled into their own basements, accounting for the large amounts of rubble observed throughout the investigation (fig.75).



Figure 75: Plan showing the trenches in which modern archaeology was recorded.

7.6.2 The remains of a substantial 1940s-1950s building was recorded in two trenches undertaken between November 2015 and January 2017. The recorded sections, W[206], W[207], W[208] and W[220] consisted of pink brick walls bonded with a whitish grey to light pink mortar. One section of the structure was observed running north-south through the western side of the site, parallel to the Sir John Cass Foundation Primary School, and the second section was observed towards the northern end of the open space in the area of the pedestrian subway. The foundations were reinforced with cast iron girders set at even intervals, with the base encountered at a depth of approximately 10m below ground level (c6mOD) (fig.76-78).



Figure 76: 1940s basement wall W[220] recorded in the eastern Thames Water re-routing trench (under scale) truncating the earlier 19th century yellow stock brick cellars. Facing SW, scale 1m.



Figure 77: Continuation of W[220] seen towards the northern end of a Thames Water re-routing trench. Facing N, scale 0.5m.



Figure 78: Compass Evaluation Trench 2 (November 2015): from L-R walls W[207], W[208] and W[206] recorded at the NE end of the trench. Facing NE, scale 1m.

- 7.6.3** The brickwork appears to be the foundations for a large, 8 storey building, plus basement levels, which is shown on an aerial photograph from 1947 (fig.79). The function of the building is unknown, as is its chronology. The photograph shows that it was built immediately after the end of the Second World War, when much of the area was still a bombsight, but was very short-lived, not appearing on OS maps from the later 1960s.

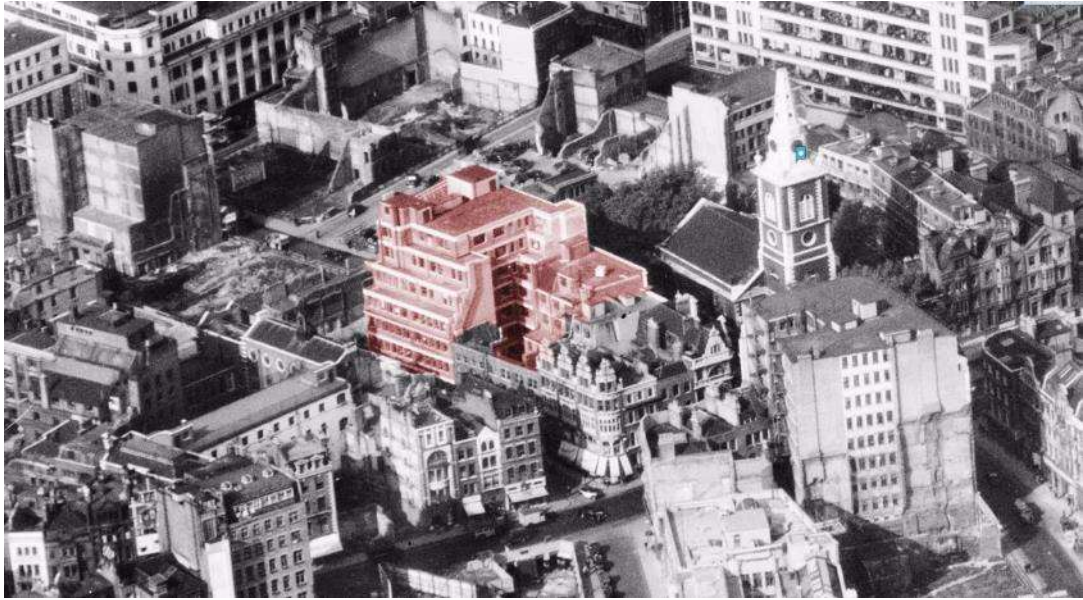


Figure 79: Aerial photograph of Aldgate (1947) with modern building shown in red. Adapted from Britain from Above (2018). It is likely that the post-medieval buildings recorded throughout the investigations are also shown on this photograph.

8 CONCLUSIONS

8.1 The archaeological investigations undertaken as part of the Aldgate Highway Changes and Public Realm Project revealed evidence of key events which have taken place in the area; from the construction of a Roman settlement in the 1st century AD to the prolific expansion of the post-medieval period. We return now to the original research aims and objectives set out in the WSI and comment on each based upon the findings so far.

8.2 *Is there any evidence of prehistoric activity in the area? What form does this take?*

No evidence of prehistoric features were recorded during the archaeological investigations, nor were any prehistoric finds recovered. This is taken to be a result of the relatively isolated and discrete nature of the groundworks undertaken, the shallow depths to which the majority of the groundworks reached, and the truncation of the area as a result of later activity and occupation – notably in the form of Roman and medieval gravel and brickearth extraction and post-medieval basementing.

8.3 *Is there any evidence of Roman occupation? Is this related to the City wall / ditch, the structure of Aldgate or extramural activity along the Roman road exiting the City?*

One section of the City wall was recorded in a Compass Evaluation trench undertaken in 2013. The structure had been truncated by post-medieval basements to a depth of 2.40m below ground level (13.87mOD), surviving *in-situ* as a single masonry block or plinth within a construction / robber cut, surrounded by backfill and a potentially undisturbed land surface. Three sections of the associated City ditch, lying to the east of the wall, were recorded in dropshafts undertaken between 2016 and 2017. The feature had a steep sided V-shaped profile, running on an approximately NNW-SSE alignment from Duke's Place in the north, through the central open space adjacent to the Sir John Cass Foundation Primary School, towards Minories via the shop presently belonging to Snappy Snaps.

A quantity of Roman finds was also recovered, including pottery and CBM from both *in-situ* and residual contexts. The assemblage broadly dates from the 1st to 4th centuries AD, covering the entirety of the Roman presence in Britain, however, analysis of the pottery suggests a peak of activity in the 1st to 2nd centuries. This is consistent with the initial founding and building of the City and likely reflects the influx of people and industry in the Aldgate area at this time. Many of the finds were domestic in nature and recovered from rubbish pits, suggesting that extramural activity was limited to more industrial pastimes – again consistent with the widely accepted view that occupation was confined the intramural areas, with industry, waste disposal and burial largely confined to the extramural side (Arnold 2008; MoLA 2000; RCHME 1298; Toynbee 1996). The fragments of ceramic building material are likely to be redeposited, coming from an intramural structure, as no evidence of domestic structures was observed.

8.4 *Is there any evidence of medieval occupation? Is this related to the City wall / ditch, the structure of Aldgate, or is it domestic / industrial?*

City ditch fills containing finds dating to the medieval period were recorded in dropshaft 12, located on the western side of the open space, adjacent to the Sir John Cass Foundation Primary School. The fill (76) consisted of a slightly wet, dark greenish silt containing infrequent small flecks of charcoal, recorded within the cut of the ditch [75] from a depth of 4.85m (10.96mOD), continuing below the level of excavation.

The small assemblage of pottery and animal bone would suggest that during the medieval period the City ditch was used as a domestic rubbish tip, shifting away from its primary purpose as a defensive fortification. Analysis of the finds from other contexts is similarly inconclusive, beyond proving medieval buildings were present nearby.

8.5 *Is there any evidence related to the Saxon or medieval church of St Botolph-without-Aldgate? What form does this take and can it be related to any earlier cartographic or pictorial sources?*

Evidence of an early church building was scarce, with archaeological material from the medieval period being confined to fragments of undiagnostic pig tile. Standing sections of a previous churchyard boundary wall were recorded in several trenches, however analysis of brick samples dates the feature to 1750-1850, and as such is taken to be associated with the 1740s rebuild and landscaping, not a medieval or Saxon boundary.

However, two burial vaults and two staircase foundation pads uncovered on the western side of the church are associated with an earlier post-medieval phase of building. The foundation pads in particular are taken to support a set of stairs which led to an entrance, now seen on the western aspect of the church building at first floor level.

The lack of evidence confirming the presence of an earlier church, and this is also true for the majority of the archaeological finds and features encountered throughout the 2013-2018 investigation, is largely the result of the nature of the piecemeal groundworks and relative depth to which they were dug. Many of the groundworks were relatively superficial in nature and as such did not reach much beyond modern and later post-medieval levels.

8.6 *Is there any evidence of earlier street lines or frontages? Can this be related to the surviving cartographic evidence?*

Several sections of medieval and post-medieval archaeology were recorded associated with the earlier routeways of Houndsditch and Duke Street. Compact layers of burnt daub recorded in a number of trenches on the eastern side of the open space aligned NNW-SSE are attributed to the surface of medieval Houndsditch, although no conclusive evidence of buildings fronting the routeway from this period was observed.

Later occupation was well represented by a series of NNW-SSE aligned walls on the western side of the open space, adjacent to the Sir John Cass Foundation Primary School, which are attributed to the 18th-20th century buildings (mixed residential and commercial) and at least one public house, fronting Duke Street, as shown in particular on the Goad Insurance Plan (fig.9). Further sections of masonry (and bomb damage rubble) observed through the centre of the open space are taken to be the remains of basements of a row of shops, dwellings and warehouses fronting Houndsditch – facing St Botolph’s Church.

The block between the former continuations of Duke Street and Houndsditch (as of 1887) consisted of a roughly rectangular area, occupied by warehouses fronting Duke Street, a clothiers, offices and an instrument warehouses fronting Aldgate High Street, and ‘fancy warehouses’, boot and shoe warehouses and shops and dwelling fronting Houndsditch. At the eastern end the warehouses surrounded a small yard known as Hanover Court and later, Carpenter’s Yard.

Many of the buildings within the block, particularly those at the southern end survived until the post-war period, eventually being demolished and cleared throughout the 1960s and 70s as part of the creation of the modern gyratory system.

8.7 *At what level does archaeology and natural geology survive across the site?*

The sequence of natural geology comprised orange brickearth clay overlying sand and gravel was encountered at various levels between 13.02mOD and 9.20mOD. The level at which the sequence was encountered in dropshafts in particular suggest a slight downwards slop from south to north. The level also fluctuated on a number of occasions due to truncated caused by later activity, particularly Roman and medieval brickearth and gravel extraction pits.

In general, archaeological features were encountered between 0.5m and 2.5m below ground level (c15.50mOD-13.50mOD), with deeper discrete features, such as the City ditch and rubbish / quarry pits reaching depths of 5.0-6.0m (c10-11mOD).

More specifically, a consistent layer of well compacted burnt daub was recorded in several trenches at approximately 14.7mOD. This surface is taken to be the medieval routeway of Houndsditch which passed through the eastern side of the site prior to post-medieval consolidation and modern redevelopment. This indicates that the medieval land surface was approximately two metres below the present ground level, with the majority of the higher stratigraphy therefore being attributed to the later medieval and post-medieval period.

9 REVISED RESEARCH OBJECTIVES AND PUBLICATION PROPOSALS

9.1 In light of the observations made during the course of the archaeological investigations and post-excavation assessment the following revised research questions and objectives have been drawn up. The list is not exhaustive and no doubt through answering these questions more shall arise, but these are the most prominent questions thrown up by the assessment stage.

- Can any further information be gained about the City wall and ditch's specific profile and trajectory?
- How does this relate to the gate of Aldgate?
- Is there any further evidence which can be used to infer the trajectory and profile of the city ditch as it passes in front of the gate – i.e. is the ditch continuous or does it terminate to form an entrance?
- Which phase of St Botolph without Aldgate Church do the features recorded in the churchyard relate to?
- From the evidence recovered from the churchyard, can a more detailed chronology of the building and its grounds be established?
- Can the analysis of the human bone recovered during the investigation tell us more about the local population, e.g. pathological features or traits, diet etc.?
- How does the chronology of the site and features recorded compare and contrast to other archaeological investigations conducted in the Aldgate area?

9.2 Following the approval of this assessment report by Historic England a summary of the results of the archaeological investigations will be published in an appropriate peer-reviewed journal such as London Archaeologist. The article will primarily give a summary of the Roman finds and features, and discuss their significance and implications in a local and regional context. However there is also scope to explore the archaeological background and chronology of St Botolph's Church.

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APPENDIX I: CONTEXT LIST

Context	Trench	Description
(1)	City Wall TH1 – Aug 13	Tarmac street surface
(2)		Mixed backfill around modern services
(3)		Main backfill within cellar [6]
(4)		Primary backfill / usage layer within cellar [6]
[5]		N-S aligned brick wall (19 th century shifting of cellars eastwards)
[6]		18 th century cellar GROUP NUMBER
[7]		Southern wall of cellar [6]
[8]		Western wall of cellar [6]
[9]		Floor of cellar [6]
(10)		Mixed backfill to west of cellar [6]. Backfill of deeper service
(11)		Made ground below [9] overlying Roman City Wall [15]
(12)		Sterile clay layer overlying surface (16)
(13)		Fill of cut [14]
[14]		Cut of Roman City Wall [15]
[15]		Footings of Roman City Wall
(16)		Former Roman land surface to west of City Wall
(17)	Evaluation Trench 2 – 2014	Made ground. Possibly for former version of Houndsditch
(18)		Made ground / occupation layer over (19)
(19)		Compacted surface of CBM. Possible former version of Houndsditch
(20)		Relict Roman land surface below (19)
21-34	VOID	-
(35)	Dropshaft 11	Tarmac road make up
(36)	D/S 11	Soil below tarmac
(37)	D/S 11	Concrete
(38)	D/S 11	Group- Houndsditch Road make-up
[39]	D/S 11	Cut of Roman ditch
(40)	D/S 11	Ditch fill
(41)	D/S 11	Lighter band of fill
(42)	D/S 11	Natural
[43]	Dropshaft 31	Leadenhall Street- post-medieval coal-cellar/basement
[44]	Wall removal	Brick vault and drain at S end of churchyard wall
[45]	St Botolph's front trial hole 1	Crypt
(46)	TH 1	Brown-black silt at base
(47)	TH 1	Paving/mortar and concrete
(48)	TH 1	Made ground below (47)
(49)	TH 1	Coarse yellow band of sand
[50]	Trial hole 2	Crypt (same as [45])
(51)	TH 2	Paving (same as (47))
(52)	TH 2	Dark brown soil backfill
(53)	Trial hole 3	Paving
(54)	TH 3	Garden soil
(55)	TH 3	Lighter brown soil
(56)	TH 3	Gravel lens
(57)	TH 3	Light brown gravelly soil
[58]	Tree pit 2	Yellow stock brick wall
[59]	TP 2	Red brick wall
(60)	TP 2	Rubble backfill
[61]	Compass eval. tree pit	Red stock brick wall
[62]	Compass eval. Tree pit	Yellow stock brick wall
(63)	Compass eval. Tree pit	Rubble backfill
[64]	Crypt stairs TR	Brick foundation (N)
[65]	Crypt stairs TR	Brick foundation (S)

Context	Trench	Description
(66)	Northern stairs	Topsoil
(67)	Northern stairs	Soil make-up
[68]	Northern stairs	Cut
(69)	Northern stairs	Clay fill of [68]
[70]	Northern stairs	Cut for plant bed
(71)	Northern stairs	Clay fill of [70]
(72)	Dropshaft 18	Post-medieval rubble
[73]	D/S 18	Post-medieval cut
(74)	D/S 18	Rubble and CBM fill of [73]
[75]	D/S 18	Ditch cut
(76)	D/S 18	Greenish silty sand ditch fill
(77)	D/S 18	Natural
[78]	Crypt stairs TR	Post-medieval concrete drain base
[79]	Crypt stairs TR	Crypt entrance
(80)	Crypt stairs TR	Backfill/made ground
(81)	Crypt stairs TR	Backfill surrounding skeletons 7-11
(82)	Crypt stairs TR	Charnel beneath crypt door. S of [64]
(83)	Crypt stairs TR	Fill of grave 7 (poss. 8)
(84)	Crypt stairs TR	Fill of grave/skeleton 9
(85)	Vent slot of crypt	Yellow bedding sand
(86)	Vent slot of crypt	Dark brown soil
(87)	Dropshaft 14	MOT type 1
(88)	D/S 14	Clinker and sand surrounding services
(89)	D/S 14	Backfill
[90]	D/S 14	Subway wall
(91)	D/S 14	Concrete base of subway
(92)	D/S 14	Brickearth
(93)	St Botolph's infiltration pit	Tarmac
(94)	St Botolph's infiltration pit	MOT
(95)	St Botolph's infiltration pit	Mid brown soil containing roots
(96)	Church drainage west. S part	Lens of yellow sand and gravel
(97)	Church drainage west. S part	Dark brown made ground
(98)	Church drainage west. S part	Cut for services
(99)	Church drainage west. S part	Sandy fill of services
(100)	Church drainage west. S part	Fill associated with coffin burial
(101)	Church drainage west. S part	Backfill above sewer pipe
(102)	Church drainage west. N part	Topsoil
(103)	Church drainage west. N part	Backfill
(104)	Church drainage west. N part	Concrete surrounding chamber
(105)	Church drainage west. N part	Modern dump of tiles below concrete
(106)	Church drainage west. N part	Compact sand/stone/gravel by 2 nd chamber
(107)	Church drainage north	Topsoil
(108)	Church drainage north	Made ground
(109)	Church drainage north	Concrete-for crypt?
(110)	Church drainage north	Rubble beneath (109)
(111)	Church drainage north	Backfill above sewer
(112)	Dropshaft 15	Tarmac and MOT type 1
(113)	D/S 15	Asphalt
(114)	D/S 15	Concrete
[115]	D/S 15	Basement E-W wall and doorway
[116]	D/S 15	Basement N-S wall
[117]	D/S 15	Coal cellar
(118)	D/S 15	Rubble backfill in [117]
(119)	D/S 15	Rubble in basement [115] and [116]
[120]	D/S 15	Basement floor
(121)	D/S 15	Concrete foundation for [120]
[122]	D/S 15	Cut for ceramic pipe

Context	Trench	Description
(123)	D/S 15	Demolition backfill in [122]
[124]	D/S 15	Roman cut into brickearth
(125)	D/S 15	Fill of [124]
(126)	D/S 15	Black silt within (125)
(127)	D/S 15	Brickearth
(128)	D/S 15	Greenish silt in N facing section
(129)	D/S 15	Lighter soil in W facing section
(130)	Tree pit 1	Upper fill of post-medieval debris
(131)	Tree pit 1	Lower fill- soil/rubble mix
[132]	Tree pit 1	Modern brick wall at trench base
(133)	Tree pit 2	Rubble/demolition at E. end of trench
(134)	VOID	-
(135)	VOID	-
(136)	VOID	-
(137)	VOID	-
(138)	VOID	-
(139)	VOID	-
(140)	Tree pit. N end of church	Bedding sand
(141)	Tree pit. N end of church	Topsoil
(142)	Tree pit. N end of church	Made ground
(143)	St Botolph's front trial hole 4	Dark brown soil
(144)	TH 4	Backfill
(145)	St Botolph's front trial hole 5b	Pale sand/gravel
(146)	St Botolph's front trial hole 6	Black soil/sand below paving
(147)	TH 6	Concrete
(148)	TH 6	Upper backfill
(149)	TH 6	Lower backfill
(150)	St Botolph's front trial hole 7	Concrete
(151)	TH 7	Upper backfill
(152)	Skeleton	Backfill surrounding skeleton 1
(153)	Skeleton	Backfill surrounding skeleton 3
(154)	Skeleton	Backfill surrounding skeleton 2
(155)	Skeleton	Backfill surrounding skeletons 4 and 5
(156)	Skeleton	Backfill surrounding burials. N side of crypt steps
(157)	Fountaineers ducting	Compact dark brown soil below (102)
(158)	Fountaineers ducting	Sand at E end
(159)	Fountaineers ducting	Sandier soil below (102) by rear E-W wall
(160)	Fountaineers ducting	Gravel and brick dump in N-S part
(161)	Dropshaft 16	Modern rubble
(162)	D/S 16	Concrete rubble below (161)
(163)	D/S 16	Post-medieval rubble
(164)	D/S 16	Soily rubble below (163)
(165)	D/S 16	Dark silty material seen at 4m
[166]	D/S 16	Cut of wall [167] into (165)
[167]	D/S 16	Post-medieval N-S brick wall
(168)	D/S 16	Fill of [166]
(169)	D/S 16	Dark gravel/gritty soil below (165)
[170]	D/S 16	Brickwork in E facing section
(171)	D/S 16	Less disturbed backfill/made ground at 5.8m
(172)	D/S 1	Natural green-yellow sand at 6.8m
(173)	D/S 16	Natural gravels below (172)
[175]	Crypt under stairs to L of St Botolph's	Brick crypt
(176)	Crypt under stairs	Sandy mid-brown fill- very sparse between coffin remnants and disartic. human bone
(177)	Fill to W of St Botolph's	Dark brown sandy disturbed backfill
(178)	Dropshaft 10	Tarmac pavement

Context	Trench	Description
(179)	D/S 10	Tarmac road
(180)	D/S 10	Concrete bedding
(181)	D/S 10	Post-medieval backfill
[182]	D/S 10	Cut for services
(183)	D/S 10	Shingle fill of services
[184]	D/S 10	Coal cellar wall
[185]	D/S 10	Red brick wall
(186)	D/S 10	Backfill between walls
(187)	D/S 10	Modern backfill below (178)
(188)	Dropshaft 13	Modern backfill
[189]	D/S 13	Large E-W wall
(190)	D/S 13	Concrete
(191)	D/S 13	Soiley rooted backfill
(192)	D/S 13	Rubble S of concrete
[193]	D/S 13	Yellow brick base
[194]	D/S 13	Concrete floor
(195)	D/S 13	Dark brown backfill below concrete (196)
(196)	D/S 13	Concrete deposit N of [189]
[197]	D/S 13	Cut for pit below (196)
(198)	D/S 13	Dark brown fill of [197]
(199)	D/S 13	Tip layers below [194]
[200]	D/S 13	Concrete base inc. rectangular pit
(201)	Compass eval. pit 2 - 2015	Soily layer abundant with clinker and gravels
(202)	Compass eval pit 2	Orangey-yellow sand and gravel at N end of trench
(203)	Compass eval pit 2	Loose soil- demolition/backfill layer
[204]	Compass eval pit 2	Wall running E-W through centre of W end
[205]	Compass eval pit 2	Base of a wall/pillar on N side of trench
[206]	Compass eval pit 2	Orangey pink wall next to [207], N facing section
[207]	Compass eval pit 2	Corresponding corner of [206] in E section
[208]	Compass eval pit 2	Brick structure at N end of trench
[209]	Compass eval pit 2	Basement wall at W end of trench
[210]	Thames water 1	Vaulted basement
(211)	Thames water 1	Soil and rubble backfill
[212]	Thames water 2	Basement wall at W end of trench
(213)	Thames water 2	Soil and rubble backfill
[214]	Thames water E	NW-SE red brick wall
[215]	Thames water E	Brick structure in SW corner assoc. with [214]
[216]	Thames water E	Brickwork between [214] and [217]
[217]	Thames water E	NW-SE thin brickwork along E of trench
[218]	Thames water E	E-W footing for buttress. W side of trench
[219]	Thames water E	E-W footing for buttress. E side of trench
[220]	Thames water E	Mixed- brick wall with rebars. N end of trench
(221)	Thames water E	Backfill within basements/footings
(222)	Thames water W	Backfill within cellars
[223]	Thames water W	NW-SE wall with rebar at N end of trench
[224]	Thames water W	L-shaped brickwork. E of [225]
[225]	Thames water W	Square basement. Same build as [226] and [228]
[226]	Thames water W	Wall of central cellar. Same as [225] and [228]
[227]	Thames water W	Long, thin wall/brickwork on E side of trench
[228]	Thames water W	Wall of southern cellar with roof vaulting
[229]	Thames water W	Central buttress of coal cellars
[230]	Thames water W	Southern buttress of coal cellars
[231]	Thames water W	Earlier brick wall at S end of trench. Same as [209]
[232]	Test pits 16-23	St Botolph boundary wall
(233)	Test pits 12-28	Post-medieval/modern made ground
(234)	Test pit 25	Gravel
(235)	TP 25	Uppermost clay layer

Context	Trench	Description
(236)	TP 25	Darker, lower clay layer
(237)	TP 25	Compact gravel ballast
(238)	TP 25	Burnt brick- former road surface
(239)	Tree pit by tube	Topsoil
(240)	Tree pit by tube	Made ground
(241)	Tree pit by tube	Crushed CBM
(242)	Tree pit by tube	Made ground
(243)	Thames water S	Made ground
(244)	Dropshaft 1	Mid-brown sandy silt backfill
(245)	D/S 1	Backfill
(246)	D/S 1	Natural
(247)	Dropshaft 2	Backfill over [248]
[248]	D/S 2	N-S brick-lined drain
[249]	D/S 2	Cut for [248]
(250)	D/S 2	Layer cut by [249]
(251)	D/S 2	Mixed silty/charcoal layer
(252)	D/S 2	Sandy-silt layer
(253)	D/S 2	Mixed clay-silt fill
[254]	D/S 2	N side of cut feature
(255)	D/S 2	Darker brown sandy silt
(256)	D/S 2	Mid-brown sandy silt
(257)	D/S 2	Grey sandy silt
(258)	D/S 2	Orange-brown sandy silt
(259)	D/S 2	Grey-brown with charcoal flecks
(260)	D/S 2	Reworked natural
[261]	D/S 2	Feature across NE corner
(262)	Dropshaft 3	Mixed dark-grey silty sand
(263)	D/S 3	Concrete base/underpinning
[264]	D/S 3	Brickwork wall topped by 3 granite blocks in S part of W sec.
[265]	D/S 3	Cut for (263/4)
(266)	D/S 3	Compact orange gravel with grey lenses
(267)	D/S 3	Light and dark silty deposits
(268)	D/S 3	Mottled black and red
(269)	D/S 3	Light greenish-grey silt
(270)	D/S 3	Natural
(271)	Dropshaft 4	Brownish-grey sandy clay
(272)	D/S 4	Lighter mottled brown-grey sandy silt
[273]	D/S 4	Poss. Truncated pit, fill similar to (272)
(274)	D/S 4	Natural
[275]	Dropshaft 5	Quarry tile floor on concrete and rubble base
[276]	D/S 5	E-W brick wall base over coarse concrete base
[277]	D/S 5	Probable earlier floor base on N. side associated with [279]
(278)	D/S 5	Two layers of compact brick rubble below [277]
[279]	D/S 5	E-W brick wall base on N. side of dropshaft
(280)	D/S 5	Dark silty layer – upper part
(281)	D/S 5	Silty deposit – lower part (slightly lighter)
(282)	D/S 5	Layer: silty, sandy gravel; lighter than (281)
(283)	D/S 5	Layer: similar to above
(284)	D/S 5	Natural: sandy gravel
(285)	Dropshaft 6	Mixed rubble / made ground
(286)	D/S 6	More solid clayey deposit
(287)	D/S 6	Natural: medium to fine gravel in silty sand
(288)	Dropshaft 7	Made ground / cellar backfill
[289]	D/S 7	Brick floor to W. of [291]
[290]	D/S 7	Stone flagged floor to E. of [291]
[291]	D/S 7	N-S brick wall
(292)	D/S 7	Made ground below [289]

(293)	D/S 7	Made ground below (292), partially cut by [291]
(294)	D/S 7	Layer: made ground, similar to (293)
(295)	D/S 7	Fill of [296]
[296]	D/S 7	Cut. Deeper removal of natural to S and E
(297)	D/S 7	Natural sand, overlying sandy gravel
(298)	Dropshaft 8	Layer: Made ground. Compact deposit with mortar etc.
(299)	D/S 8	Layer: similar to above but cleaner and more silty
[300]	D/S 8	Edge of a cut feature with mortary fill in NW corner
(301)	D/S 8	Layer / made ground, similar to (299) but more clayey
[302]	D/S 8	Stone lined drain or gulley
(303)	D/S 8	Deposit / made ground
(304)	D/S 8	Deposit / made ground below (303)
(305)	D/S 8	Deposit / made ground below (304)
(306)	D/S 8	Deposit / made ground below (305)
(307)	D/S 8	Fill of [308]
[308]	D/S 8	Truncated cut feature in E. corner of dropshaft
(309)	D/S 8	Fill of [310]
[310]	D/S 8	Truncated cut feature on opposite side to [308]
[311]	TP22	Former post-medieval boundary wall to St Botolph's (square boundary)
[312]	Dropshaft 5	Cut of possible quarry pit, filled by (280) – (283)

APPENDIX II: ARCHAEOLOGICAL DRAWINGS

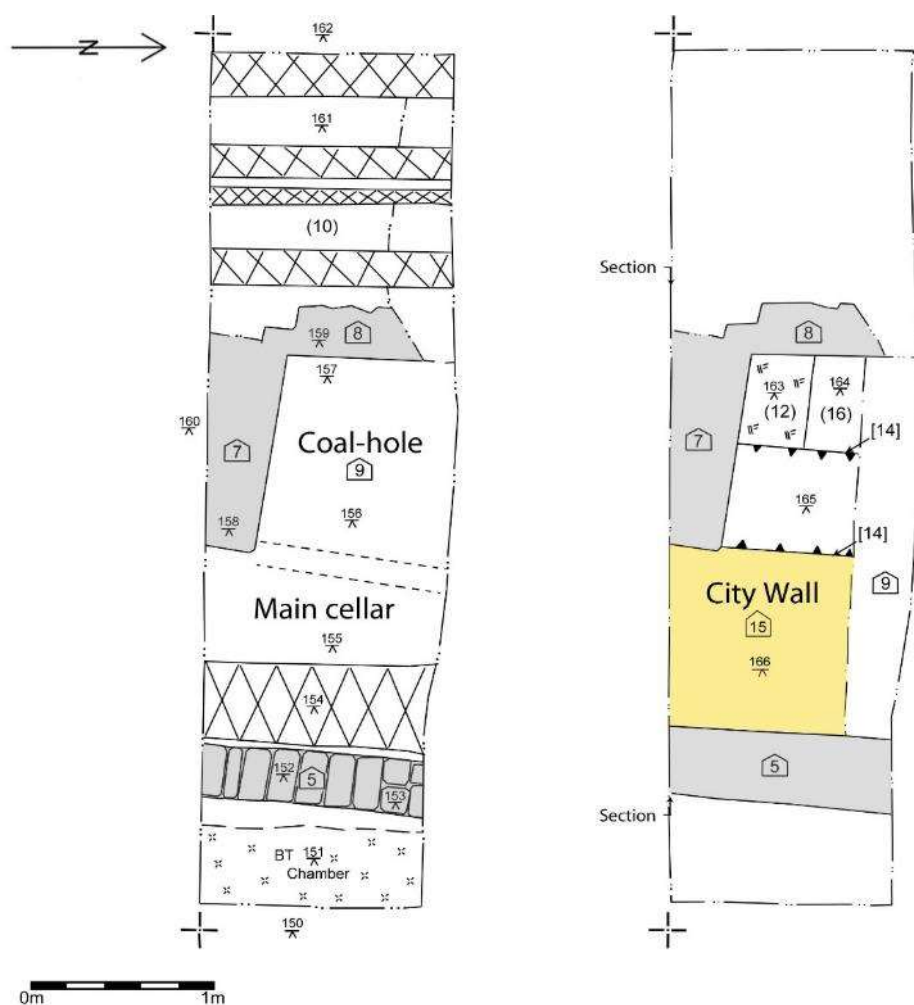


Figure 80: Plan of Trench 1 (2013), showing a section of the City Wall recorded below a post-medieval cellar. Original drawn at 1:20.

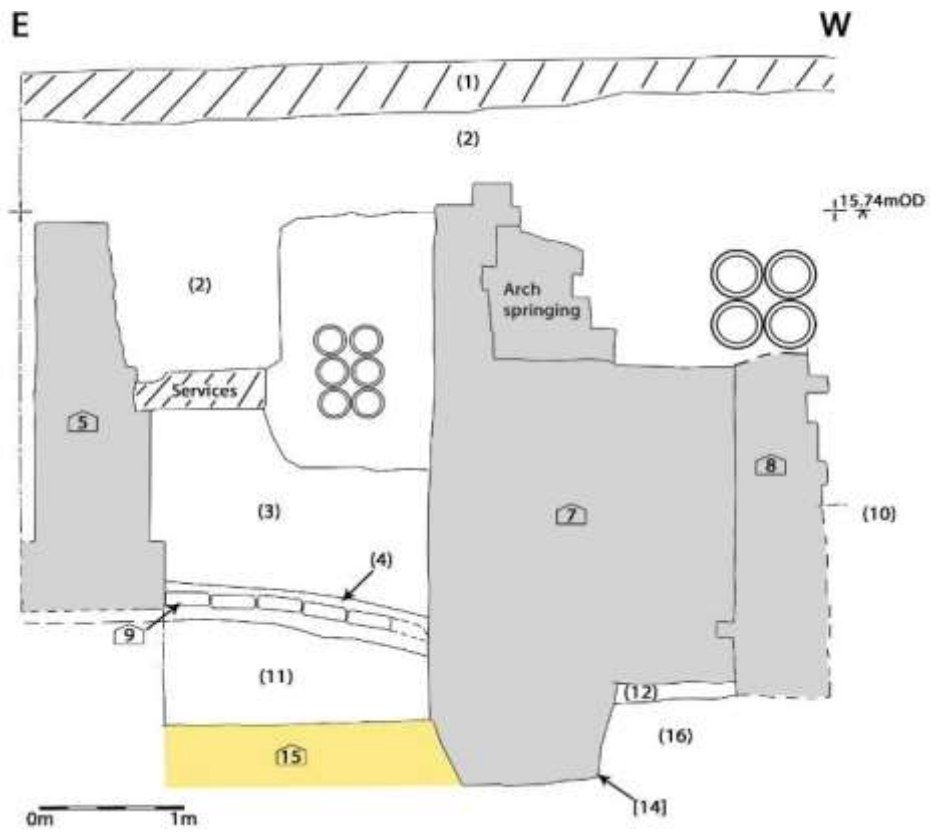


Figure 81: Trench 1 (2013), south facing section. Original drawn at 1:10.

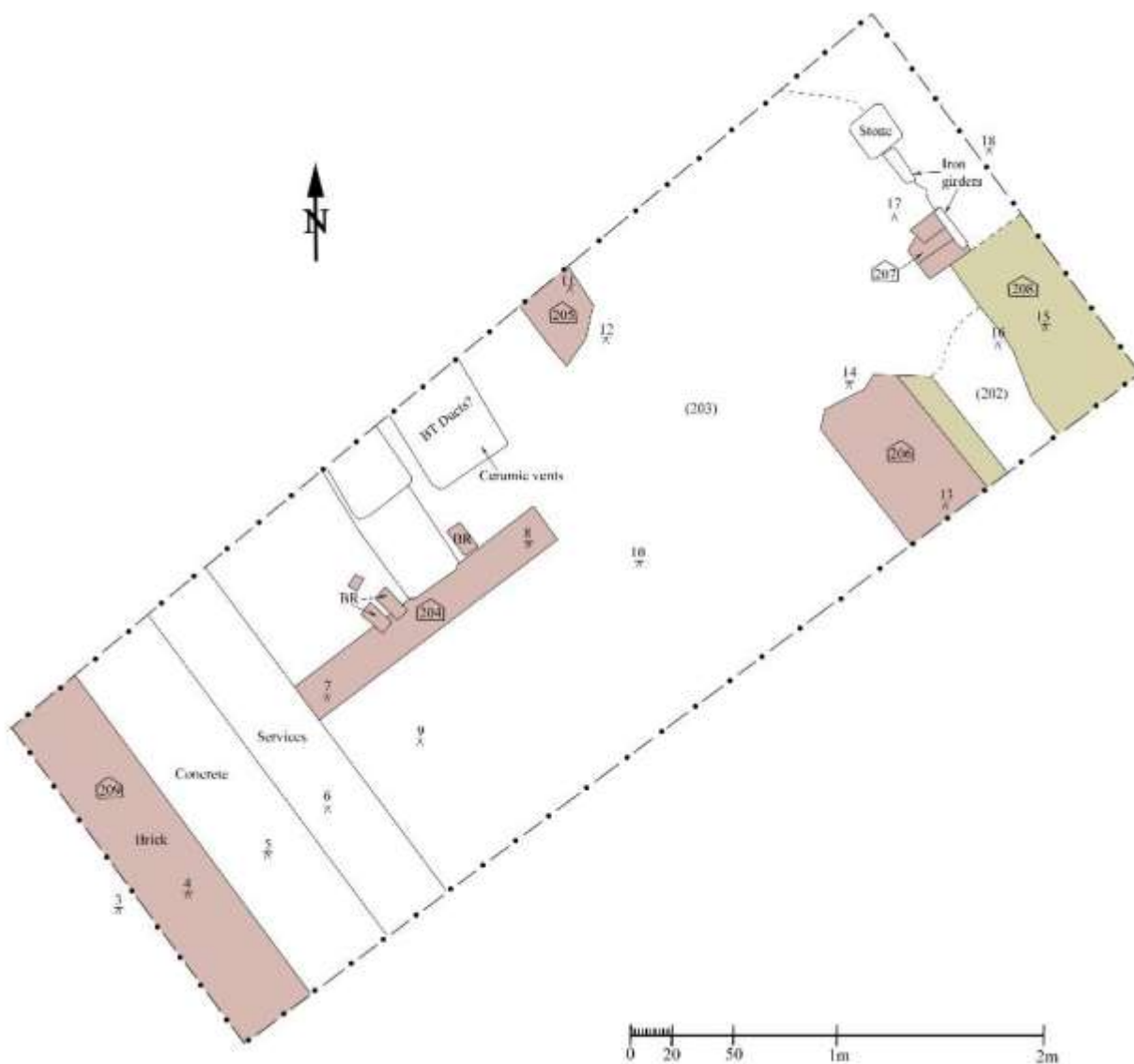


Figure 82: Plan of Compass Archaeology Evaluation Trench 2 (2015), showing post-medieval masonry W[209], W[204] and W[205] at the southwest end of the trench and the modern 1940s building, W[206], W[207] and W[208] at the northeast. Original drawn at 1:20.

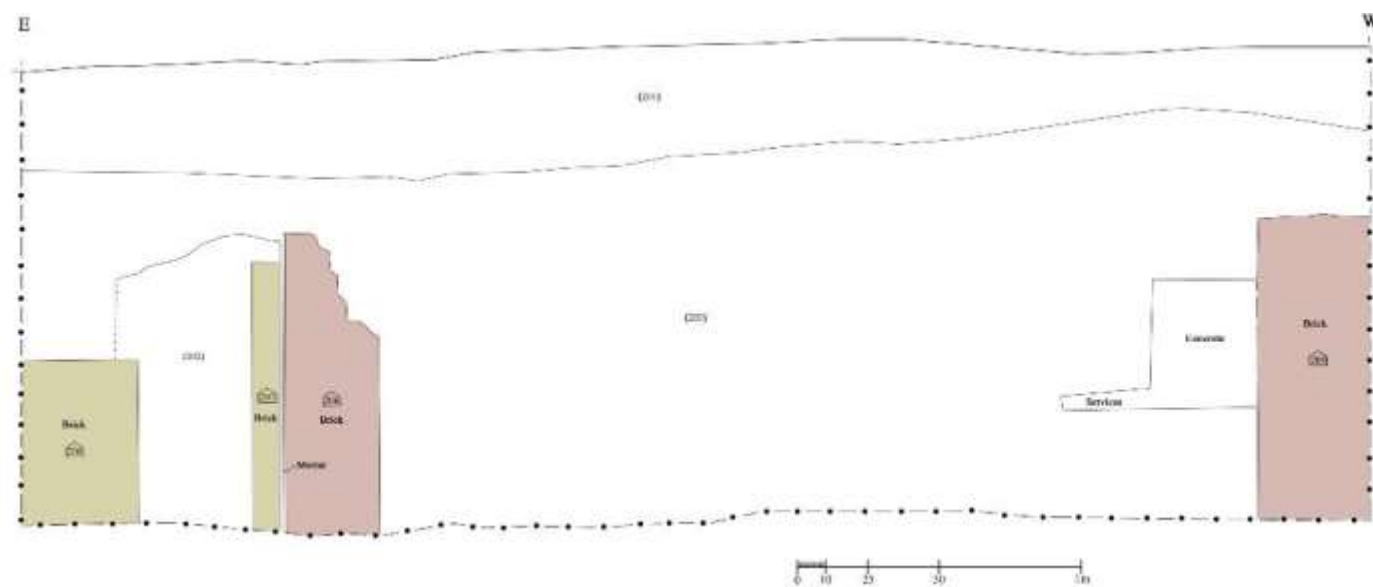


Figure 83: Approximately north facing section of Compass Archaeology Evaluation Trench 2 (2015). Original drawn at 1:10.

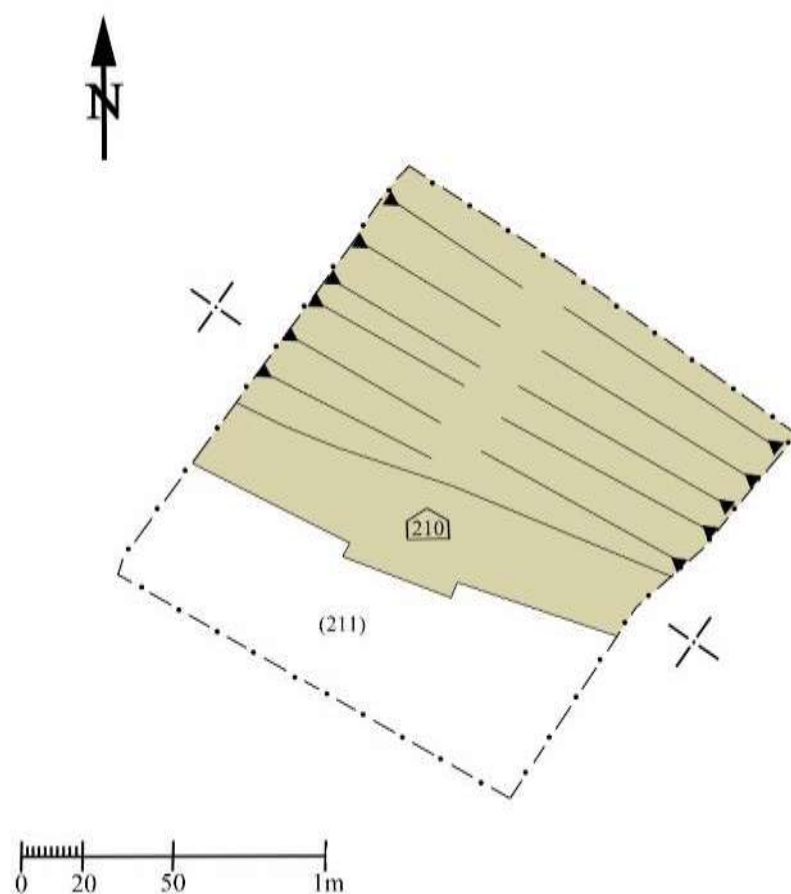


Figure 84: Plan of Thames Water Trench 1. Located on the western side of the central space. Original drawn at 1:20.

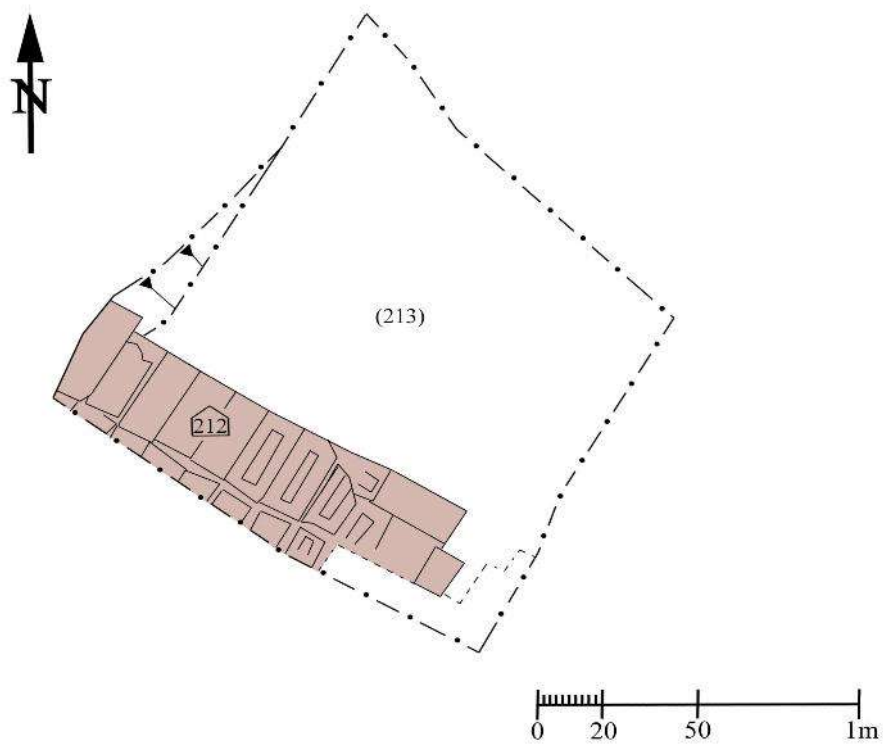


Figure 85: Plan of Thames Water Trench 2. Original drawn at 1:20.

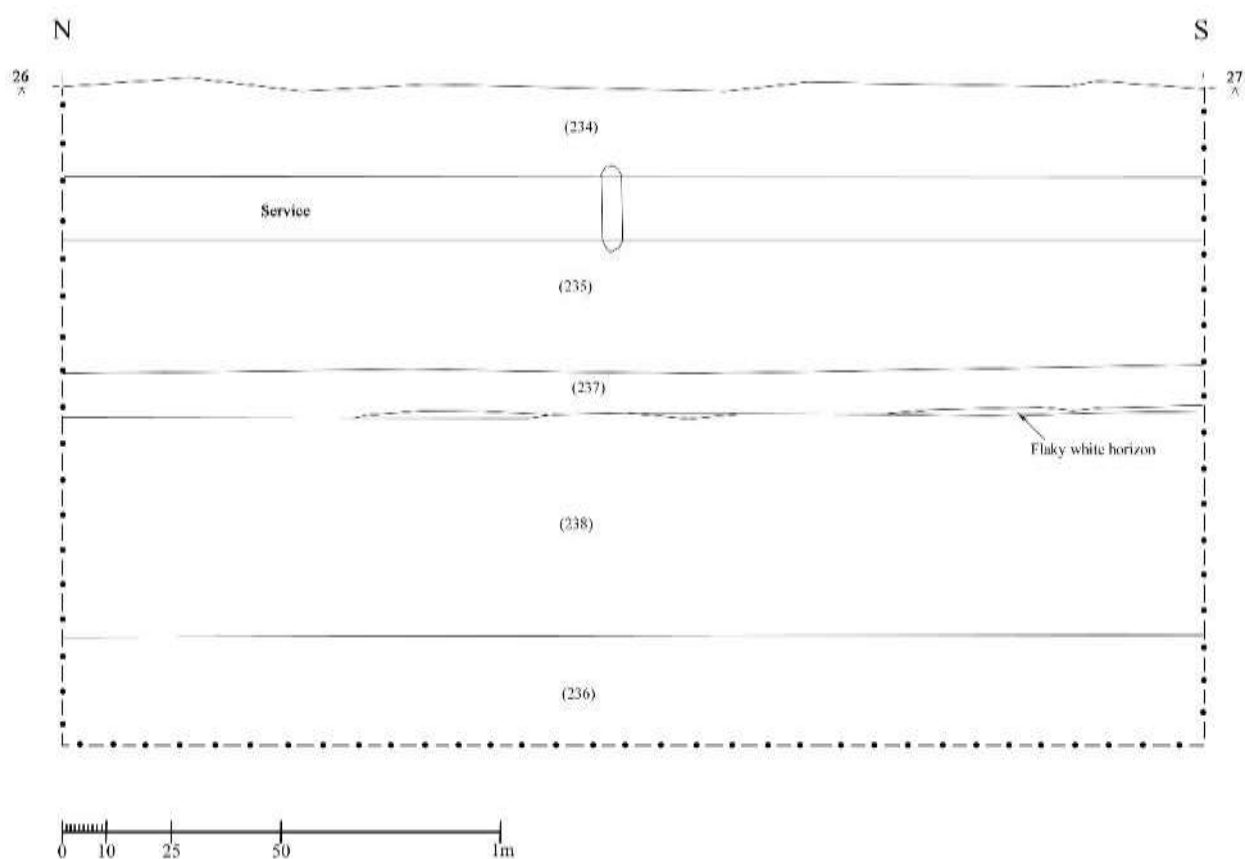


Figure 86: East facing section of TP25, with (238) taken to be the medieval incarnation of Houndsditch. Original drawn at 1:10.

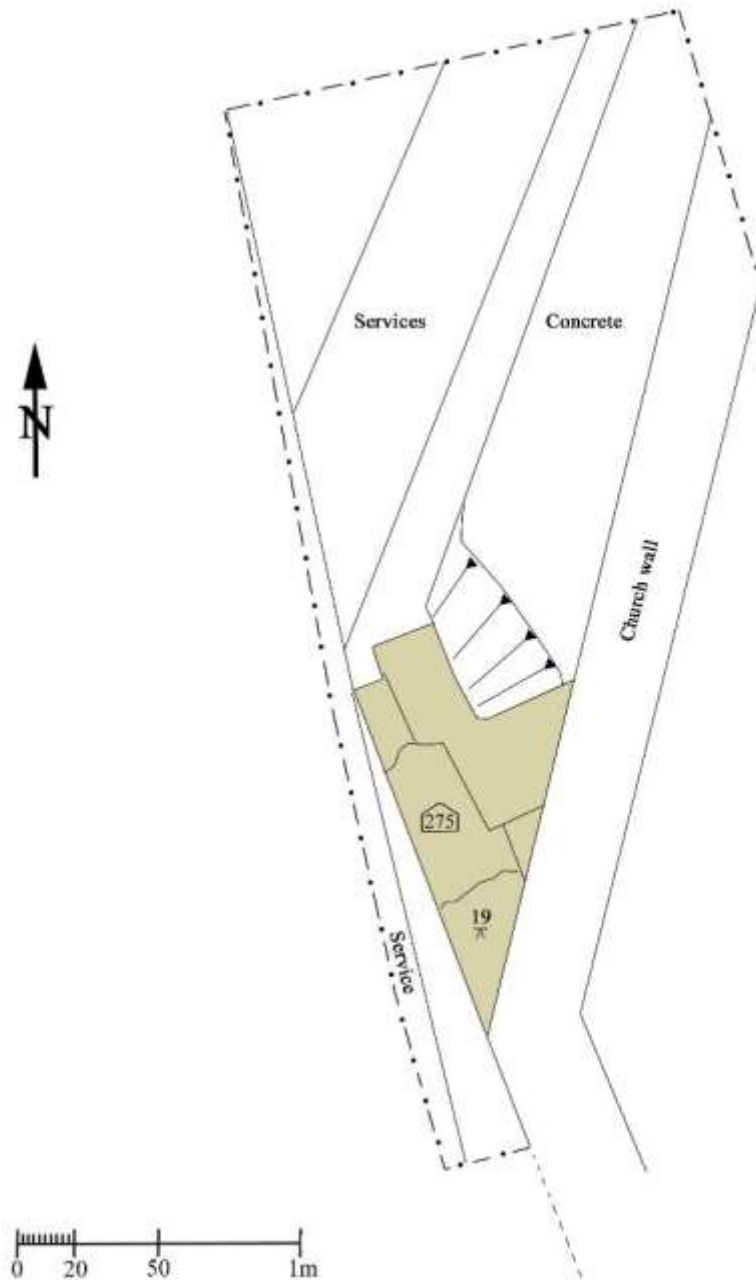


Figure 87: Plan of TP22, showing the previously line of the church boundary wall W[275].
Original drawn at 1:20.

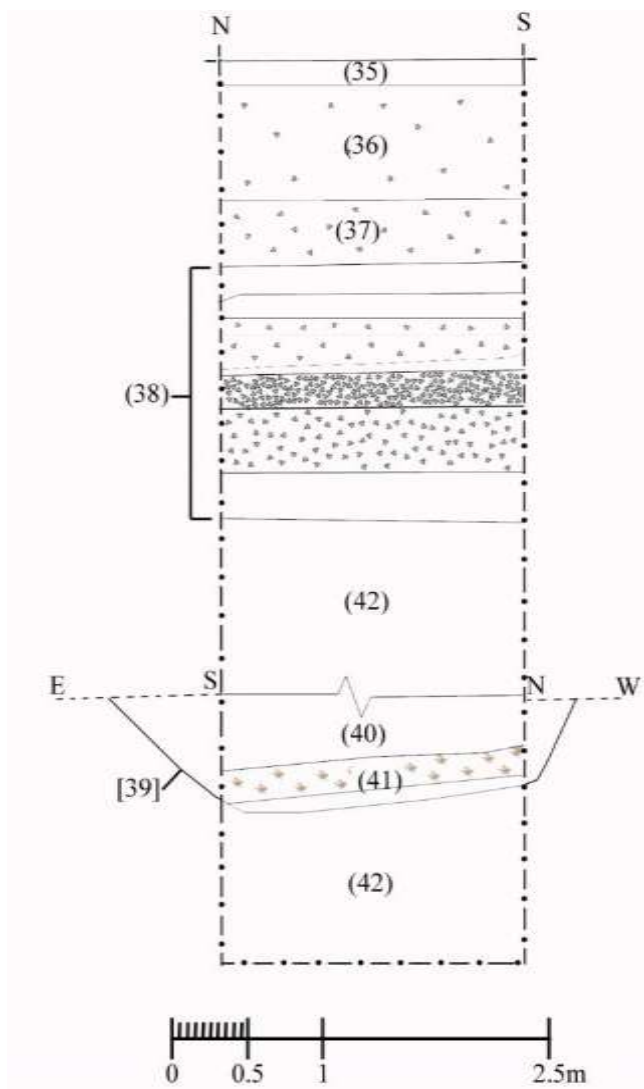


Figure 88: West facing upper section and east facing lower section of Dropshaft 11. Original drawn at 1:50.

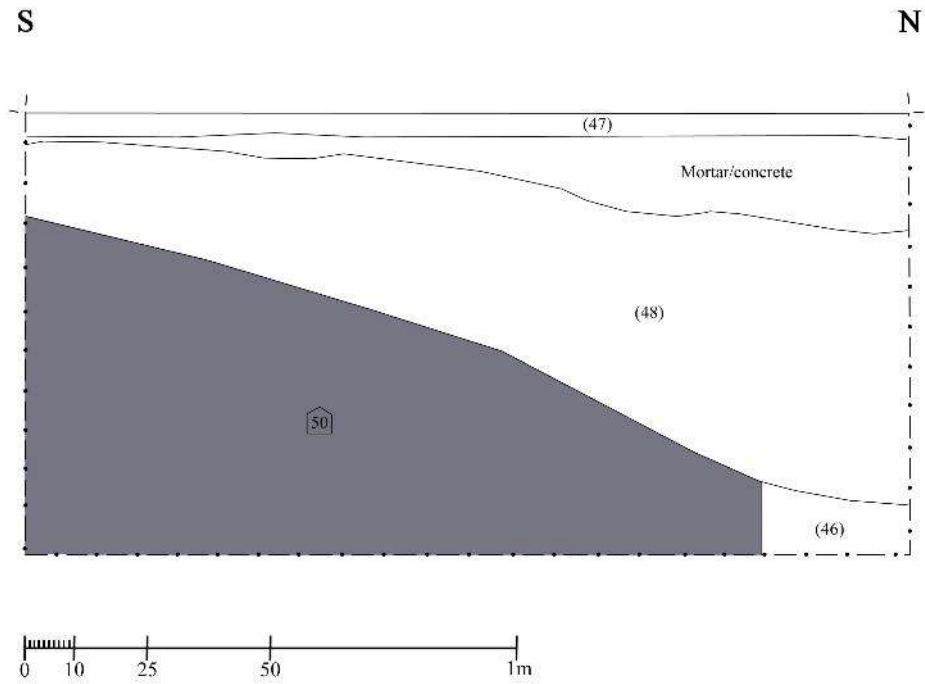


Figure 89: East facing section of St Botolph's Trial Hole 2, showing backfill over sloping crypt roof. Original drawn at 1:10.



Figure 90: Plan of trench beneath crypt door, showing brick foundations W[64] and W[65] taken to be the base of a former staircase. The majority of the burials were recorded to the east of the concrete drain base [200]. Original drawn at 1:20.

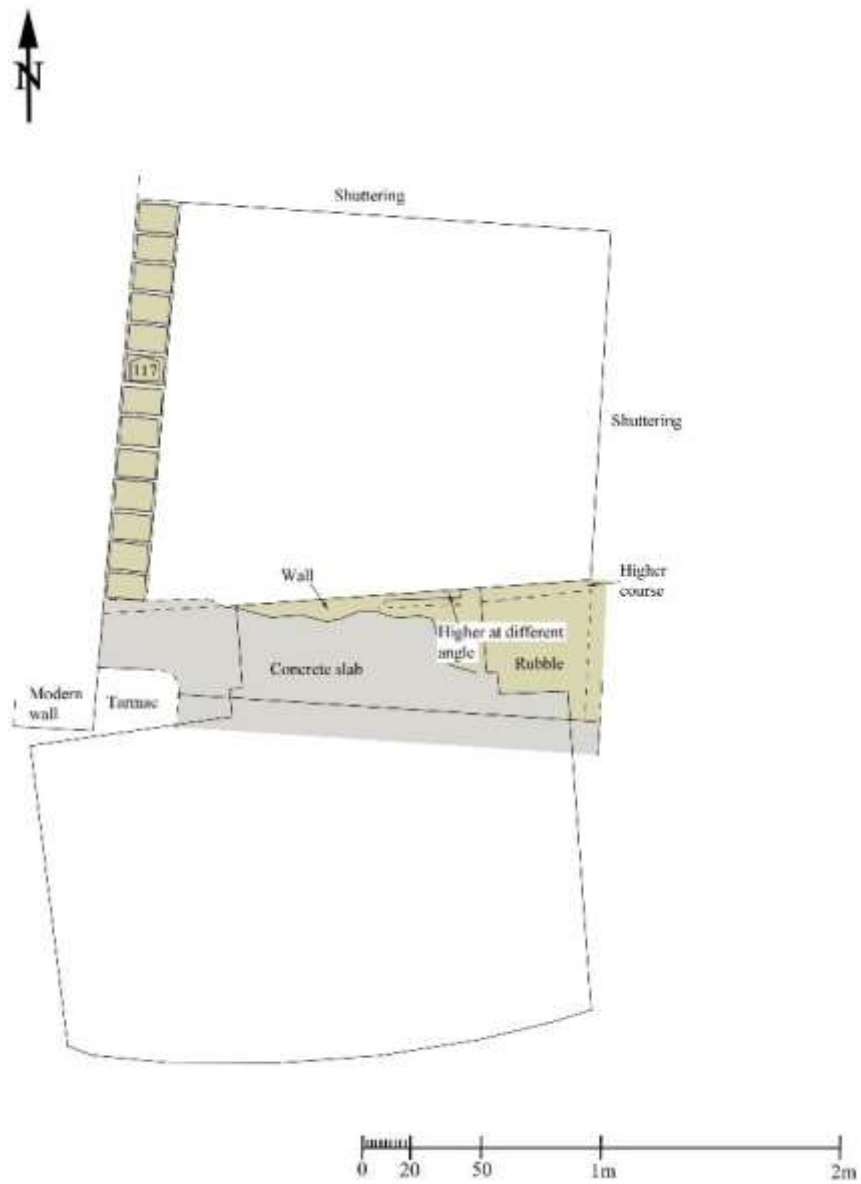


Figure 91: Plan of dropshaft 15. Original drawn at 1:20.

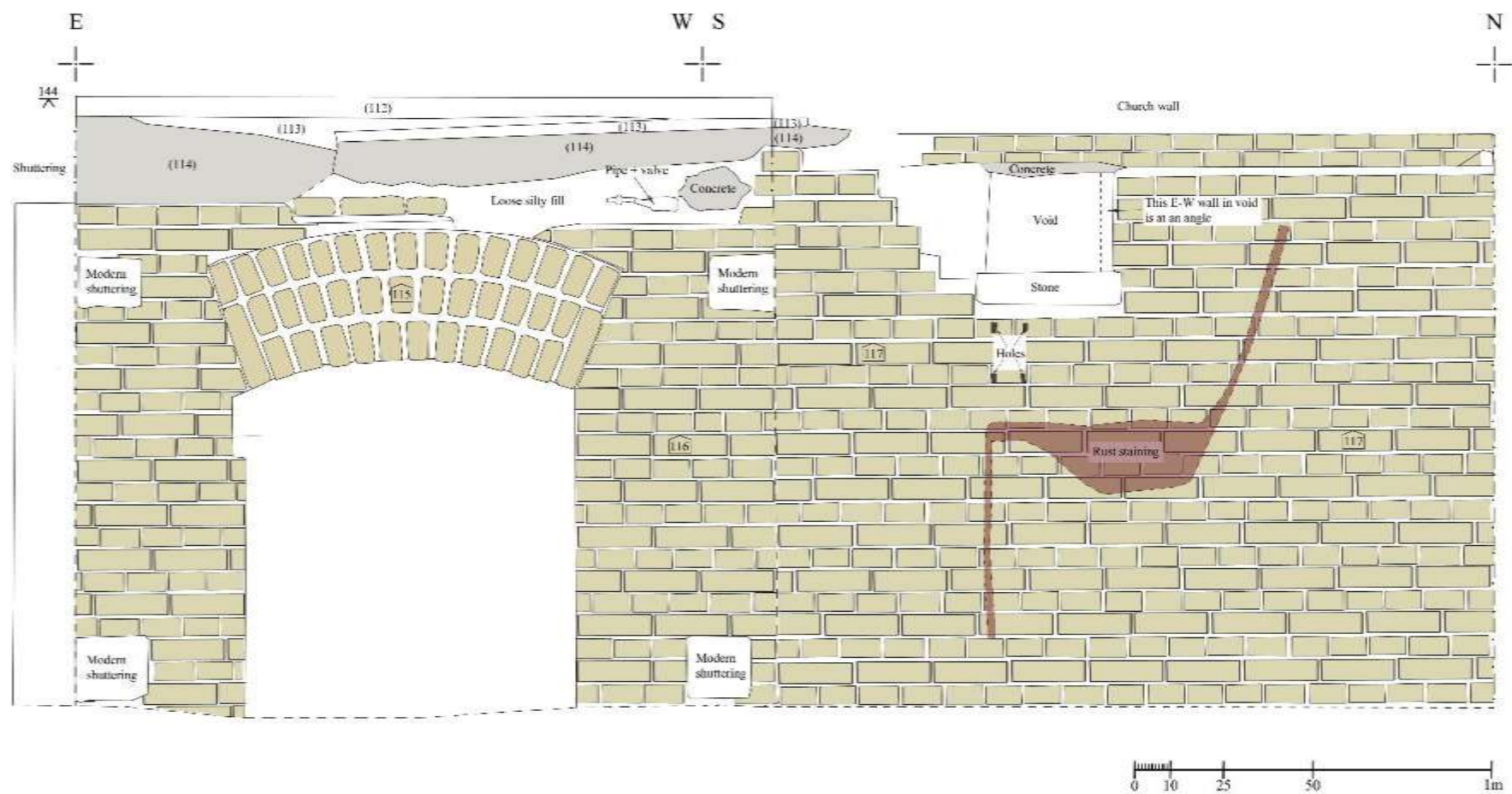


Figure 92: North and east facing sections of dropshaft 15, showing basement leading to coal cellar. Original drawn at 1:10.

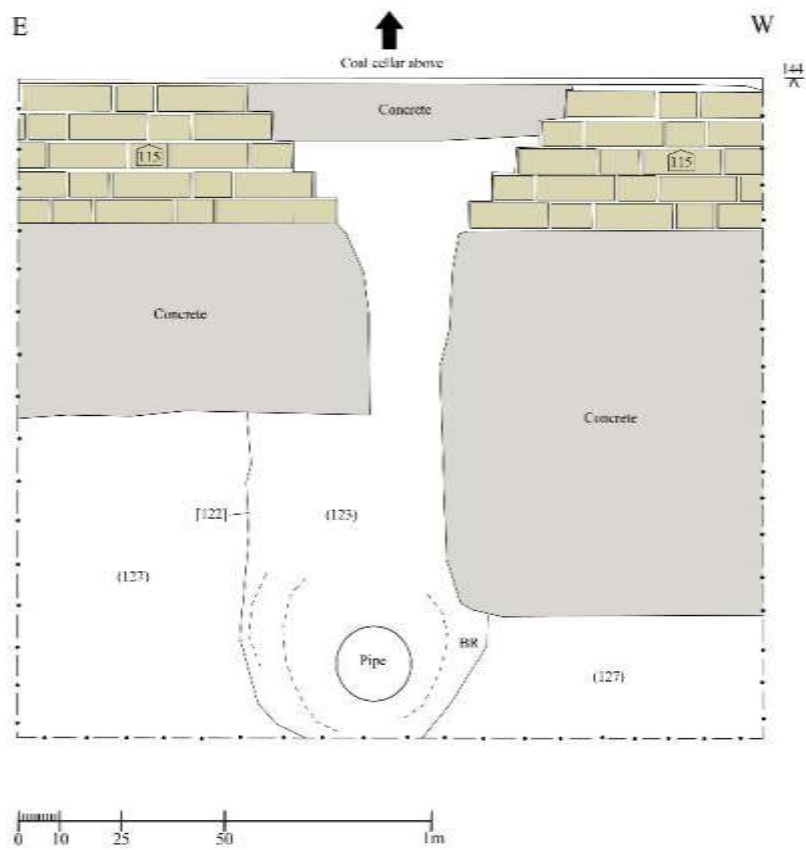


Figure 93: Dropshaft 15, north facing section. Original drawn at 1:10.

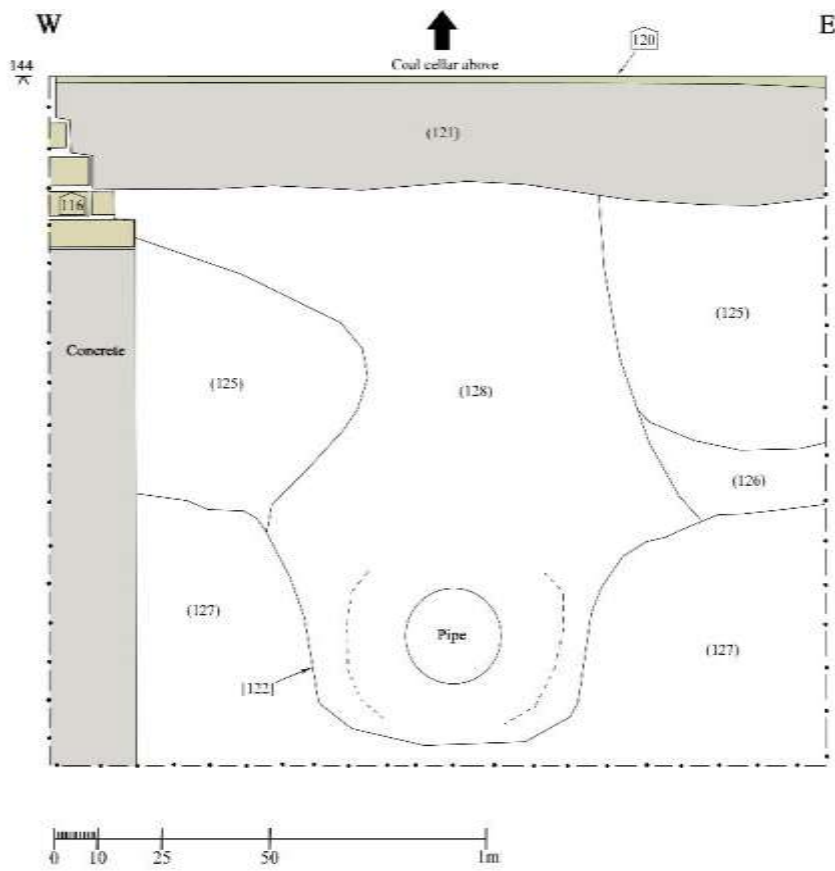


Figure 94: Dropshaft 15, south facing section. Original drawn at 1:10.

APPENDIX III: LEVELS

No.	Area	Reduced level (mOD)	Description
1	Tree pit	16.09	Top of tree pit
2		14.65	Base of tree pit
3	Compass Archaeology Eval Trench 2 - 2015	16.08	Top of trench – west end
4		15.79	Top of wall W[209]
5		15.25	Top of concrete
6		14.90	Top of services
7		14.78	Top of W[204] – west end
8		14.36	Top of W[204] – east end
9		14.28	Base of trench – west end
10		14.38	Base of trench – centre
11		14.62	Top of W[205]
12		14.37	Base of W[205]
13		15.47	Top of W[206]
14		14.37	Base of W[206]
15		15.07	Top of W[208]
16		14.36	Base of W[208]
17		14.41	Base of trench – east end
18		16.01	Top of trench – east end
19	Trial Pits	15.44	Top of wall in TP 21
20		14.98	Base of wall in TP 21
21		15.49	Top of TP 18
22		15.32	Top of TP 17
23		15.30	Top of TP 15
24		15.36	Top of TP 24
25		15.39	Top of TP 23
26		15.02	Top of TP 25 – north end
27		15.11	Top of TP 25 – south end
28		15.44	Top of TP 14
29		15.18	Top of TP 26
30		15.36	Top of TP 21
31		15.61	Top of TP 27
32		15.15	Wall in TP 27
33		15.61	Top of TP 13
34		15.22	Wall in TP 13
35		15.75	Top of TP 12
36		15.77	Top of TP 16
37		15.65	Top of TP 19
38		15.71	Top of TP 20
39	Thames Water East	15.44	Wall W[214] top of trench
40		14.46	Wall W[214] base of trench
41		14.23	Wall W[214] outer skim
42		14.54	Brickwork W[215]
43		14.22	Brickwork W[216]
44		14.30	Wall W[217] – southeast end
45		14.29	Wall W[217] – northwest end
46		14.34	Wall W[218] buttress
47		14.30	Backfill (221) – centre
48		14.26	Backfill (221)
49		14.36	Brickwork W[219]
50		14.33	Wall W[220] – southeast end
51		14.34	Wall W[220] – northwest end
52		15.40	Top of trench – northwest end
53	Thames Water West	14.95	Backfill (220)
54		15.32	Wall W[223] – northwest end
55		14.83	Wall W[223] – southeast end
56		16.09	Top of trench – northwest end

57		15.84	Top of trench – northeast end
58		14.88	Wall W[224] – northwest end
59		14.94	Wall W[225] buttress – northwest end
60		15.73	Wall W[225] – northwest end
61		14.80	Wall W[224] – northeast end
62		14.82	Wall W[224] – corner
63		15.79	Wall W[225] – corner
64		14.83	Backfill (222)
65		14.79	Wall W[225] buttress
66		15.82	Wall W[225] – southeast corner
67		14.70	Wall W[227] – northwest end
68		14.66	Wall W[227]
69		14.72	Backfill (222)
70		15.34	Wall W[226] – northwest end
71		15.81	Wall W[226]
72		15.68	Wall W[226] – centre
73		14.74	Wall W[227]
74		14.74	Wall W[227]
75		14.81	Backfill (222)
76		15.16	Buttress W[229] – centre
77		14.72	Brickwork W[229]
78		14.71	Wall W[227]
79		14.73	Wall W[227] – southeast end
80		14.67	Backfill (222)
81		15.69	Wall W[228] – northwest end
82		15.81	Wall W[228] vaulting
83		15.60	Wall W[228]
84		14.67	Backfill (222)
85		14.70	Buttress W[230] – southeast end
86		15.28	End of cellar
87		14.65	Backfill (222)
88		14.70	Backfill (222) – southeast
89		16.01	Top of trench – southeast end
90		14.67	Ceramic pipes
91		14.92	Metallic pipe
92		15.22	Concrete block
93		15.68	Wall W[231] – same as W[212]
94		15.65	Backfill (222) – southwest end
95		16.13	Top of trench – southwest end
96		15.99	Top of trench – south
97	Vault	16.28	Top of vault
98		15.15	Top of concrete
99		14.78	Base of vault
100		15.94	Drain
101	Tree pits	16.06	Top of trench – north end
102		15.78	Yellow stock brick wall
103		15.59	Wall W[59] – red brick
104		15.19	Wall W[59] – red brick
105		15.08	Base of trench
106		16.02	Top of trench – south end
107		16.07	Top of trench – west end
108		15.48	Wall W[61] – red brick
109		14.98	Base of trench – west end
110		14.92	Base of trench – east end
111		15.29	Wall W[62] – yellow brick
112		16.00	Top of trench – east end
113	New crypt stairs trench	13.95	Base of trench
114		14.89	Top of W[64]
115		14.82	Top of W[65]
116		14.74	Post-medieval concrete drain
117		14.55	Base of trench – northeast corner

118		15.09	Concrete – north side
119		15.14	Crypt entrance
120		15.13	Concrete – south side
121		15.19	Base of trench – southeast corner
122		15.23	Base of former church wall
123	Dropshaft 12	15.81	Dropshaft 12 - ground level
124		15.83	Dropshaft 12 - Top of girder
125	Dropshaft 11	16.07	Ground level
126	New Stairs North	16.32	Top of trench
127		15.67	Base of trench
128		15.43	Bottom of slope
129	Dropshaft 14	15.88	Dropshaft 14 – ground level
130		16.33	Dropshaft 14 – top of board
131		16.92	St. Botolph's pit
132		16.37	Base of removed tree – east side
133		16.50	Base of removed tree – west side
134		16.04	Base of pit – east side of gate
135	Churchyard Drainage	16.39	Top of drainage pit 1
136		15.79	Base of drainage pit 1
137		16.35	Top of drainage pit 2
138		15.48	Base of drainage pit 2
139		15.47	Top of north trench – south end
140		16.21	Base of north trench – south end
141		15.61	Top of north trench – north end
142		16.24	Base of north trench – north end
143	Dropshaft 13	15.93	Top – ground level
144	Dropshaft 15	16.40	Top – ground level
145	Dropshaft 7	15.04	Kerb level
146	Dropshaft 5	15.00	Kerb level
147	Dropshaft 6	15.04	Road level
148	Dropshaft 8	14.86	Road level
149	Dropshaft 10	15.95	Kerb level
150	Compass Eval Trench 1 (2013)	16.23	Top of trench – east end
151		16.20	BT chamber – east end
152		15.70	Wall W[5] – south end
153		15.22	Wall W[5] – north end
154		15.12	Main cellar
155		14.27	Main cellar
156		14.10	Coal hole [9]
157		14.04	Coal hole [9] – west end
158		15.72	Wall W[7]
159		15.24	Wall W[8]
160		16.26	Top of trench – south side
161		14.64	Base of trench – west end
162		16.30	Top of trench – west end
163		14.01	Context (12)
164		13.97	Context (16)
165		13.64	Base of excavation
166		13.87	City wall W[15]

APPENDIX IV: CERAMIC BUILDING MATERIAL *by Sue Pringle*

Introduction

The following report discusses and catalogues the ceramic building material (CBM), recovered from archaeological investigations during the highway changes at Aldgate, City of London (Site code: DKE13). The assemblage comprises a total of 299 items weighing 75.73kg spanning nearly 2000 years of occupation of the area. The assemblage comprised Roman material including tegula, imbrex, and other forms of roof tile, along with 3 tesserae. The medieval period was represented by peg tile, 2 possible floor tiles and 19 fragments of what were interpreted as fragments of bell mould. Post-medieval finds were predominately peg tile, bricks, floor tile, and wall tiles. All the fragments were collected on site and brought back to the Compass Archaeology office to be examined.

Assessment methodology

All the CBM was recorded on a standard recording form, weighed and measured and brief fabric descriptions were noted. Any further comments regarding the state or any features of the fragments were also recorded. The information was collated onto an Excel database.

Discussion

The material recovered was typical of an urban site, with many of the individual finds being little more than fragments with few larger diagnostic examples. The material was more often found within made ground deposits, or the backfill of larger features, and other than bricks from *in situ* structures could not be associated with specific buildings or areas of occupation.

Although the Roman material was of interest, it was fragmentary and was not associated with *in situ* structures but was found within general backfill deposits of larger features, representing opportunistic dispersal of waste material. Nor was it found in sufficient quantity to suggest a focus of Roman habitation, but rather a generalised ‘background noise’ of Roman activity nearby. It is likely that much of the material was brought in from elsewhere to be disposed of within open pits immediately outside of the City walls or indeed within the City ditch itself.

The medieval material was dominated by undiagnostic, broadly dated peg tile, a much-used and reused building material which does not in isolation prove much beyond the presence of medieval buildings nearby. But as with the Roman material the context in which much of the tile was found suggests the material was either discarded opportunistically, or brought in from elsewhere on a sporadic basis. The fragments of bell mould are of interest due to the proximity of St Botolph without Aldgate to the northwest and the bell foundry known from Whitechapel to the east. Unfortunately the context in which the mould fragments were found (268) was not securely interpreted so it cannot be further commented upon.

The post-medieval material was somewhat easier to date, by association with other finds, and in the context of *in situ* remains being observed. Most of the post-medieval material was from basement, and coal cellar structures, and occasionally wall footings such as the former boundary wall of St Botolph’s churchyard. Nevertheless the material itself was of limited archaeological value other than to confirm the cartographic evidence for the historical development of the area.

Recommendations

It is not envisaged that further work will be necessary on the assemblage. The lack of secure *in situ* evidence for most of the deposits observed would make further analysis of limited value. The fragmentary nature of the material in terms of its survival also makes further analysis of the assemblage dubious.



Figure 95: Fragment of decorated floor tile recovered from context (171). Scale 10cm.

Catalogue

Key: A = Abraded; M = Mortar; *Med* = *Medieval*; PM = Post medieval; Rd = Reduced; S = Sooted; V = Vitrified

All measurements given in millimetres, (L = Length; B = Breadth; T = Thickness). Weight in grams

Table 1: CBM from all contexts

Contxt	CBM/Context Date	Period	Fabric	Form	Count	Weight	L	B	T	Condition	Comments
38	50-160	R	2815	Brick	1	38	0	0	0	A	Very worn and rubbly
38	50-160	R	2815	Tegula	1	98	0	0	0	Rd, Ru	Deflanged; wear on flange scar.
38	1450-1700, most 120-250.	PM	3033	Brick	1	245	0	0	53	M	Unfrogged. Creased stretcher; top and base lime-mortared
38	1450-1700, most 120-250.	R	2459B	Brick	1	608	0	0	39	A, S	Part single arc signature mark
38	1450-1700, most 120-250.	R	2459B	Brick	1	289	0	0	36	A	Very worn - rubble
38	1450-1700, most 120-250.	R	2459B	Brick	1	287	0	0	38	A, Rd	Very worn and rubbly.
38	1450-1700, most 120-250.	R	2459B	Tegula	1	63	0	0	0	S	Fragment with small square-sectioned flange. Sooted surface
38	1450-1700, most 120-250.	R	2815	Tegula	1	67	0	0	0	A	
38	1450-1700, most 120-250.	R	2815	Tegula?	2	255	0	0	0	A	Tegula or imbrex?
38	1450-1700, most 120-250.	R	2815	Brick?	2	193	0	0	0	A	Rubble - very abraded brick?
38	1450-1700, most 120-250.	R	3108	Stone rubble	1	698	0	0	0	M	Rough chunk of Kentish Ragstone, no worked surfaces. Lime mortar attached.
38	1450-1700, most 120-250.	R	3121	Paving slab?	1	488	110+	78+	35	A, S	Worn slab fine-grained sandstone. 2 edges are slightly bevelled and meet at c. 65 degree angle. Top worn smooth and slightly hollowed.
38	1450-1700, most 120-250.	R	3102	Bell mould	3	72	0	0	0	Rd, S	Daub with common organic imprints/voids. Convex on external surface; interior very black. Bell mould fragments?
41	120/140-260	R	2459B	Tegula?	2	47	0	0	0	A	Conjoin
41	120/140-260	R	2815	Imbrex	1	39	0	0	0	A	

41	120/140-260	R	?	Flake	1	9	0	0	0	A	No surfaces
57	1850-1950	PM	?	Border tiles	3	1226	0	0	23		Fragments of salt-glazed stoneware garden border tiles. Double crest design, quatrefoil perforation in top peaks; arched cut out on bottom edge.
57	1850-1950	PM	?	Border tiles	0	0	0	0	24		Fragments of salt-glazed stoneware garden border tiles. Double crest design, quatrefoil perforation in top peaks; arched cut out on bottom edge.
57	1850-1950	PM	2276?	Chimney	1	165	0	0	0	S	Part rim of chimney pot. Everted rim; band of rouletted decoration on exterior below rim.
61	1650-1900	PM	3032	Brick	1	1953	216	96	65	M	Very shallow groove in base - basal frog? Flat sides, sharp arrises. Light grey-brown mortar with charcoal flecks on header, base and top
61	1650-1900	PM	3032	Brick	1	2029	225	88	67	M	Very shallow groove in base - basal frog? Flat sides, sharp arrises. Light grey-brown mortar with charcoal flecks on header mainly
64	1450-1700	PM	3033	Brick	1	1670	180+	110	63		Unfrogged. Creased base and flat creased sides. Top obscured by thick layer of light brown mortar with coarse lime inclusions. 16/17th c?
65	1650-1900	PM	3033	Brick	1	1750	220	106	60	A, M	Unfrogged. Creased base, flat stretcher - the other stretcher abraded, looks weathered or water-worn. Top partly abraded, with grey lime and charcoal flecked mortar
65	1650-1900	PM	3032	Brick	1	2015	225	107	62	Rd, V, M	Overfired, warped. Unfrogged. Sharp arrises. Thick light brownish-grey lime mortar with coarse lime inclusions and charcoal flecks. Late 17th/early 18th c?
80	1480-1900	M	2271	Peg	5	121	0	0	0	Mx2, A	No features
80	1480-1900	PM	2276	Peg	1	28	0	0	0		No features
80	1480-1900	R?	2815	Tile	1	16	0	0	18	A, M	Very small fragment, may be thin Roman tile, eg flue or imbrex? ID insecure
81	1480-1900	?	3102	Daub	1	13	0	0	0	Rd x 1	No features
81	1480-1900	?	3102	Daub	1	16	0	0	0		No features. Very burnt
81	1480-1900	R	2815	Tegula	1	95	0	0	0		Upper corner. Flange slightly damaged by appears to lack upper cutaway - unusual.
81	1480-1900	R	3028?	Imbrex	1	60	0	0	0		
81	1480-1900	PM	2276	Peg	5	234	0	0	0	M x2	No features
81	1480-1900	M	2271	Peg	12	154	0	0	0	A, M	1 has splash glaze
86	1850-1950	PM	?	Floor tile	1	1128	152	152	24	S	Machine-made 'compressed dust' fabric, red quarry tile. Unglazed. Base stamped with large quatrefoil with central

											horseshoe motif and letters J and C in 2 lobes of quatrefoil. Sooted on 2 adjacent edges.
108	1480-1900	PM	?	Peg	1	184	0	0	0	Rd, M	
108	1480-1900	M/PM	?	Peg	1	29	0	0	0	Rd	
108	1480-1900	M/PM	?	Render	2	18	0	0	10	Rd	Conjoin. Thin layer lime mortar render with narrow grooved imprints (reeds?. Wood-grain?) on reverse. Smooth face. White plaster skim with traces of white overpainting.
108	1630-1900	PM	2275	Pantile	2	322	0	0	0	S x 1	
108	1630-1900	M/PM	2271	Peg	1	14	0	0	0		Part round nail-hole
108	1630-1900	PM	2276	Peg	1	51	0	0	0	M	
131	check	PM	?	Coping brick	1	3014	225	115	72	M	White-glazed coping brick. Semicircular in section; circular hole in one end, other end mortared. Base has inscription in rectangular frog c. 163 x 57 x 10 mm deep: FARNLEY.IRON.CO.LD/ LEEDS.ENGLAND. Cement mortar, greyish brown. An advert dated 1884 includes their 'GLAZED BRICKS (white and in various colours)'.
152	1480-1900	R	2815	Tegula	1	45	0	0	0		Very abraded
152	1480-1900	R	2459B	Tegula	1	96	0	0	0		
152	1480-1900	M/PM	2586	Peg	1	43	0	0	0	A, M	
152	1480-1900	PM	2276	Peg	1	103	0	0	0		
152	1480-1900	M	2271	Peg	2	44	0	0	0		Part 1 round nail-hole
153	1480-1900	?	3102	Daub	1	10	0	0	0	Rd	Flat surface. Very reduced.
153	1480-1900	M?	3115	Roof slate	1	145	0	0	7		1 straight worked edge; part round nail hole approx. 10mm diam centred c. 95mm from straight edge. Mid-grey slate, possibly West Country
153	1480-1900	PM	2276	Peg	1	124	0	0	0	Rd, S, M	Corner of burnt tile, fragments of rusty iron fused to surface
153	1480-1900	M	2271	Peg	5	73	0	0	0	A, Mx1	No features
165	120/140-250	R	2459B	Imbrex	1	70	0	0	0		
165	120/140-250	R	2815	Tegula?	1	34	0	0	0		
169	1571-1615	M/PM	?	Floor tile	1	178	73+	60+	32	A	Knife-cut bevel; flat base. 2 nailholes in surviving corner. Probably Flemish/Low Countries. Top very worn but traces of degraded ?yellow glaze.
169	1571-1615	PM	?	Floor tile?	1	83	76+	56+	17		Neatly made with knife-cut edges; fine sanding on base. Small nail-hole on top in surviving corner. Possibly tile blank or kiln

											furniture from tin-glaze pot/tile works at Aldgate. Dates suggested are for floor tile production at Aldgate.
169	1571-1615	M	3102	Bell mould	1	75	0	0	0	Rd, S	Very burnt on concave surface - industrial mould, eg bell mould? Cf.[268].
171	1450-1800	R	2452	Imbrex	1	30	0	0	0	A	Flake
171	1450-1800	M	2271	Peg	1	72	0	0	0		1 corner has unusual triangular nail-hole, sides c. 15mm long.
171	1450-1800	M	2537	Peg	1	275	0	0	13	M	Circular nail-hole, blocked with mortar.
171	1450-1800	PM	2276	Peg	4	156	0	0	0	Mx2, Rdx2	
171	1450-1800	PM	?	Floor tile	1	663	0	0	0	A, M, Rd	Worn; probably unglazed. Knife-cut bevelled edges; off-white lime mortar with carbonaceous inclusions.
171	1450-1800	M	2894	Floor tile	1	197	109	61+	28		2-colour decoration - poor glazing. Knife-cut bevelled sides. Penn fabric, unpublished design is blurred but seems to show a fleur-de-lys inside a square border, both set diagonally. Tile is thicker than normal so could be early, Black Death period.
171	1200-1600	M	2271	Peg	1	18	0	0	0	Rd	
171	1200-1600	?	3101	Render	2	33	0	0	16		Conjoin. Lime mortar render. Flat surface has shallow striations - smoothing lines. Burnt daub attached to one side - may be post-depositional.
176	1450-1600	PM	2276	Peg	3	326	0	0	0	M	No features
176	1450-1600	M/PM	2271	Peg	3	125	0	0	0		1 round nail-hole, c. 15mm diam
177	1880-1950, most is 1480-1700	PM	3033	Brick	2	124	0	0	0	A, M	Flakes; flat faces, fairly sharp arrises; creased sides x 1. 17th c?
177	1880-1950, most is 1480-1700	PM	3039	Brick	1	48	0	0	0	M	Flake; flat faces and sharp arris. 17th c?
177	1880-1950, most is 1480-1700	PM	2276	Peg	12	1362	0	0	0	M	1 round and 1 polygonal nail-hole.
177	1880-1950, most is 1480-1700	M	2271	Peg	1	49	0	0	15	A	Thick grey core
177	1880-1950, most is 1480-1700	M/PM	2586	Peg	5	452	0	0	17	A, Rdx1	Part large round nail-hole (on thick tile, 16-17 mm.)

177	1880-1950, most is 1480-1700	M/PM	3090?	Peg	2	431	0	0	0	Mx1, S, Rd	
177	1880-1950, most is 1480-1700	M	2276	Peg	2	227	0	0	0		Square nail-holes, sides c. 10-11mm.
177	1880-1950, most is 1480-1700		A temp	Peg	3	251	0	0	0		
177	1880-1950, most is 1480-1700		B temp	Peg	4	380	0	0	0		
177	1880-1950, most is 1480-1700		3121	Slab	4	435	0	0	10		Fine-grained laminated sandstone. Paving or roofing?
177	1880-1950, most is 1480-1700		3121	Slab	0	0	0	0	12		Fine-grained laminated sandstone. Paving or roofing?
177	1880-1950, most is 1480-1700		3121	Slab	0	0	0	0	18		Fine-grained laminated sandstone. Paving or roofing?
177	1880-1950, most is 1480-1700		3121	Slab	0	0	0	0	22		Fine-grained laminated sandstone. Paving or roofing?
177	1880-1950, most is 1480-1700		?	?	1	10	0	0	0	M	Flake blackened ?shale
177	1880-1950, most is 1480-1700		?	Wall tile	1	14	0	0	8		Small fragment compression moulded tile; mottled reddish-brown matte glaze on surface.
177	1450-1600	M	2271	Peg	1	61	0	0	0	A	part 1 large circular nail-hole
177	1450-1600	PM	2276?	Peg?	1	90	0	0	0	A, M	Moulding sand slightly coarser than usual.
177	1450-1600	R	2459B?	Imbrex?	1	48	0	0	0	Rd, S	Not securely Roman - could be Pmed roof tile.
218	1180-1400, resid R	M	2271	Peg tile	1	15	0	0	0		Traces of yellow glaze on upper surface
218	1180-1400, resid R	R	3061?	Tegula	1	144	0	0	0	Rd, S, A	Tegula flange; external height c.49 mm. Sooted on external flange.

219	1200-1500	M	3090	Peg tile?	1	23	0	0	0	M, A	appears to have part of a finger-impressed tally mark on upper surface. Coarse moulding sand.
232	1750-1850	PM	3034	Brick	1	2254	215	102	64	M, S	Unfrogged, flat, lightly creased sides. Top and base obscured by off-white lime mortar. 18th c?
232	1750-1850	PM	3034/3035?	Brick	2	2411	228	105	65	M, Rd	Conjoin. Unfrogged; flat faces, sharp arrises.
233	1200-1900	M	1	Peg	1	38	0	0	0		Part ?round nail-hole.
233	1200-1900	R	1	Imbrex	1	321	0	0	0	Rd	
238	1400-1600	M	2271	Peg	3	62	0	0	0	A, Rd x 1	
238	1400-1600	M/PM	2271	Ridge?	1	36	0	0	10		Fairly fine moulding sand. Probably late med to early post-med
238	1400-1600	M	2587	Peg	1	70	0	0	0	Rd, S?	Stained with blackish concretion
238	1400-1600	M/PM?	3102	Bell mould	5	92	0	0	c.25	Rd, S	Very burnt daub; external convex surface reduced, internal surface totally black. Bell mould?
238	1400-1600	?	3102	Daub	1	8	0	0	0	Rd	Scrap coarse sandy daub with organics. I flat surface. (Packed with bell mould fragments)
242	1450-1900	PM	3500 (V)	Brick	1	157	0	0	0	V, Rd	Brick flake - completely black and vitrified.
244	50-160	R	2815	Tegula	1	442	0	0	0		Tegula fragment with flange - fresh breaks.
244	50-160	R	2815	Brick?	1	67	0	0	34	A	Flake. Reduced core.. Probably brick.
252	1480-1700?	PM?	3033?	Brick?	1	43	0	0	0	A	Very abraded flake, ID insecure. Could be R or post-R, though degree of abrasion suggests Pmed brick.
252	1480-1700?	PM?	3033?	Brick?	1	21	0	0	0	A	Very abraded flake, ID insecure. Could be R or post-R, though degree of abrasion suggests Pmed brick.
252	1480-1700?	?	?	Pebble	1	26	0	0	0	A	White quartzite pebble, broken.
257	50-160	R	2815	Imbrex?	1	55	0	0	0	A	Flake - ID insecure
257	50-160	R	2815	Tile	1	82	0	0	0	A, Ru?	Thin tegula or imbrex? Sanded side abraded so probably re-used
259	50-160	R	2815	Tegula	1	166	0	0	0	M	Tegula flange, square section. Blackish deposit on top and inner surface of flange.
259	50-160	R	2815	Brick?	1	74	0	0	35	Rd, M	Flake from edge of brick. Exterior reduced and/or sooted.
259	50-160	R	2815	Tessera	3	65	0	0	0	M, Rdx1	Coarse red tesserae, rather crudely formed. 1 has small section of single-arc signature mark - re-used tegula. All have white plaster on several faces.
259	50-160	R	3101	Mortar	1	12	0	0	0	A	Sandy lime mortar with pink tinge, probably from the rose quartz inclusions.
259	50-160	R	3105	Stone rubble	1	22	0	0	0		Scrap - no features or identifiable original surfaces.
262	1200-1600	M	2271	Peg	2	38	0	0	0		

267	1200-1600	M	2271	Peg	1	99	0	0	0		
268	1200-1500?	M	3102	Bell mould	13	649	0	0	0	S	Most is very burnt and blackened on concave surface. Two edge or rim fragments. Probably from bell mould. Cf. similar from 169.
268	1200-1500?	M	3102?	Daub?	1	62	0	0	0	V	Vitrified daub with traces of Ae corrosion on surface. Furnace waste?
269	1200-1500	M	2271	Peg	3	83	0	0	0	Rdx3, Sx2	1 has some shell in fabric - early date
271	1450-1700	PM	3033	Brick	1	89	0	0	0	A	Flake
271	1450-1700	M	2271	Peg	3	182	0	0	0		Splash glaze on 1 fragment
271	1450-1700	R	2815	Tegula	2	130	0	0	0	A	conjoin
271	1450-1700	R?	3118	Calc-tufa	1	13	0	0	0	A	Small fragment calc-tufa with attached sandy lime mortar
272	50-160	R	2815	Tegula	1	11	0	0	0		Flake from tegula flange
272	50-160	R	3103?	Mud brick?	1	71	62+	53+	29+	S, Rd	Burnt clay or daub. Has part of flat surface, sooted. Mud brick?
273	140-300	R	2453?	Imbrex	1	115	0	0	0		Light yellow surface skin. Rose quartz moulding sand.
276	1750-1850	PM	3035?	Brick	4	1053	230	94+	66	A, M	All conjoin. Shallow frog c. 145mm long (brick is fragmentary with parts missing. Flat, lightly creased sides; sharp arrises. Traces white lime mortar and harder yellow lime mortar.
276	1750-1850	PM	3033?	Brick	1	2483	232	110	69	Mx2, Ru, A	Unfrogged. Flat sides and base; sharp arrises. 2 lime mortars on flat surfaces: earlier is greyish with coarse flecks of white lime and carbonaceous material; later is finer, hard yellow.
277	50-160	R	2815	Imbrex	1	63	0	0	0	A, Ru?	Oddly shaped - diagonal cut, for re-use?
277	50-160	R	3023?	Imbrex	1	20	0	0	0	A	
278	1850-1960	PM	?	Floor tile	1	77	0	0	13	M	Part plain red quarry tile, compression moulded. Reverse is stampedDW/ 6 X 6
279	1650-1700	PM	3032	Brick	3	2098	233	102	68	Rd, V	Conjoin. Unfrogged; indented margin. Light creasing on base and sides. Over-fired/burnt, causing distortion and bloating.
279	1650-1700	PM	3033	Brick	1	1013	110+	111	64	M, A	Unfrogged; flat, lightly creased sides and base. Coarse off-white ;lime mortar on top and base. Upper arrises and surface abraded.
279	1650-1700	PM	3032	Brick	1	837	95+	106	65	M, V, Rd	Unfrogged - trace indented margin.
280	1480-1800	M	2271	Peg	1	77	0	0	0	A	
280	1480-1800	PM	2276	Peg	1	67	0	0	0		
280	1480-1800	?	3105	Stone rubble	1	223	0	0	0	A	Decayed Kentish Ragstone rubble; no worked surfaces
281	1480-1800	PM	3033	Brick	1	130	0	0	59	M	Flat faces and sharp arrises. Probably 17th c.

281	1480-1800	M	2271	Peg	4	88	0	0	0	A	
281	1480-1800	PM	2276	Peg	9	406	0	0	0	M x 2	part 1 polygonal nail-hole
281	1480-1800	?	3105	Stone rubble	1	81	0	0	0	A	Flake Kentish Ragstone, 2 roughly worked faces
281	1480-1800	M?	3112	Flake	1	66	0	0	0	Rd	Purbeck Marble, burnt flake
281	1480-1800	?	3108?	Block	1	196	0	0	0	A	Medium-grained laminated sandstone?; worked with 1 smooth, flat face. Trace of possible carved decoration on a second face.
281	1480-1800	?	3133?	Flake	1	34	0	0	0		Black shale or slate or black limestone? 1 smooth surface.
281	1480-1800	M/PM	3119?	Block	1	29	0	0	0		Flake, Caen Stone? 1 face flat, the other with tooling marks.
282	1480-1700	PM	3033	Brick	1	358	0	0	53	Rd, M	Unfrogged. Lightly creased sides and base. Top burnt. 17th c?
282	1480-1700	PM	2276	Peg	8	1238	0	0	0	Rd, M	1 circular nail-hole; 2 polygonal nail-holes
282	1480-1700	M	2271	Peg	7	635	0	0	0	A, Rd	1 round tapering nail-hole, 2 polygonal. Splash glaze x 2
282	1480-1700	M/PM	V	Peg	1	77	0	0	0	Rd, S	
282	1480-1700	M	2271	Ridge	1	55	0	0	0		Splash glaze
282	1480-1700	PM	2276?	Peg	2	200	0	0	0		
282	1480-1700	?	3116	Stone rubble	1	37	0	0	0	A	Abraded chalk fragment with 2 small holes c. 3mm diameter ?bored into it
282	1480-1700	?	3105	Slab	1	125	0	0	22-25		Decayed Kentish Ragstone. 1 possible worked surface, slight convex curve.
288	1860-1920?	PM	?	Hearth tile	1	1157	151	150	24		3-colour glazed; 4-leafed foliate motifs in yellow either on white ground or within dark brown, yellow-bordered roundels. Reverse stamped MINTON 7 CO/ PATENT/ STOKE UPON TRENT, with date stamp E? D over 25 circular holes. Sandwich construction - sandy red clay sandwiched between two thinner layers of fine yellow clay. Made in month of December. Year stamp difficult to ID - possibly badly stamped rectilinear G for 1868.
288	1860-1920?	PM	?	Wall or heart tile	1	373	127+	112+	11	M	White glaze on white compressed dust fabric. Edges transfer decorated in brown - white ivy leaves on brown band with crossed straps. Original length of longer edge may have been c.220 mm.
289	1650-1850	PM	3032	Brick	2	1720	228	c. 100	65	A, Rd, V, M	Conjoin. Unfrogged. Misshapen - very burnt/overfired. 1 surface, possibly the base, worn smooth - flooring brick. Other face is burnt, distorted and has traces of mortar.
289	1650-1850	PM	3034/3039	Brick	1	2019	220	106	61	Rd, H	Unfrogged. Distorted by vitrification. Lightly creased sides. 17th c?

292	50-160	R	2815	Brick	2	490	0	0	40		part single arc signature mark
292	50-160	R	2815	Brick	0	0	0	0	33?	A, Ru x 1	Very worn on base - re-used as cobble?
294	1480-1700	PM	3033	Brick	1	188	0	0	56	A, M	Flake, unfrogged
294	1480-1700	PM	2276	Peg	3	472	0	0	0	S x 1	Sooted tile has 1 circular nail-hole 11mm diameter.
295	1200-1500	M/PM	2271	Ridge?	1	26	0	0	0		
295	1200-1500	M	2271	Peg	2	174	0	0	0	M x 1	Spot of glaze on 1 fragment
295	1200-1500	R	2815	Tegula?	1	54	0	0	0	A	Very abraded - tegula or brick
299	1450-1600	R	2459B	Brick	1	865	0	0	43	M, A, Rd, Ru	Mortar on base and top. Top slightly reduced and wear-abraded - re-used?
299	1450-1600	M/PM	2271	Peg	1	118	0	0	0		
299	1450-1600	PM	2276	Peg	3	316	0	0	0	Mx1, Rdx1	
301	1450-1800	M	2271	Peg	1	93	0	0	0	M, Rd	
301	1450-1800	PM	2276	Peg	2	285	0	0	0	Rdx2, Mx1	
301	1450-1800	PM	?	Floor tile	1	84	65+	49+	31+	A	Top surface missing. Knife-cut bevel. No corners.
303	1450-1800	PM	2276	Peg	1	248	0	0	0	M, S	
303	1450-1800	?	glass?	Glass?	2	50	0	0	0		2 frags blue and dark red vitrified material with conchoidal fracture - glass waste?
304	1330-1380?	M	Penn?	Floor tile	1	134	64+	57+	22	A, Rd, V	Worn, 2-colour decorated floor tile. Penn design - check? Dates are for Penn tile.
309	1200-1600	M	2271	Peg	1	18	0	0	0		
309	1200-1600	R?	2815?	Tile	1	12	0	0	0	A	Small abraded scrap. Not securely Roman
311	1750-1850	PM	3035	Brick	1	2375	230	110	64	M	Shallow frog, ? X c.60 x <16mm deep (1 end mortared). Flat faces; sharp arrises. With coarse yellow gritty mortar.
311	1750-1850	PM	3035	Brick	1	2832	223-230	110	64	M, V	Shallow frog, mostly obscured by coarse yellow mortar. Flat faces and sharp arrises, with horizontal cracking on 1 stretcher due to vitrification.

APPENDIX V: POST-ROMAN POTTERY by Paul Blinkhorn

The pottery assemblage comprised 404 sherds with a total weight of 13,506g. It was recorded using the conventions of the Museum of London Type-Series (eg. Vince 1985), as follows:

BORDY:	Yellow-glazed Border Ware , 1550-1700. 10 sherds, 223g.
BORDG:	Green-Glazed Border Ware , 1550-1700. 5 sherds, 163g.
BORDB:	Brown-glazed Border Ware , 1620 – 1700. 1 sherd, 52g.
CBW:	Coarse Border Ware , 1270 – 1500. 16 sherds, 231g.
CHPO:	Chinese Porcelain , 1580 -1900. 3 sherds, 77g.
CREA:	Creamware , 1740-1830. 3 sherds, 18g.
EMS:	Early Medieval Sandy Ware , 970 – 1100. 1 sherd, 7g.
FREC:	Frechen Stoneware , 1550 – 1700. 2 sherds, 87g.
HORT:	Horticultural Earthenwares , 19 th – 20 th century. 9 sherds, 116g.
KING:	Kingston-type Ware , 1230–1400. 8 sherds, 57g.
LMSR:	Late Medieval Sandy Transitional Redware , 1480-1600. 33 sherds, 533g.
LOND:	London-type Ware , 1080-1350. 11 sherds, 71g.
LONS:	London Stoneware , 1670 – 1900. 39 sherds, 3654g.
MPUR:	Midland Purple Ware , 1480 – 1750. 9 sherds, 2051g.
PMR:	Post-medieval Redware , 1580 – 1900. 47 sherds, 2790g.
RAER:	Raeren Stoneware , 1480 – 1610. 3 sherds, 40g.
REFW:	Refined Whiteware , 1800-1900. 34 sherds, 478g.
SHER:	South Hertfordshire-type Greyware , 1170-1350. 1 sherd, 5g.
SIEG:	Siegburg Stoneware , 1300-1500. 3 sherds, 29g.
SSW:	Sandy-Shelly Ware , 1140 – 1200. 1 sherd, 11g.
STSL:	Staffordshire Slipware , 1650 – 1800. 2 sherds, 1066g.
SWSG:	Staffordshire White Salt-Glazed Stoneware , 1720-1780. 9 sherds, 61g.
TGW:	English Tin-Glazed Ware , 1600-1800. 15 sherds, 140g.
TPW:	Transfer-printed Whiteware , 1830-1900. 99 sherds, 1062g.
TUDG:	‘Tudor Green’ Ware , 1350 – 1500. 3 sherds, 17g.
WEST:	Westerwald-type Stoneware , 1590-1800. 2 sherds, 41g.
YELL:	Yellow Ware , 1840-1900. 18 sherds, 394g.

In addition, 18 sherds of Romano-British material (208g) were also noted, see Appendix VI. The pottery occurrence by number and weight of sherds per context by fabric type is shown in Tables 2 and 3. Each date should be regarded as a *terminus post quem*. The range of fabric types is typical of sites in the London area.

Many of the contexts are of modern date, but a high proportion of those have residual material present. The medieval material generally suggests that there has been continual activity at the site from the earlier medieval period onwards. Most of the London Ware is fragments of imitation North French jugs, suggesting a date of the 13th century for it (Pearce et al 1985, pl. 6). London Ware jugs with earlier decorative schemes were not noted, suggesting that there was little activity in the area before the 13th century, other than the Roman material.

The range of post-medieval wares is very typical of sites in the City, and indicates a large domestic pattern of activity, with a combination of utilitarian earthenwares and better quality table wares.

Most of the 18th century and later material comprises domestic pottery. A complete stoneware bottle from context 288 is stamped “T. Wood Hackney Road Ginger Beer” (fig.96). An advertising poster for the company, which specialised in mineral waters, is in the British Library (Pressmark: Evan. 4303) and is dated to c.1885. It states that the company at that time had been “*Established upwards of half a century*”. Two further complete bottles and one missing its neck, along with a small jug missing its handle, occurred in context 275 (fig.97). One of the bottles was stamped “Metcalf” and the jug “W Ward Colourman Chandois Street” (*sic*). The latter sold artists’ supplies in Chandos Street in Covent Garden between 1773 and 1788. In addition to the pottery, a fragment of a tin-glazed wall-tile occurred in context 80.



Figure 96: Stoneware Ginger Beer bottle recovered from context (288).
Scale 10cm.



Figure 97: Assemblage of stoneware bottles recovered from context (275). Scale 10cm.



Figure 98: Domestic vessels from context (123). Scale 10cm.



Figure 99: Modern plates found stacked on the shelf in coal cellar [117]. Scale 10cm.



Figure 100: Post-medieval pottery from context (242), including a fragment of Westerwald-type stoneware (1590-1800) (centre). Scale 10cm.

Table 2: Pottery occurrence by number and weight (in g) of sherds per context by fabric type, pre-18th century contexts

	RB		EMS		SSW		LOND		SHER		KING		CBW		SIEG		TUDG		LMSR		RAER		PMR		BORDY		BORDG		BORD B		FREC		TGW		
Cnt xt	N o	Wt	N o	W t	N o	W t	N o	W t	N o	W t	N o	W t	N o	Wt	N o	W t	N o	W t	N o	Wt	N o	W t	N o	Wt	N o	Wt	N o	Wt	N o	W t	N o	W t	N o	W t	Date
38	5	36																																	RB
125	2	17																																	RB
146																	1	7																M14th C	
165																							2	80	1	35	2	10 9							M16th C
169																						1	2	1	5			1	52					E17th C	
171	1	7											3	37					2	10 1						3	54							M16th C	
177	1	21																				2	29											M16th C	
245																														1	44			M16th C	
269								1	5																									M13th C	
280																							5	71	4	73								M16th C	
281	4	67						1	3	1	5			3	24	1	3	2	10	11	10 2	1	5	2	13									M16th C	
282														1	30	1	19			2	49													L15th C	
292			1	7																1	6													L15th C	
294	1	26						2	19			2	15	6	13 3					9	20 4	2	35	5	32 6									M16th C	
295						1	11	2	14			4	31	1	4								4	10 6										M16th C	
299																				3	38													L15th C	
303																														1	43	1	3	17thC	
304																																1	1	17thC	
305																				2	17													L15th C	
309								1	9			1	5																					M13th C	
	14	17 4	1	7	1	11	7	50	1	5	7	51	14	22 8	2	22	3	17	30	51 7	3	40	21	62 7	6	11 3	5	16 3	1	52	2	87	2	4	

Table 3: Pottery occurrence by number and weight (in g) of sherds per context by fabric type, 18th century and later contexts

	RB		MED		PMR		BORDY		WEST		TGW		STSL		CHPO		LONS		MPUR		SWSG		CREA		HORT		REFW		YELL		TPW		
Cntx t	N o	W t	N o	W t	N o	Wt	N o	Wt	N o	W t	N o	Wt	N o	Wt	N o	W t	N o	Wt	N o	Wt	N o	W t	N o	Wt	N o	Wt	N o	Wt	N o	Wt	N o	Wt	Date
48																									2	18							MOD
52					1	96															1	8									2	38	MOD
54																									1	3							MOD
57																															2	15	MOD
63					1	17																					1	47			1	2	MOD
67					1	19																					2	12			4	14	MOD
80	1	4	1	2	1	56					1	13			2	49							1	6	1	11	1	3			5	115	MOD
81			2	10	1	3			1	1	3	12			1	28							1	4			1	6			1	4	MOD
97	1	15																													1	1	MOD
103																	2	267			1	6			1	8	1	14	1	3	6	35	MOD
108					2	20					5	7					10	757			1	7	1	8	1	7	9	10 3	4	76	16	125	MOD
123					3	127 6											15	133 1	7	150 4					1	42	12	20 7	11	29 7	36	516	MOD
127	1	7																													1	7	MOD
128																															1	34	MOD
148																											3	33			1	1	MOD
149											1	4																			5	49	MOD
152			1	2																	1	2											E18th C
153	1	8	1	9	1	12					1	2																			2	7	MOD
168					1	8																									2	10	MOD
213			2	13							1	1					3	294							2	27	1	9	1	5	6	45	MOD
233			2	13	4	61											2	29			4	23					2	18	1	13	7	44	MOD
242			2	4	9	579	4	11 0	1	40	2	22	2	106 6			1	128	2	547													MOD
243					1	16											1	22															MOD
275																	4	343															L18th C
278											1	79																1	26				MOD
288																	1	483			1	15											MOD
	4	34	11	53	26	216 3	4	11 0	2	41	15	14 0	2	106 6	3	77	39	365 4	9	205 1	9	61	3	18	9	11 6	34	47 8	18	39 4	99	106 2	

APPENDIX VI: ROMAN POTTERY by Heidi Archer

Discussion

A total of 94 fragments from 25 different contexts were recovered from the groundworks, with a total weight of 1886g. The assemblage comprised both coarse and fine wares, Romano-British and imported 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 wares, primarily grey ware and black burnished wares, with a smaller quantity of fine wares and amphora. Almost all of the sherds displayed degrees of ware consistent with being in the ground for a considerable period of time, particularly those recovered from later contexts, indicating they have been moved / knocked about. The sherds recovered from primary, *in-situ* contexts displayed a lesser degree of wear. Broadly, the assemblage covers the entire Roman period from the 1st to 4th century AD, with a potential peak around the 1st to 2nd century.

Table 4: Roman pottery count by fabric

Fabric	Sherd count
Amphora	4
Black burnished ware	19
Buff sandy ware	1
Coarse ware	1
Coarse sandy ware	4
Colour coated ware	4
Grey ware	32
London Ware style	1
Oxfordshire red slipped ware	3
Pompeian Red ware	1
Samian ware	13
Unknown	1
Verulamium region white slipped ware	3
Verulamium region white ware	6
White ware	1
	94

The majority of the assemblage comprised coarse wares, typical of domestic vessels used for storage, food preparation and dining. Grey ware, often encountered in Roman deposits included examples produced at the Alice Holt / Farnham kilns, which was distributed across the London region during the 1st and 2nd centuries, with a second peak during the late-3rd century. A small number of amphora fragments were recovered, in a variety of forms and fabrics, suggesting they most likely held different produce. A fragment of amphora type Dressel 20 in a Baetican fabric recovered from context (233) in particular is likely to have held olive oil, based on its globular shape and watertight fabric.

Table 5: Vessel type by sherd count

Vessel type	Sherd count
enclosed vessel	1
mortarium	1
platter	1
storage/cooking vessel	2
decorated bowl	2
flagon	2
amphora	4
beaker	5
dish	6
cup	6
jar	12
bowl or dish	17
unknown	35
	94

Of the unknown vessel types, the majority are likely to be food preparation and storage vessels, such as bowls, dishes or jars, but were only represented by small inconclusive wall fragments.

Smaller quantities of fine wares were recovered from both primary and secondary deposits, with samian ware occurring most frequently. Analysis of the samian ware in particular suggests a date of the 1st to 2nd century for much of the material, with the mid to late-1st century also being represented. As *Londinium* was a major settlement from this period onwards, it is hardly surprising that such fine ware was being traded during this early stage of development.

Only one vessel, a samian ware cup, displayed traces of repair or reuse. The upper part of the wall and rim was missing, with a neat edge suggesting it was intentionally cut and finished. The vessel was stamped with a random collection of I's and A's indicating it was produced by an illiterate potter (or in the workshop of said potter).

The assemblage is consistent with those recorded elsewhere in the vicinity (*cf* Birchin Lane (Compass Archaeology 2015) & Middlesex Street (Compass Archaeology 2017)) and represents the general domestic life of the local population. The mixture of Romano-British and imported wares reflects the socio-economic and cultural environment existing in *Londinium*, with the presence of amphora and fine wares in particular being implicit of the trade, distribution and communication networks existing across the Roman empire.

Recommendations

It is not envisaged that further work will be necessary on the assemblage. It is recommended that the samian cup be illustrated in any forthcoming publications to further samian research and enable parallels to be identified.

Catalogue

(38)

1. Black burnished ware. Fragment of rim and neck from a cooking pot or jar. Weight 20g.
2. Grey ware. Small fragment from a thin walled vessel, possibly a beaker. 1st – 4th century. Weight 2g.
3. White ware. Probably Verulamium region. Fragment from a thin walled vessel, such as Type IIK – two handled ‘honey pot’. 1st – 2nd century. Weight 1g.
4. Oxfordshire red slipped ware. Fragment of wall/base junction with two bands of external rouletting on the wall and base. Shallow dish or platter. 3rd – 4th century. 8g.
5. Oxfordshire red slipped ware. Small fragment of wall. Grey core. Interior surface slightly worn. 3rd- 4th century. Weight 1g.

(67)

6. Grey ware. Fragment of rim and wall from a jar. Light grey smooth, burnished exterior. 1st- 2nd century. Weight 14g.

(80)

7. Samian ware. Indeterminate. SG or EG thin walled vessel, possibly enclosed. 1st to early-3rd century. Weight 4g.
8. Samian ware. CG 18R dish. Rim, wall and basal fragment of a chunky vessel. AD120-200. Weight 32g.
9. Verulamium region white ware. 3 fragments. 1st – 2nd century. Weight 28g.
10. Verulamium region white slipped ware. Body fragment. Grey to pink sandwich effect fabric with traces of a crème – white slip on the exterior surface. Some iron accretion. 1st – 2nd century. Weight 16g.
11. Colour coated ware. Small body fragment. Mid to dark grey interior with pink exterior and brownish mottled slip. 1st-4th century. Weight 8g.
12. Grey ware. Wall/base junction of a dish or similar. 1st – 4th century. Weight 6g.

(81)

13. Pompeian Red Ware. Fragment of wall/base junction from a platter. Two rouletted circles visible on base. 1st century. Weight 6g.
14. Samian ware. SG 27, cup. Very small fragment of upper wall. Some accretion adhering to external surface. 70-110AD. Weight 1g.
15. Coarse grey ware. 2 fragments from two vessels. 1st – 4th century. Weight 18g.
16. Black Burnished ware. Wall fragment from a relatively thin walled vessel. Narrow lattice pattern. 2nd- 4th century. Weight 8g.

17. Grey ware. 2 fragments from two vessels – straight sided dishes. Fairly rough finish. 1st – 3rd century. Weight 32g.
18. Grey ware. Fragment of heavy rim from a bowl or dish. Taken to be grey ware rather than BB ware. 3rd – 4th century. Weight 18g.
19. Colour coated ware. Burnt fragment of rim. Dark grey interior with pale buff orange exterior and very faint traces of a colour-coat / slip on top of the rim. 1st – 4th century. Weight 4g.
20. Coarse ware. 2 small fragments of unidentified coarse ware. 1st – 4th centuries. Weight 3g.

(97)

21. Black Burnished ware. Wall fragment from a jar or dish with rough lattice design. 2nd – 3rd century. Weight 24g.
22. Buff sandy ware. Large fragment of wall/base junction, probably from a jar. 1st – 4th century. Weight 22g.

(103)

23. Verulamium region white ware. Possibly a wall sherd in Verulamium fabric. 1st – 2nd century. 12g.
24. Colour coated ware. Base of a beaker or similar vessel. Bright orange coarse fabric with an orange interior and brown-black exterior. Fingerprint marks can be seen on the side. Round disc, possibly deliberately cut to be used as a large counter or disc. 1st – 4th century. Weight 36g.

(108)

25. Samian ware. EG cup of indeterminate form. Fragment of lower wall and base with a well-defined stepping on the internal surface. Neat break at the top, possibly cut or finished. Smoked spots. 2nd – 3rd century. Weight 10g.

(123)

26. Grey ware. Three fragments from three separate vessels. 2 wall fragments and 1 rim from a beaker. Taken to be from different kiln sites. 1st – 4th century. Weight 28g.
27. Coarse sandy wares. 2 fragments from 2 separate vessels. One small, thin walled vessel and one chunkier, but neat rim and neck fragment. Weight 24g. 1st – 2nd century.
28. Samian ware. SG 37, decorated bowl. Basal fragment showing the foot of a human figure to right of chunky border. Slightly battered. Taken to be SG rather than CG. Weight 14g. AD70-110.

(125)

29. Samian ware. SG 27, cup. Over 50% of the vessel including footring, base and lower wall. Upper part of the wall and rim is missing, with a neat edge suggesting it has been intentionally cut and shaped. Footring shows little wear, fingerprints in centre of base. Illiterate stamp on base reading [IIIIAIIII]. Footring measures 55% at a diameter of 3cm. AD70-110. Weight 76g.

30. Samian ware. SG 30, decorated bowl. Decorated fragment of wall. Panelled decoration; saltire motif to left of border A31 and Diana and a hare. AD80- 100. Weight 10g.
31. Grey ware. Highly micaceous surface. Reduced surface with pink buff interior. Probably from a larger vessel such as a bowl or dish. Possibly BB ware. 1st – 4th century. Weight 16g.
32. Grey ware. Small fragment of a thin walled vessel, possibly a beaker. Burnished, micaceous exterior. Possibly a fragment of potty headed beaker or similar. Late 1st to late 2nd century. Weight 2g.
33. Black Burnished ware. 4 tiny flakes. 2nd – 4th century. Weight 1g.
34. Black Burnished ware. Five wall fragments from five vessels. All latticed. Different fabrics, one in particular is heavily laminated. 1st – 3rd century. Weight 44g.
35. Grey ware. 2 fragments from a dish. Indented lattice decoration radiating outwards from the base. Very soft sandwich texture. Possibly burnt BB ware or grey ware. 1st – 4th century. Weight 20g.
36. Grey ware. 2 fragments of wall from 2 vessels. Dark grey rough exterior with very pale pink/white gritty interiors. 1st-2nd century. Weight 14g.
37. Black Burnished ware. 1 wall fragment from a jar. Mid grey to brown sandwich effect fabric with relatively light grey surface. Two faint wavy lines are visible spanning the exterior. 2nd – 3rd century. Weight 22g.
38. Grey ware. Rim, neck and body of a good quality jar. Bands of burnishing present creating a metallic silver finish. Probably from the Alice Holt/Farnham kilns, although a variant of the North Gaulish typology may be possible. 1st – 2nd century. Weight 30g.
39. Black Burnished ware. Rim and neck of a storage jar of cooking pot, Type 12 or similar. Iron staining/accretion on all surfaces. 2nd-4th century. Weight 18g.
40. Black Burnished ware. Body fragment from a jar/pot. 2nd – 4th century. Weight 28g.
41. Grey ware. Rim and neck of a jar or dish. Narrow neck. 1st – 4th century. 12g.
42. Grey ware. Body fragment from a chunky wheel-thrown vessel, possibly a dish. Prominent rilling on interior. 1st – 4th century. Weight 32g.
43. Verulamium region white slipped ware. Top and neck of a flagon, handle missing. Type IB7 – ring-necked flagon. 1st – 2nd century. Weight 60g.
44. Verulamium white ware. Basal fragment from a wide vessel, such as a two handled flagon (Type IE or similar). 1st – 2nd century. Weight 18g.
45. Samian ware, SG 27, cup. Small fragment of rim. 70-110AD. Weight 2g.
46. Colour coated ware. Complete base and partial body of a large vessel. Orange-pink buff fabric with whitish edge and brownish mottled colour coat finish. Large drop of spilt orange slip on interior. Possibly Nene Valley. 100% of the foot at a diameter of 5cm. 2nd – 4th century. Weight 116g.

(127)

- 47. Black Burnished Ware. Large wall fragment from a jar with typical burnished lattice decoration. 2nd – 4th century. Weight 28g.
- 48. Grey ware. Small fragment of a thin walled vessel, possibly from a poppy headed beaker, similar to that found in context (125), Late 1st to late 2nd century. Weight 2g.
- 49. Coarse ware. Possibly a very light variant of the Alice Holt/Farnham greyware type. Light grey fabric with darker grey interior and pale grey/buff mottled exterior. Wall fragment of a relatively large vessel, such as a jar. 1st – 4th century. Weight 32g.

(148)

- 50. Black Burnished Ware. Small wall fragment from a thin walled vessel, with typical burnished lattice decoration. Soft fabric. 2nd-4th century. Weight 3g.

(152)

- 51. Black Burnished Ware. Fragment of wall from a straight sided vessel. No latticing. 2nd -4th century. Weight 18g.
- 52. Grey ware. Possible small fragment of Roman pottery. 1st-4th century .Weight 1g.

(153)

- 53. Verulamium region coarse white slipped ware. Fragment of wall. Light grey interior with buff pink margins and white slip on exterior. Wheel-thrown. Later 1st – 2nd century. Weight 10g.

(171)

- 54. Verulamium region white ware? Large fragment of flanged rim. Taken to be from a mortaria type such as IVB1. Whitish pink granular fabric. Minute trace of slip? may however suggest a later typology. Weight 26g.

(177)

- 55. Oxfordshire red/brown slipped ware. Fragment of flange with white painted decoration. Based on the relatively narrow flange, type C51.5, or similar, is suggested. 3rd – 4th century. Weight 20g.

(233)

- 56. Amphora, Type Dressel 20. Large fragment of thick walled amphora in a Baetican fabric (BAT AM 1). These type of amphorae (Peacock and Williams Class 25) were globular in shape and held on average 60 – 65 litres, principally carrying olive oil. The fabric would suggest it is an earlier example, dating from the Claudian period to AD260, with a peak in the Antonine Period (Williams and Peacock 1983). Weight 508g.

(244)

- 57. Samian. SG 27, cup. Very small fragment of wall. Taken to be a 27 but could be 15/17. Weight <1g. AD 60-110.
- 58. Grey ware. 2 sherds of Alice Holt/Farnham ware. 1 basal sherd of a flat-based dish or bowl, weight 12g. 1 x Rim fragment from a small jar, weight 8g. 1st – 4th century.

59. Grey ware. Unknown origin. Black exterior with a pink to grey sandwich core and lighter grey interior surface. Weight 8g. 1st-4th century.

60. Amphora, type unknown – possibly Peacock and Williams Class 16. 2 adjoining wall fragments from a relatively thin walled, straight sided vessel. Crème to pinkish buff fabric. Weight 136g.

(245)

61. Samian ware. SG 18, dish. Basal fragment. Very hard, good fabric Yellow flecks. Some large mica flecks visible in slip. Weight 10g. AD80-110.

(252)

62. Black Burnished Ware. Fragment of plain rimmed dish. Weight 16g. 3rd – 4th century.

63. Grey ware. Basal fragment from a small flat bottomed bowl with a diameter of c6-8cm. Weight 16g. 1st – 4th century.

64. ‘London Ware’ style. Fragment of wall from an enclosed vessel or bowl with rouletting. Weight 4g. 2nd century.

(259)

65. Grey ware. Small wall fragment. Weight 2g. 1st – 4th century.

66. Unknown. Grey ware? Reduced interior with a pale buff exterior. Weight 4g.

(271)

67. Samian ware. CG bowl or dish. Fragment of foot and base. 2 adjoining sherds. Micaceous. Large inclusions, heavily flecked with yellow. High base. Foot well worn. Flat base. Weight 24g. AD120-200.

68. Grey ware. Wall fragment. Taken to be early Alice Holt/Farnham ware. Weight 6g. 1st – 2nd century.

(273)

69. Grey ware. Small fragment from an unidentified vessel. Weight 4g. 1st – 4th century.

(281)

70. Samian ware. SG 27, cup. Small fragment of rim and upper wall. Weight 2g. AD70-110.

71. Amphora. Chunky walled vessel in a coarse sandy fabric. Possibly Baetican. Weight 44g. 1st – 4th century.

(283)

72. Grey ware. Wall and rim fragment of a flanged bowl, cf. Alice Holt/Farnham Type 15 5B. Pale grey fabric with a heavily abraded mottled pale to mid-grey slip. Weight 24g. 1st – 2nd century.

(309)

73. Two fragments of grey ware. Wall fragments from separate vessels. Weight 8g. 1st – 3th century.



Figure 101: Fragments of Roman pottery recovered from context (80), including grey ware (bottom left), samian (centre) and Verulamium Region white ware (right). Scale 10cm.



Figure 102: An assortment of grey wares from context (81). Scale 10cm.



Figure 103: Fragment of a rouletted dish from context (81). Scale 10cm.



Figure 104: Base (interior and exterior) of a colour coated beaker from context (103). Its shape suggests it has been cut down and reused as a counter. Scale 10cm.



Figure 105: fragment of decorated samian from context (125), showing Diana holding a hare (left). Scale 10cm.



Figure 106: Samian cup from context (125), stamped by an illiterate potter. The lack of upper wall and rim indicates the vessel was cut down and reused. Scale 10cm.



Figure 107: Assortment of wares and vessels recovered from context (125). Scale 10cm.



Figure 108: Fragment of Oxfordshire red/brown slipped ware from a flanged vessel, context (177). Scale 10cm.

APPENDIX VII: ANIMAL BONE *by Miranda Fulbright*

Method

The assemblage of animal bone that was recovered during the Aldgate highway changes groundworks was composed of 185 whole and fragmented bones excavated from 26 contexts. The animal bones were assessed by direct observation and the following characteristics were recorded where possible: context, species, bone, side, fusion, fragmentation. Any further observations including butchery marks were also recorded.

Discussion

Due to the fairly poor state of preservation, many of the bones were fragmented or otherwise uncategorised and were classified as medium, small or large mammal. A sample of the speciated bone has been selected, comprising 94 fragments and whole bone. Cattle were the most commonly represented species in the sample, making up 50% of the assemblage, followed by sheep making up 43%, domestic fowl representing 4% and pig, 3%. The majority of the uncategorised bone was identified as medium mammal, and following the trend seen across the site were most likely sheep. The assemblage was fairly similarly composed across the different contexts on-site, with no obvious grouping by species or bone element present.

20% of the bones displayed butchery marks in the form of scrapes, cuts and chops, and many more were potentially cut at one or both ends. This, and the fact that the assemblage is made from domestic food animals indicates the assemblage is a result of food production processes and subsequent disposal, rather than natural death. The lack of wild species also confirms this. 82% of bones where fusion rates could be identified (70 fragments) were fused, indicating the majority of animals were adults at time of death.

Three items of worked bone were recovered, from three different contexts.

Context (108) was a general backfill in the drainage for the church. The worked bone comprised a ring, sawn from the shaft of an unidentified long bone (fig.109). It measured 15mm wide with an exterior diameter of 32mm and an internal diameter of 20mm. Its use has not been identified.

Context (282) was visible in drop shaft 5, and comprised an early post-medieval fill of an extraction pit. The worked bone example was made from an unidentified bone from an unknown species. The bone was unidentifiable because it had been carved down into the shape of an awl or similar (fig.110). The bone measured 143mm long and 17mm wide at one end, tapering to 3.5mm at the other end. A hole was bored through the bone at the wider end. It was been interpreted as a potential awl or tool for knotting fishing nets. The hole may have been threaded in order to sew or knot together thick materials where the perforation was already present. The bone was not sharp enough to pierce anything substantial.

Context (303) was visible in drop shaft 8, and comprised an early-post medieval general made-ground backfill. The worked bone example was made from a cow metapodial. It is random in shape and seems to have been used for carving practice. The proximal end of shaft is shaped into rough square with 2/3 vertical cut marks on each face. At the base of the squared portion are horizontal cut marks of varying thickness. The distal end of the bone remains generally unmodified, though it has been narrowed (fig.111).



Figure 109: Worked bone from context (108). Scale 10cm.



Figure 110: Worked bone from context (282). Scale 10cm.



Figure 111: Worked bone from context (303). Front view (left), right side view (top right) and left side view (bottom right). Scale 10cm.

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Catalogue

Key for in-table text:

L= left

R= right

UO= un-observable

UI= unidentified

Table 6: Animal remains by context

Context	Species	Bone	Fragmentation	Side	Fusion	Comments
D/S 2 (252)	UI medium mammal	UI long bone	Fragment	UO	UO	-
D/S 2 (259)	UI medium mammal	Rib	Head and partial shaft	-	Fused	-
D/S 2 (261)	Bos	Mandible	Partial	R	Fused	PM4 & M1
D/S 2 (261)	UI medium mammal	UI bone	2x fragments	UO	UO	-
D/S 3 (267)	UI small mammal	UI long bone	Shaft fragment	UO	UO	-
D/S 3 (269)	Bos	Rib	Shaft fragment	UO	UO	-
D/S 5 (280)	UI medium mammal	Vertebra	2x fragments	-	Fused	Possibly atlas/axis. Butchery marks
D/S 5 (280)	UI medium mammal	UI flat bone	Shaft fragment	-	UO	-
D/S 5 (280)	UI medium mammal	UI long bone	Shaft fragment	-	UO	Possible metatarsal/carpal or tibia
D/S 5 (281)	Bos	Rib	Partial shaft	-	UO	-
D/S 5 (281)	Bos	Phalanx 3	Complete	-	Fused	-
D/S 5 (281)	Ovis	Tibia	Fragment prox. head and partial shaft	L	UO	Some cut marks on shaft
D/S 5 (281)	Ovis	Tibia	Distal end and partial shaft	R	Fused	-
D/S 5 (281)	Ovis	Tibia	Distal end and partial shaft	L	Fused	-
D/S 5 (281)	Ovis	Humerus	Distal end and partial shaft	L	Fused	-
D/S 5 (281)	Ovis	Tooth	Complete	UO	-	M1
D/S 5 (281)	Ovis	Metapodial	Distal end	UO	Unfused	-
D/S 5 (281)	Ovis	Femur	Distal epiphysis	UO	Unfused	-
D/S 5 (281)	UI small mammal	Femur	Proximal end and partial shaft	UO	Unfused	Several cut marks on shaft
D/S 5 (281)	Bos	Radius	Distal end	UO	Partially fused	-
D/S 5 (281)	UI small mammal	Humerus	Distal end and partial shaft	UO	Unfused	-
D/S 5 (281)	Ovis	Rib	Head and partial shaft	R	Fused	-
D/S 5 (281)	UI large mammal	UI bone	Fragment	-	UO	-
D/S 5 (281)	UI medium mammal	UI bone	Fragment	UO	UO	-

D/S 5 (281)	Bird	UI long bone	Partial shaft	UO	UO	-
D/S 5 (282)	Ovis	Metatarsal	Proximal head and partial shaft	L	Fused	-
D/S 5 (282)	Ovis	Humerus	Distal end and partial shaft	L	Fused	-
D/S 5 (282)	Bos	Pelvis	Fragment	UO	Unfused	-
D/S 5 (282)	Bos	Pelvis	Fragment	UO	UO	Some micro and macro porosity and new bone growth over one face
D/S 5 (282)	Bos	Vertebra	Fragment	-	UO	-
D/S 5 (282)	UI medium mammal	UI worked bone	Complete	-	-	Worked bone in the shape of an awl or similar. Hole bored through wider end, potentially for knotting nets or sewing hefty materials with holes pre-bored. 143mm long, 17 mm wide tapering to 3.5mm. Pictures.
D/S 5 (283)	Bos	Tooth	Complete	-	-	Maxilla, PM4 or M1
D/S 5 (283)	UI medium mammal	UI bone	Fragment	-	-	-
D/S 6 (276)	UI medium mammal	UI bone	Fragment	-	-	-
D/S 7 (294)	Bos	Cranium	Fragment	-	Fused	Fragment of skull and horn core
D/S 7 (294)	Bos	Rib	Fragment	-	UO	-
D/S 7 (294)	Bos	Cranium	Fragment	-	UO	-
D/S 7 (294)	Bos	Cranium	Fragment	-	Fused	Fragment of skull and horn core
D/S 7 (294)	Bos	Scapula	Fragment	-	UO	Some chop marks
D/S 7 (294)	Bos	Scapula	Fragment	-	UO	Saw-marks along break, one chop mark
D/S 7 (294)	Bos	Rib	Head and partial shaft	L	Fused	-
D/S 7 (294)	UI medium mammal	Rib	1x head and partial shaft 3x shaft	-	2x unfused 2x fused	-
D/S 7 (294)	UI medium mammal	Tibia	Fragment prox. head and partial shaft	-	UO	-
D/S 7 (294)	Ovis	Radius	Proximal end and partial shaft	R	Fused	-
D/S 7 (294)	Sus	Femur	Fragment prox. head and partial shaft	L	Unfused	Straight cut at proximal head. Cut marks down shaft.
D/S 7 (294)	Sus	Maxilla	Fragment	R	Fused	Partial jaw plus PM2, PM3, M1,M2.
D/S 7 (294)	Bos	Tooth	Complete	-	-	Lower PM3 or PM4
D/S 7 (294)	Bos	Rib	Partial shaft	-	UO	Straight cut marks either end
D/S 7 (294)	UI medium mammal	UI long bone	Partial shaft	-	UO	-
D/S 7 (294)	Ovis	Cranium	Half	R	Fused	Half of cranium, straight breaks down centre.
D/S 7 (294)	UI medium mammal	Cranium	Fragment	-	Partially fused	-
D/S 7 (294)	Bos	Sacrum	Fragment	-	Unfused	-

D/S 7 (294)	Bos	Vertebra	Fragment	-	Fused	Atlas vertebra. Half complete-chopped
D/S 7 (295)	Bos	Rib	Partial shaft	UO	UO	-
D/S 7 (295)	Bos	Metacarpal	Complete	L	Fused	-
D/S 7 (295)	UI medium mammal	UI long bone	Fragment	UO	UO	Potentially femur
D/S 8 (299)	Ovis	Cranium	Fragment	-	UO	Complete horn core
D/S 8 (300)	Ovis	Humerus	Distal end and partial shaft	L	Fused	-
D/S 8 (300)	Ovis	Ulna	Complete	L	Fused	-
D/S 8 (301)	Ovis	Scapula	Fragment	-	UO	-
D/S 8 (301)	UI medium mammal	Rib	Partial shaft	-	UO	-
D/S 8 (301)	UI medium mammal	UO long bone	Partial shaft	-	UO	-
D/S 8 (303)	UI small mammal	Pelvis	Partial	-	Fused	-
D/S 8 (303)	Bos	Metapodial (worked)	Distal end and partial shaft	-	Fused	Worked bone. Seems to have been used for carving practice. Proximal end of shaft shaped into rough square with 2/3 vertical cut marks on each face. At base of squared portion are horizontal cut marks of varying thickness. Distal end of bone- edges have been narrowed. (photos)
D/S 8 (305)	UI medium mammal	Rib	Partial shaft	R	UO	-
D/S 8 (305)	UI medium mammal	UI bone	Fragment	UO	UO	-
D/S 8 (309)	Sus	Metatarsal	Fragment	UO	UO	-
D/S 11 (38)	Bos	Metacarpal	Proximal end and partial shaft	-	Fused	-
D/S 11 (38)	UI large mammal	UI bone	Fragment	-	-	-
D/S 11 (38)	Bos	Mandible	Fragment	UO	-	Fragment of articulating portion
D/S 11 (38)	Bos	Tooth	Complete	-	-	Upper PM4/M1
D/S 11 (38)	Ovis	Tooth	Complete	-	-	Lower M1 or M2
D/S 11 (38)	UI medium mammal	UI bone	Fragment	-	-	3 fragments, different bones.
D/S 11 (38)	UI medium mammal	Femur	Fragment	-	-	Ball joint
D/S 15 (123)	Bos	Scapula	Neck and partial blade	UO	Fused	Cut off around socket.
D/S 15 (123)	Bos	Vertebra	Fragment	-	Fused	Straight cut edges
D/S 15 (123)	Ovis	Tibia	Distal end and partial shaft	L	Fused	
D/S 15 (125)	Bos	Scapula	Neck and partial blade and socket	UO	Fused	Flesh stripping evidence- cut marks, cut edges
D/S 15 (125)	Bos	Metatarsal	Complete	R	Fused	Root etching
D/S 15 (125)	Domestic fowl	Tibio-tarsus	Shaft	UO	UO	Cut marks at one end
D/S 15 (125)	UI bird	UI bone	Fragment	UO	UO	-

D/S 15 (128)	Small mammal	Mandible	Partially complete	L	-	Possibly rabbit
D/S 15 (128)	Bos	Mandible	Fragment	L	-	-
D/S 15 (128)	Bos	Scapula	Neck fragment	UO	Fused	Straight cut along edge- defleshing
D/S 15 (128)	UI medium mammal	Rib	Shaft fragment	-	UO	2 fragments
D/S 15 (128)	Ovis	Rib	Partial shaft	UO	UO	-
D/S 15 (128)	Bos	Pelvis	Acetabulum and partial surrounding	UO	Fused	-
D/S 15 (128)	Ovis	Humerus	Partial distal end and shaft	-	Fused	-
D/S 15 (128)	UI medium mammal	UI bone	Fragment	-	-	-
(165)	Bos	Rib	Partial shaft	UO	UO	-
(165)	Ovis	Metapodial	Partial shaft	UO	UO	-
(165)	Ovis	Femur	Proximal end and shaft	L	Fused	-
(165)	Bos	Ulna	Fragment	UO	UO	-
(171)	Bos	Rib	Mostly complete	R	Fused	-
(171)	Ovis	Scapula	Distal end and neck	R	Fused	Some cut marks on neck
(171)	Ovis	Ulna	Complete	L	Fused	-
(171)	Bos	Metacarpal	Proximal end and partial shaft	L	Fused	-
(171)	Ovis	Metapodial	Half proximal end and shaft	UO	Fused	Straight cut in half- marrow extraction? Gnawing marks- possibly dog.
(171)	Ovis	Metapodial	Distal end and shaft	UO	Fused	-
(171)	Ovis	Radius	Proximal end and shaft	L	Fused	Stained pale green- copper?
(171)	Ovis	Rib	Partial shaft	UO	UO	Stained pale green- copper?
(171)	UI medium mammal	UI bone	Fragment	UO	UO	-
(171)	UI medium mammal	UI bone	Fragment	UO	UO	Cut marks
(176)	Ovis	Metacarpal	Partially complete	UO	Unfused	-
(176)	Ovis	Tibia	Distal end and shaft	UO	Fused	-
(176)	Bos	Tooth	Complete	-	-	Very worn
(233)	Bos	Tibia	Partial proximal end	L	Fused	Chop down one side, shearing part of head off.
(233)	Ovis	Femur	Distal end	L	Partially fused	-
(233)	UI small mammal	Rib	Complete	UO	UO	-
(233)	UI small mammal	Rib	Complete	UO	UO	Possibly 1 st rib
(233)	Bos	Tooth	Complete	-	-	Maxilla, Pm3
(233)	UI medium mammal	Femur	Complete	-	Unfused	-
(233)	Ovis	Humerus	Partial distal end and shaft	UO	Fused	-
(233)	UI medium mammal	UI long bone	Fragment	-	-	-

(233)	Ovis	Rib	Complete	R	Fused	-
(233)	Bos	Metapodial	Partial proximal end and partial shaft	-	Fused	-
(233)	Ovis	Horn core	Complete	UO	-	-
(233)	Ovis	Scapula	Neck and partial socket	UO	Fused	Chop marks on neck, part of socket cut off.
(233)	UI medium mammal	UI bone	Fragment	UO	UO	32 fragments, different species and bones
(233)	UI medium mammal	Rib	Partial	-	Fused	3 partial heads, 8 shaft fragments
(233)	Ovis	Vertebra	Fragment	-	Fused	Straight cut through.
(233)	Ovis	Metapodial	Partial proximal head and shaft	UO	Fused	-
(233)	Ovis	Horn core	Fragment	-	-	Straight cut across base.
(233)	UI medium mammal	Cranium	Fragment	-	-	-
(236)	Bos	Rib	Fragment	-	-	-
(236)	Bos	Femur	Partial proximal head and shaft	L	UO	Proximal end cut off at ball joint and tubercles. Frequent shallow cut marks on shaft.
(236)	Bos	Rib	Head and partial shaft	-	Fused	Cut marks on shaft
(236)	Bos	Rib	Head and partial shaft	-	Fused	Cut marks and scrape marks
(236)	Bos	Rib	Partial shaft	-	UO	2 fragments
(236)	UI medium mammal	Scapula	Neck fragment	UO	UO	-
(236)	UI medium mammal	Scapula	Neck fragment	UO	UO	-
(236)	Ovis	Tibia	Distal end and partial shaft	R	Fused	-
(236)	Domestic bird	Femur	Distal end and partial shaft	UO	Fused	-
(236)	UI medium mammal	UI bone	Fragment	-	-	5 fragments, different UI bones
(236)	Ovis	Metapodial	Partial distal end and shaft	UO	Fused	-
(236)	UI medium mammal	Rib	Partial shaft	-	UO	-

APPENDIX VIII: HUMAN BONE *by Miranda Fulbright*

Methods

The human remains that were recovered from the groundworks at Aldgate during the highway changes works were all disarticulated and comingled. The bone was analysed before being reinterred in the churchyard. Due to the disarticulated and fragmented nature of the remains, sex and age assessment was not carried out unless the bone was wholly present. Sex and age estimation for adults was carried out from observations of pelvic and cranium morphology following Buikstra and Ubelaker (1994). The minimum number of individuals (MNI) was provisionally calculated from the minimum number of elements (MNE) according to White's method (1953) as outlined by Buikstra and Ubelaker (1994). To be included in the MNI calculation, the fragments had to have been identified and sided, excluding a significant amount of the extremely fragmented remains. Cranial bones that are not sided, i.e. occipital and frontal were also excluded, along with phalanges, vertebrae C3-L5 and ribs 3-12.

Quantity

Approximately 322 fragments of human bone were recovered from seven contexts. The method used to calculate the MNI reduced the number of fragments to 113 and resulted in a count of 9 individuals (proximal right ulna), though the spread of remains across several contexts and the large majority of discounted fragments would indicate such a small number unlikely.

Contexts

The bones were recovered from a mix of contexts, with the majority being found in crypt (176), context (177), a dark brown sandy disturbed backfill, and context (233), a post-medieval/modern made-ground deposit.

The crypt (176) was positioned under some external stairs, to the south-west corner of the church of St. Botolph Without Aldgate. The crypt was constructed of red brick, utilising the underside of the staircase as a ceiling. The remains inside the crypt were comingled and piled up, implying that they were deposited there to make space in the burial ground for new interments. The date of this deposition is unknown.

Context (177) was a disturbed backfill positioned against the west wall of the church, just north of crypt (176). Considering the amount of human bone recovered from this context, it is likely that it was a disturbed and redeposited graveyard soil.

The remains from context (233) comprised very fragmented larger bone, and smaller elements such as single teeth and the bones from the hands and feet. This would imply that it was also a redeposited graveyard soil, though most likely some attempt was made to remove the remains, the smaller fragments were missed.

Condition of the remains

All of the remains recovered were disarticulated, and most were highly fragmented. The bones that were recovered from the crypt were in better condition, most likely due to their being deposited in the crypt before they became too fragile. Several of the bones from the crypt were mineralised, probably due to water seeping through the limestone steps and the mortared bricks. The majority of the rest of the bones, although fragmented did not display much in the way of surface weathering or taphonomy.

Discussion

As there were no articulated burials recovered, no attempt has been made to establish a biological profile of the assemblage, beyond the observations listed in table 7. The majority of bones, where fusion rates were visible, were fused indicating a greater proportion of adults were represented. None of the bones displayed any unusual or significant pathology.

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Table:

Key for in table text:

UI= Unidentified

UO= Unobserved

L= left

R= right

Table 7: Human remains by context

Context	Bone	Side	Fragmentation	Fusion	Comments
D/S 5 (283)	Os coxa	R	Half acetabulum, partial ilium	Fused	Microporosity and lipping in auricular surface. Age 60+ Buikstra & Ubelaker (1994)
D/S 15 (123)	Radius	R	Distal end and partial shaft	Unfused	-
D/S 15 (125)	Humerus	L	Distal end and complete shaft	Fused	Slightly twisted shaft, thickening at proximal end, medial side
D/S 15 (125)	Ulna	L	Distal end and partial shaft	Fused	-
(176)	Femur	L	Complete	Fused	-
(176)	Femur	L	Distal end and partial shaft	Fused	-
(176)	Ulna	L	Proximal end and shaft	Fused	-
(176)	Maxilla	-	Complete	-	Teeth present. Healed alveolus R side. L molar 1 and 2, L PM 2 and 1. R canine and R M1. 1 worn, occupational?
(176)	Lumbar vert	-	Complete	Fused	Lumbar/ lower thoracic
(176)	Femur	L	Complete	Fused	Worn
(176)	Femur	L	Complete	Fused	-
(176)	Femur	L	Shaft	UO	-
(176)	Tibia	R	Complete	Fused	-
(176)	Occipital	-	Mostly complete	Unfused	-
(176)	Femur	L	Distal end and shaft	Fused	-
(176)	Femur	L	Shaft no epiphyses	UO	Some metal staining on distal end.
(176)	Humerus	R	Distal end and partial shaft	Fused	Worn
(176)	Rib	L	Partial shaft	UO	-
(176)	Os coxa	R	Complete	Fused	Weathered. Male. Age c.40-45

(176)	Humerus	L	Distal end and partial shaft	Fused	-
(176)	Tibia	L	Proximal epiphysis	UO	-
(176)	Humerus	UO	Shaft	UO	Post-mortem deformation
(176)	Rib	L	Shaft and distal end	UO	-
(176)	Thoracic vert	-	Partial spinous process	Fused	-
(176)	Ulna	R	Proximal end	Fused	-
(176)	Cervical vert	-	Complete	Fused	-
(176)	Clavicle	R	Complete	Fused	-
(176)	Frontal	R	Partial	Partially unfused	Quite small
(176)	Occipital	-	Complete	Unfused	Large nuchal crest
(176)	Parietal	R	Complete	Partially unfused	-
(176)	Os coxa	L	Partial	UO	Mostly acetabulum
(176)	Ulna	L	Proximal end and shaft	Fused	-
(176)	Cranium	-	Fragment	UO	Mineralisation
(176)	Cranium	-	Fragment	UO	Mineralisation. Possibly occipital, same for above
(176)	Lumbar vert	-	Partially complete	Fused	-
(176)	Humerus	L	Distal end and shaft	Fused	-
(176)	Rib	UO	Fragment	UO	9 x fragments
(176)	Cranium	-	Fragment	UO	5 x fragments
(176)	Os coxa	UO	Fragment	UO	Partial pubic symphysis
(176)	Vertebra	-	Fragment	UO	Fragment of body. Probably thoracic
(176)	Lumbar vert	-	Fragment	UO	Partial spinous process
(176)	Tibia	L	Proximal end and shaft	Fused	-
(176)	Tibia	L	Shaft	UO	-
(176)	Femur	R	Shaft	UO	-
(176)	Femur	L	Distal end and partial shaft	Fused	-
(176)	Frontal	R	Fragment	Fused	Right side and bit of left. Partially fused. Myopic suture is fused.
(176)	Humerus	R	Distal end and shaft	Fused	-
(176)	Os coxa	R	Partial	Unfused	-
(176)	Tibia	UO	Shaft	UO	-
(176)	Humerus	L	Distal end	Fused	Taken to be fused
(176)	Parietal	L	Complete	UO	-
(176)	Femur	L	Complete	Fused	Slightly damaged post-mortem
(176)	Mandible	-	Complete, fragmented	-	L M3 and L M1. R lateral incisor and R M2 and M3. M3 L and R are erupting.
(176)	Ulna	R	Complete	Fused	-
(176)	Radius	R	Distal end	Fused	-
(176)	Humerus	L	Proximal end missing	Fused	-
(176)	Ulna	R	Distal end	Fused	-
(176)	Ulna	R	Proximal end and shaft	Fused	-
(176)	Fibula	L	Distal end and shaft	Fused	-
(176)	Ulna	R	Proximal end	Fused	-
(176)	Clavicle	R	Complete	Fused	-
(176)	Frontal	L	Complete	Unfused	-
(176)	Os coxa	UO	Fragment	UO	-
(176)	Tibia	R	Complete	Fused	Round hole near distal end, post-mortem. Maybe pressed in from a coffin stud.
(176)	Tibia	R	Proximal end and shaft	Fused	Slightly bowed
(176)	Humerus	L	Distal end and shaft	Fused	-
(176)	Vertebra	-	Fragment	UO	Transverse process- probably thoracic
(176)	Parietal	L	Fragment	UO	-

(176)	Scapula	L	Partially complete	Fused	Missing blade but coracoid, acromion and glenoid intact.
(176)	Humerus	R	Distal end and shaft	Fused	-
(176)	Rib	R	Mostly complete	Fused	Upper rib
(176)	Humerus	R	Distal end and shaft	Fused	-
(176)	Humerus	R	Complete	Fused	-
(176)	Radius	R	Distal end and shaft	Fused	-
(176)	Femur	R	Distal end and shaft	Fused	-
(176)	Frontal	L	Complete	UO	Small- possibly juvenile
(176)	Femur	R	Distal end and shaft	Fused	Mineralisation
(176)	Occipital	-	Partial	UO	-
(176)	Mandible	L	Partial	-	L M1 and M2, Pm1 and 2, canine
(176)	Tibia	UO	Fragment	UO	-
(176)	Ulna	L	Shaft	UO	-
(176)	Thoracic vert	-	Partial	Fused	Schmorl's nodes and distal side
(176)	UI long bone	UO	Fragment of shaft	UO	Ulna or fibula
(176)	Scapula	UO	Fragment	UO	-
(176)	Os coxa	UO	Fragment	UO	-
(176)	Rib	UO	Fragment	UO	5 x fragments
(176)	Upper permanent canine	L	Complete	-	-
(176)	Lower permanent 1 st molar	R	Complete	-	-
(176)	Fibula	L	Shaft	UO	-
(176)	Ulna	L	Shaft	UO	-
(176)	Scapula	UO	Fragment	UO	Fragment of coronoid process
(176)	UI long bone	UO	Shaft	UO	-
(176)	Fibula	UO	Shaft	UO	-
(176)	Cranium	-	Fragment	UO	-
(177)	Humerus	R	Distal end	Fused	-
(177)	Tibia	UO	Shaft	UO	-
(177)	Humerus	UO	Shaft	UO	-
(177)	Scapula	L	Partially complete	UO	Blade missing
(177)	UI bone	UO	Fragment	UO	Shaft fragment
(177)	Radius	UO	Shaft	UO	-
(177)	UI bone	UO	Fragment	UO	-
(177)	Femur	UO	Shaft	UO	-
(177)	Fibula	UO	Shaft	UO	-
(177)	Humerus	L	Distal end fragment	UO	-
(177)	Femur	R	Fragment	Fused	Greater trochanter
(177)	Femur	UO	Fragment	UO	Shaft
(177)	UI long bone	UO	Fragment	UO	Shaft
(177)	Tibia	UO	Shaft	UO	-
(177)	Tibia	UO	Shaft	UO	-
(177)	Cranium	-	Fragment	UO	Probably occipital
(177)	Femur	UO	Shaft	UO	-
(177)	Cranium	-	Fragment	UO	Probably parietal
(177)	Os coxa	R	Mostly complete	Fused	Potentially female. Quite old.
(177)	Tibia	UO	Shaft	UO	-
(177)	Ulna	R	Partial proximal end and shaft	Fused	-
(177)	UI bone	UO	Shaft	UO	-
(177)	Femur	L	Distal end	Fused	-
(177)	Cranium	-	Fragment	UO	-
(177)	Fibula	UO	Shaft	UO	-
(177)	Fibula	UO	Shaft	UO	-
(177)	Humerus	UO	Shaft	UO	-
(177)	Femur	UO	Shaft	UO	-
(177)	Ulna	L	Proximal end and shaft	UO	-
(177)	Fibula	UO	Shaft	UO	-
(177)	Scapula	UO	Fragment	UO	-

(177)	Tibia	UO	Partial distal end	UO	-
(177)	Frontal	R	Mostly complete	UO	-
(177)	Rib	UO	Fragment	UO	2 x fragments
(177)	Humerus	R	Complete	Unfused	Juvenile
(177)	Femur	R	Complete	Unfused	Infant
(177)	Femur	L	Partial proximal end and shaft	Fused	-
(177)	Humerus	UO	Shaft	UO	-
(177)	Ulna	R	Partial proximal end	Fused	Broken olecranon
(177)	Cranium	-	Fragment	-	Probably occipital
(177)	Humerus	L	Distal end	Fused	-
(177)	Femur	R	Proximal end	Unfused	Juvenile
(177)	Tibia	UO	Shaft	UO	-
(177)	UI long bone	UO	Shaft	UO	Bulbous, slightly deformed. Thickening of shaft.
(177)	Rib	UO	Partial	UO	-
(177)	Fibula	UO	Shaft	UO	-
(177)	Tibia	UO	Fragment	UO	-
(177)	Cranium	-	Fragment	UO	Probably frontal
(177)	UI long bone	UO	Shaft	UO	-
(177)	Tibia	UO	Proximal end	Unfused	Juvenile
(177)	UI long bone	UO	Shaft	UO	-
(177)	Tibia	UO	Shaft	UO	-
(177)	Cranium	-	Fragment	UO	-
(177)	UI long bone	UO	Shaft	UO	Fragmented
(177)	Vertebra	-	Fragment	Fused	Deformed. Lumbar or thoracic
(177)	UI bone	UO	Shaft	UO	-
(177)	Os coxa	UO	Fragment	UO	-
(177)	Humerus	R	Shaft	UO	-
(177)	Rib	UO	Fragment	UO	4 x fragments
(177)	Thoracic vert	-	Fragment	partially unfused	Spinous process, unfused to the body
(177)	UI bone	UO	Shaft	UO	-
(177)	Clavicle	L	Complete	Fused	-
(177)	Radius	R	Proximal end and shaft	Fused	-
(177)	Ulna	L	Proximal end	UO	Olecranon missing
(177)	Lumbar vert	-	Partially complete	Fused	Missing transverse processes
(177)	Femur	UO	Proximal end	UO	Femoral head
(177)	Femur	UO	Shaft	UO	-
(177)	Ulna	R	Proximal end and shaft	UO	-
(177)	Lumbar vert	-	Complete	Fused	-
(177)	Os coxa	-	Fragment	UO	Sciatic notch
(177)	Ulna	R	Proximal end and shaft	Fused	-
(177)	Radius	UO	Proximal end	Unfused	Juvenile
(177)	Ulna	UO	Shaft	UO	-
(177)	Tibia	UO	Partial proximal end	UO	-
(177)	Scapula	L	Fragment	UO	-
(177)	Ulna	R	Proximal end	UO	-
(177)	Lumbar vert	-	Complete	Fused	-
(177)	Os coxa	-	Complete	Unfused	Infant
(177)	Mandible	L	Fragment	-	Mandibular condyle
(177)	Cranium	-	Fragment	UO	-
(177)	UI bone	UO	Shaft	UO	-
(177)	Rib	UO	Fragment	UO	Possibly 1 st rib
(177)	Os coxa	UO	Fragment	UO	Acetabulum
(177)	Ulna	UO	Shaft	UO	-
(177)	Cranium	-	Fragment	UO	-
(177)	Os coxa	UO	Fragment	UO	-
(177)	UI bone	UO	Fragment	UO	16 x fragments
(177)	Rib	UO	Fragment	UO	3 x fragments
(177)	Ulna	UO	Fragment	UO	Olecranon

(177)	Cranium	-	Fragment	UO	3 x fragments
(233)	Patella	L	Complete	Fused	-
(233)	Patella	L	Complete	Fused	-
(233)	Vertebra	-	Fragment	Fused	4 spinous/transverse process fragments – 1 lumbar, 1 cervical and 2 thoracic. 1 body, compressed with marginal osteophytes.
(233)	Ulna	UO	Proximal end fragment	Fused	-
(233)	Rib	L	Head and partial shaft	Fused	5 x fragments
(233)	Rib	R	Head and partial shaft	Fused	
(233)	Rib	UO	Shaft fragment	UO	18 x fragments
(233)	Mandible	R	Partially complete	-	Juvenile. Teeth present: deciduous 2 nd molar, permanent 1 st molar. R permanent central incisor and permanent 2 nd molar present but un-erupted. Microporosity around alveolus of present teeth. Large abscess behind 2 nd molar alveolar.
(233)	Zygomatic	L	Partially complete	Unfused	-
(233)	Frontal	R	Fragment	Unfused	Meiotic suture unfused but not juvenile skull.
(233)	Cranium	-	Fragment	UO	9 fragments, probably different crania.
(233)	Proximal phalanx	-	Complete	Fused	9- 1 partially fused
(233)	Intermediate phalanx	-	Complete	Fused	3- 1 unfused
(233)	Distal phalanx	-	Complete	Fused	2
(233)	lateral cuneiform	L	Complete	Fused	-
(233)	UI long bone	-	Fragment	UO	5 fragments, different bones
(233)	Mandible	UO	Fragment	-	-
(233)	Lower permanent lateral incisor	R	Complete	-	Very worn toward medial side. Some calculus on front face
(233)	Lower permanent central incisor	R	Complete	-	Worn toward medial side.
(233)	Upper permanent lateral incisor	L	Complete	-	Very worn, dentine visible. Calculus present
(233)	Upper deciduous canine	R	Complete	-	Slight wear, small cary on front face
(233)	Upper permanent premolar 4	L	Complete	-	Some calculus on front face
(233)	Upper permanent premolar 3	L	Complete	-	Very worn, calculus and caries on upper/front surface. Brown staining on front- 'dead' tooth.
(233)	Lower permanent premolar 3	R	Complete	-	Some calculus either side
(233)	Lower permanent premolar 4 (?)	R	Complete	-	Very worn, firm ID impossible. Dentine showing.
(233)	1 st metatarsal	L	Complete	Fused	-
(233)	1 st metatarsal	L	Partially complete	Fused	-
(233)	3 rd metacarpal	L	Complete	Fused	-
(233)	3 rd metacarpal	R	Complete	Fused	-
(233)	1 st metacarpal	R	Complete	Fused	-
(233)	5 th metacarpal	L	Complete	Fused	-

(233)	4 th metacarpal	L	Complete	Fused	-
(233)	4 th metacarpal	L	Complete	Unfused	Distal epiphysis missing.
(233)	Metatarsal/ carpal	UO	Shaft	UO	-
(233)	Metatarsal/ carpal	UO	Shaft	UO	-
(233)	5 th metacarpal	UO	Partially complete	Unfused	-
(233)	UI bone	UO	Fragment	UO	-
(233)	2 nd metacarpal	L	Partially complete	Fused	Distal end missing.
(233)	5 th metatarsal	L	Complete	Fused	-
(233)	5 th metatarsal	R	Partially complete	Fused	Distal end missing.
(233)	4 th metatarsal	L	Complete	Fused	-
(233)	2 nd metatarsal	L	Complete	Fused	-
(233)	2 nd metatarsal	R	Complete	Fused	-
(236)	Os coxa	UO	Partial acetabulum	Fused	-
(236)	Os coxa	UO	Fragment	Fused	Fragment of iliac blade
(236)	1 st metatarsal	UO	Fragment	Fused	Distal end
(236)	Ulna	R	Shaft fragment	UO	-
(236)	Clavicle	UO	Fragment	Fused	-
(236)	Humerus	UO	Shaft fragment	UO	-

APPENDIX IX: CLAY TOBACCO PIPE *by Miranda Fulbright*

The clay tobacco pipe (CTP) recovered from Aldgate site 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 50 partial or complete bowls and stem fragments were recovered, with a total of 11 partial or complete bowls.

Context (242) produced the majority of the complete and partial bowls, which was a layer of made ground. These bowls were of similar types, all dating from 1660-1680.

The majority of the bowls were undecorated and only one stem fragment had an identifiable makers mark. This stem was recovered from (149), the lower backfill of trial hole 6. This mark has been identified as belonging to Charles Crop of London, who was producing clay pipe between 1856 and 1891, indicating that the lower backfill was of late post-medieval origin.

Bibliography

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

Grillo, K., Aultman, J. and Bon-Harper, N., (2003). 'DAACS Cataloguing Manual: Tobacco Pipes'

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

BA = On bowl, facing away from the smoker

BB = Beneath the bowl where a pipe has neither heel nor spur

BC = On bowl, circumference of bowl rim

BF = On bowl facing smoker

BO = On bowl, covering entire bowl

SS = On either side of the spur

RS = Rouletted stem, a continuous band or zone around the stem

UO = Unobservable

All bowls have been identified using the following guide:

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).

Table 8. Clay Tobacco Pipe by context

Context	Form	Type	Date	Count	BH	BW	SL	SW	BS	Comments
(48)	Partial stem	-	-	1	-	-	49	6	2	
(52)	Partial stem	-	-	4	-	-	20-37	6-10	2-4	1 stem/bowl junction. 1 stained.
(52)	Partial bowl and stem	25 (?)	c. 1700-70	1	-	-	26	8	2	Bowl too damaged to measure
(52)	Partial stem	-	-	1	-	-	34	6	1.5	-
(52)	Partial stem	-	-	1	-	-	20	6	2	-
(52)	Partial stem	-	-	1	-	-	37	9	3	-
(54)	Partial stem	-	-	1	-	-	37	5	1	Wider to one end; warped
(54)	Partial bowl	-	-	1	-	-	-	-	-	Bowl unidentifiable due to extent of damage; moulded mounds facing smoker. BS not taken due to damage at stem
(54)	Partial bowl	-	-	1	-	-	-	-	-	Small fragment. Brittle, covered in tiny striated holes and bobbles. Possibly misfired.
(54)	Partial stem	-	-	1	-	-	27	6	1	Slightly curved.
(57)	Partial stem	-	-	1	-	-	73	5	2	Stem with bowl junction.
(57)	Partial stem	-	-	1	-	-	78	6	1.5	Broken at base of bowl; SW widens closer to bowl.
(60)	Partial stem	-	-	3	-	-	25-52	5-6	2	1 cracked along length.
(67)	Partial stem	-	-	9	-	-	23-75	4-9	2-3	Some stems from near mouthpiece, some from junction with bowl.
(67)	Bowl and partial stem	30	1850-1910	1	35	22	19	7	2	No decoration. Type 30 is characterised by its lack of heel.
(67)	Bowl	27	1780-1820	1	36	18	-	-	-	Moulded decoration – eagle BL and BR; leaf motif BF and BA. Stamp SH ‘HD’.
(80)	Partial bowl and stem	27	c. 1780-1820	1	-	-	34	9	1.5	Bowl too damaged to measure
(80)	Partial stem	-	-	1	-	-	66	8.5	3	-
(80)	Partial stem	-	-	1	-	-	45	7	1.5	-
(80)	Partial stem	-	-	1	-	-	42	6	2	-
(80)	Partial stem	-	-	1	-	-	41	6	1.5	Widens at bowl
(80)	Partial stem	-	-	1	-	-	40	8	2	-
(80)	Partial stem	-	-	1	-	-	24	7	1.5	-
(80)	Partial stem	-	-	1	-	-	32	7	2	-
(80)	Partial stem	-	-	1	-	-	34	7	1.5	-

(80)	Partial bowl and partial stem	-	-	1	10	-	33	8	2	Stamp SH 'NA'.
(80)	Heel and partial stem	-	-	2	-	-	16-17	6-7	2	Both stamped SH: 'J horseshoe motif'; 'IP'?
(80)	Partial stem	-	-	24	-	-	20-66	5-8	1-3	Some metal staining.
(81)	Bowl	22	1680-1710	1	40	19	-	-	-	
(81)	Partial bowl	-	-	1	-	-	-	-	-	Fragment of chunky bowl.
(81)	Partial stem	-	-	13	-	-	25-58	6-8	1-3	1 brown.
(97)	Bowl	20	1680-1710	4	37	17	-	-	-	4 fragments from 1 bowl.
(97)	Bowl	-	-	1	12	-	-	-	-	Small fragment.
(97)	Partial stem	-	-	9	-	-	25-55	5-8	1-2	1 colour coated brown. 3 bowl/stem junctions.
(103)	Partial stem	-	-	4	-	-	46-73	6-9	2-3	
(108)	Partial bowl	20	1680-1710	1	25	20	-	-	-	
(108)	Partial bowl and partial stem	-	-	1	5	-	45	9	3	
(108)	Partial stem	-	-	12	-	-	27-56	5-10	1-3	1 bowl/stem junction. 1 stem/heel; smoke stained. 1 neat decorated stem fragment.
(123)	Partial Bowl With stem	30	c. 1850-1910	1	19	21	14	7	1.5	Botanical decoration on bowl; single leaves facing both towards and away from the smoker. Unidentified decoration around circumference of stem.
(123)	Partial stem	-	-	1	-	-	24	7	2	-
(123)	Partial stem	-	-	1	-	-	26	6	1.5	-
(131)	Partial stem	-	-	2	-	-	47-54	5-7	2	
(143)	Partial bowl	30	c. 1850-1910	1	36	24	-	-	2	Unidentified decoration; possibly botanical; facing both towards and away from the smoker.
(143)	Partial stem	-	-	1	-	-	51	7	2	Slightly warped
(143)	Partial stem	-	-	1	-	-	42	7	2	-
(143)	Partial stem	-	-	1	-	-	33	6	2	-
(143)	Partial stem	-	-	1	-	-	45	7.5	3	-
(143)	Partial stem	-	-	1	-	-	52	6	1.5	-
(143)	Partial bowl	27	1780-1820	1	25	20	-	-	-	Thin walled bowl. Moulded motif BF and BA.
(143)	Partial stem	-	-	5	-	-	32-52	7-8	2-3	1 slightly smoke stained.
(149)	Partial stem	-	-	7	-	-	25-54	5-8	2-3	1 stamped; SL 'HORNS·CUTTY·PIPE', SR 'C.CROP.LONDON'. Charles Crop & Sons produced pipes in

										Hoxton between the 1840s and 1924.
(153)	Partial stem	-	-	4	-	-	17-31	5-6	2	1 brown, uncoated.
(168)	Partial stem	-	-	1	-	-	34	7.5	2	-
(177)	Partial stem	-	-	1	-	-	34	7	2	-
(177)	Partial stem	-	-	1	-	-	33	6.5	1.5	-
(177)	Partial stem	-	-	1	-	-	52	9	2	-
(177)	Partial stem	-	-	1	-	-	29	6	2	-
(177)	Partial stem	-	-	1	-	-	41	8	2	-
(213)	Partial stem and heel	21	1680-1710	1	-	-	57	9	3	Straight stem with shallow heel, taken to be Type 21.
(213)	Partial stem	-	-	16	-	-	19-64	4-9	2	1 brown.
(222)	Partial stem	-	-	2	-	-	48-50	5-10	2-3	
(233)	Partial stem and heel	-	-	2	-	-	33-30	9	2	Shorter stem is a very pale mottled brown-orange colour. Possibly Type 21s.
(233)	Partial stem	-	-	17	-	-	24-63	4-9	1-3	1 heavily accreted. 1 light orange colour. 1 in brown clay, stamped SL '12 McDOUGALL' in beaded border, and stamped SR 'GLASGOW' in beaded border. McDougall's operated between 1848 and 1967.
(242)	Bowl and partial stem	22	1680-1710	1	47	17	45	10	3	Very shallow heel, incised band around rim. Burning on lip facing smoker.
(242)	Bowl and partial stem	18	1660-1680	1	42	18	81	9	3	Incised band around rim
(242)	Bowl and partial stem	18	1660-1680	1	39	19	55	9	3	Incised band around rim. Bowl burnt
(242)	Partial bowl and partial stem	18	1660-1680	1	44	-	13	10	3	Incised decoration on rim.
(242)	Bowl	18	1660-1680	1	49	19	-	-	-	Incised decoration on rim. Burnt bowl
(242)	Partial stem	-	-	1	-	-	144	8	2.5	-
(242)	Partial stem	-	-	1	-	-	59	10	3	-
(242)	Partial stem	-	-	1	-	-	79	8	3	Smoke stained
(242)	Partial stem	-	-	1	-	-	121	9	2.5	-
(242)	Partial stem	-	-	1	-	-	62	9	2.5	Smoke staining
(243)	Bowl and partial stem	22	1680-1710	1	36	18	65	8	2	Top of bowl partially broken, heel chipped.

(281)	Bowl and partial stem	5	1610-1640	1	28	14	102	9	4	Burning in bowl
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Figure 112: Bowls recovered from context (67), including one decorated with an eagle (left). Scale 10cm.



Figure 113: Glazed and unglazed stems recovered from context (233), including one unglazed stem stamped '12 McDOUGALL'. Scale 10cm.



Figure 114: Bowl and partial stem recovered from context (281), dated 1610-1640. Scale 10cm.



Figure 115: Bowls and stems recovered from context (242). Scale 10cm.

APPENDIX X: SHELL *by Miranda Fulbright*

85 complete and fragmented shells were recovered during the Aldgate Highway changes groundworks, from 22 contexts. The assemblage contains 90.5% oyster shells, 5% clam shells and 3.5% mussel shells. These represent native species that were probably deposited as a result of food production and subsequent disposal.

Table 9: Shell quantification

Context	Species	Fragmentation	Count
D/S 2 (252)	Oyster	Partially complete	1
D/S 2 (259)	Oyster	Complete	1
D/S 2 (259)	Oyster	Fragment	2
D/S 3 (267)	Oyster	Complete	1
D/S 3 (269)	Oyster	Fragment	3
D/S 5 (281)	Oyster	Complete	1
D/S 5 (281)	Oyster	Fragment	6
D/S 5 (282)	Oyster	Fragment	3
D/S 5 (282)	Clam	Complete	1
D/S 5 (282)	Mussel	Fragment	1
D/S 7 (294)	Oyster	Complete	1
D/S 7 (295)	Oyster	Complete	1
D/S 7 (295)	Clam	Complete	3
D/S 8 (299)	Oyster	Complete	1
D/S 8 (300)	Oyster	Fragment	1
D/S 8 (309)	Oyster	Fragment	1
D/S 11 (38)	Oyster	Complete	3
(52)	Oyster	Mostly complete	1
(80)	Oyster	Mostly complete	4- one very large, c.144mm wide
(81)	Oyster	Complete	1
(125)	Oyster	Complete	5
(128)	Oyster	Complete	1
(133)	Oyster	Complete	1
(144)	Oyster	Mostly complete	1
(149)	Oyster	Complete	3
(149)	Oyster	Fragment	1
(233)	Oyster	Complete	3- 2 large
(233)	Oyster	Fragment	3
(236)	Oyster	Complete	22- 1 triple shell (not counted as 3)
(236)	Oyster	Fragment	14
(236)	Clam	Complete	1
(236)	Mussel	Complete	2

APPENDIX XI: GLASS by Miranda Fulbright

A total of 93 glass vessels and fragments were retrieved from 13 contexts across the site. The majority were dated to the post-medieval period and represented a mixture of vessels (bottles) and window pane glass. No fragments of significance were retrieved from any context aside from a fragment from a potentially Roman glass bowl recovered from context (295). (295) was the fill of a cut, [296], into the natural at the base of dropshaft 7.

Table 10: Glass quantification

Context	Type	Form	Count	Date	Comments
(57)	Vessel	Bottle	1	1880s to 1910s	Heavy base of a very dark green bottle with a prominent push-up turn mould base.
(57)	Vessel	Bottle	1	Post-medieval	Body fragment from a translucent mid green bottle.
(80)	Window	Pane	1	Modern	Chunky transparent pane with a thick layer of concrete along one edge. Probably from the late 1940s building present on the site until the 1950s.
(80)	Window	Pane	1	Post-medieval	Small fragment of transparent glass.
(80)	Vessel	Bottle	1	Post-medieval	Rim, neck and partial body of a translucent dark green bottle. Threaded interior on top. Convex neck.
(80)	Vessel	Bottle	1	19 th century	Rim, neck and partial body of a translucent clear / pale blue bottle. Neat, prescription style finish.
(80)	Vessel	Bottle	1	Post-medieval	Small fragment of brown bottle glass.
(81)	Window	Pane	3	Modern	3 chunky fragments of thick, clear transparent window glass. Probably 1940s-50s.
(81)	Window	Pane	11	Post-medieval	Fragments of clear transparent glass, mostly from rectangular panels.
(81)	Window	Pane	2	Modern	2 fragments of white opaque glass with traces of black paint on one side.
(81)	Vessel	Bottle	3	Post-medieval	3 body fragments. 1 transparent, 1 with a light patina, 1 dark green with a heavy patina.
(81)	Vessel	Bottle	1	Post-medieval	Wall/base junction of dark green bottle.
(97)	Window	Pane	2	Post-medieval to modern	2 small fragments of transparent glass.
(103)	Vessel	Bottle	1	Modern	Wall and base of a clear bottle, probably a milk bottle or similar.
(103)	Vessel	Bottle	1	19 th century	Rim and neck of a dark brown/green bottle. Mineral finished top with a slightly convex, twisted neck.
(103)	Vessel	Bottle	1	1860s – 1880s.	Rim and neck of a translucent light green bottle. Champagne finish, several imperfections visible from the blowing process. Probably a wine bottle.
(103)	Vessel	Bottle	1	c1850s onwards.	Large fragment of torpedo bottle reading '[JELL]' on one side. Side seam, several large bubbles visible in glass.
(103)	Vessel	Bottle	1	Post-medieval	Body fragment of a multi-sided (8?) vessel made of light blue transparent glass.
(103)	Vessel	Bottle	3	Post-medieval	3 fragments of dark brown-green translucent bottle glass.
(103)	Vessel	Bottle	2	Post-medieval	Wall and base of a dark green translucent bottle with a high internal kick. Probably a wine bottle.
(108)	Window	Pane	1	Post-medieval to modern	Opaque white glass with remains of a coloured inlaid design.
(108)	Vessel	Bottle	1	Post-medieval	Fragment of dark green translucent bottle with bluish patina on interior.

(123)	Other	Dish	1	Late post-medieval to modern	Base of a small clear dish with incised star design on underside.
(123)	Vessel	Glass	1	Late post-medieval to modern	Base and stem of a small clear glass drinking vessel.
(123)	Vessel	Bottle	1	Post-medieval	Fragment of clear to very light green, relatively thin walled vessel with a flaky patina.
(123)	Vessel	Bottle	2	Late post-medieval	2 similar sized bottle bases/walls. Both dark and translucent. Taken to be turn moulded wine bottles.
(123)	Vessel	Bottle	3	Post-medieval	3 fragments of dark coloured bottle.
(123)	Vessel	Bottle	2	Post-medieval	2 fragments of vessel glass.
(123)	Vessel	Bottle	1	Post-medieval	Neck of a light green bottle with a crude champagne finish.
(123)	Vessel	Bottle	1	Post-medieval	Base and body of a small light blue octagonal bottle, similar to those described in contexts (103), (148) and (233).
(123)	-	-	1	Post-medieval	Small fragment of bluish glass, possible from a small bottle.
(123)	Other	Dish	1	Post-medieval to modern	Taken to be a part of a dish, or similar vessel with a raised, many angled base, radiating out from a central point.
(123)	Vessel	Bottle	1	Post-medieval	Rim, neck and partial body of a very small thin walled bottle. Medicine or perfume bottle, or similar.
(148)	Window	Pane	7	Post-medieval	7 fragments of clear window glass from different panes.
(148)	Window	Pane	3	Modern	3 fragments from 3 panes. 2-4.5mm in thickness.
(148)	Vessel	Bottle	1	Post-medieval	Small fragment of curved wall/neck. Rippled brown-green glass.
(148)	Vessel	Bottle	1	Post-medieval	Chunky, dark brown-green opaque wall fragment.
(148)	Vessel	Bottle	1	Post-medieval	Wall/neck junction of a translucent green vessel.
(148)	Vessel	-	1	Modern	Small fragment of bright green vessel glass.
(148)	Vessel	Bottle	1	Post-medieval	Small fragment of a curved, clear vessel. Heavy patina.
(148)	Vessel	Bottle	2	1800-1860	2 fragments from a multi sided, possibly square, light blue bottle. Top, neck and body fragment, and one fragment of angled body. Transparent with a brushed translucent 'wave effect' finish. Rim has an irregular thickness with a fire polished finish.
(149)	Vessel	Bottle	1	1800-1860	Large fragment of body taken to belong to same vessel as above entry.
(149)	Window	Pane	3	Modern	3 fragments of white opaque glass with black painted pattern. Taken to be the same as those fragments recovered from context (81).
(149)	-	-	1	Post-medieval	Extremely thin, small fragment of clear glass. Slightly curved, with rounded edges. Possibly a glass face or cover, or similar.
(149)	Vessel	Bottle	1	Post-medieval	Small fragment of translucent green bottle glass.
(149)	Window	Pane	2	Modern	1 clear fragment with one ribbed side, opposite is painted/stained black. 1 fragment of clear glass with an applied frosted geometric pattern with flowers.
(149)	Other	Decorative	1	Post-medieval to modern	Small pendant shaped piece of glass, taken to be a broken sugar stirrer. A pendant from a light fitting is also possible.
(213)	Window	Pane	1	Post-medieval	Fragment of transparent rectangular panel, 2mm in thickness, with a light patina.

(233)	Window	Pane	1	Post-medieval	Fragment of transparent rectangular panel, 1.5mm in thickness with a very light patina.
(233)	Window	Pane	1	Post-medieval	Small fragment of transparent glass
(233)	Vessel	Bottle	1	Post-medieval	Possibly originally uncoloured, but badly degraded.
(233)	Vessel	Bottle	4	19 th century	Transparent, light blue rectangular octagon with raised measurement lines on one side. Mould blown.
(233)	Vessel	-	1	Post-medieval	Fragment of translucent blue vessel. Straight sided interior but a slightly bulging exterior.
(280)	Glass	Pane	1	Post-medieval	Small fragment of translucent greenish, dark window glass.
(295)	Vessel	Bowl	1	Roman?	Small fragment of bluish transparent vessel glass. Neat tubular rim, probably from a small bowl or similar.

APPENDIX XII: METAL by Miranda Fulbright

The metal finds that were recovered from the groundworks at Aldgate highway changes comprised mainly of coffin fittings and furniture. It consisted of post-medieval iron nails, copper tacks/studs, sometimes embedded in wooden coffin fragments, recovered from several backfills and graveyard soils.

One coin was recovered from context (123), a demolition backfill surrounding a ceramic pipe. The coin was identified as a Queen Victoria half-penny, dated to 1872.

Table 11: Metal quantification

Context	Form	Material	Count	Weight (g)	Comment
(60)	Handle	Fe	1	52	Half fragment
(67)	Miscellaneous	Pb	1	Total weight (67): 68	Square rod
(67)	Miscellaneous	Fe	4		-
(80)	Coffin plate	Fe	1	Total weight (80): 2755	Two nails corroded to plate
(80)	Handle	Fe	2		Very corroded
(80)	Tack	Cu	48		Wood attached to 15
(80)	Nail	Fe	23		Wood attached to 1 nail
(80)	Miscellaneous	Fe	16		-
(81)	Nail	Fe	29	Total weight (81): 6115	-
(81)	Handle	Fe	4		-
(81)	Tack	Cu	116		-
(81)	Miscellaneous	Fe	36		-
(86)	Handle	Fe	1		Thin handle with attached back plate
(97)	Nail	Fe	1	6	-
(100)	Nail	Fe	1	15	Some wood attached
(103)	Nail	Fe	5	Total weight (103): 834	-
(103)	Tack	Fe	2		Embedded in wood
(103)	Handle	Fe	1		-
(103)	Peg	Fe	1		Very long- 157mm
(103)	Miscellaneous	Fe	1		Large square plaque with thick peg with screw threads and a loop on the end.
(123)	Coin	Cu alloy	1	6	Queen Victoria half-penny, 1872. Obverse reads: VICTORIA D:G: BRITT:REG:F:D: Reverse reads: HALF PENNY 1872
(142)	Nail	Fe	12	Total weight (142): 1640	-
(142)	Tack	Fe	3		-
(142)	Handle	Fe	3		-
(142)	Miscellaneous	-	3		-
(148)	Nail	Fe	3	Total weight (148): 185	-
(148)	Tack	Fe	2		-
(149)	Slag	Fe?	1	Total weight (149): 171	-
(149)	Nail	Fe	1		-
(149)	Miscellaneous	Fe	2		-
(152)	Tack	Cu	23	Total weight (152): 1075	Some wood remains
(152)	Nail	Fe	12		Two stuck in a large wooden fragment
(152)	Miscellaneous	-	11		-
(153)	Nail	Fe	6	Total weight (153): 1005	5 with wood attached
(153)	Handle	Fe	1		-
(153)	Tack	Fe	14		Half with wood attached
(153)	Miscellaneous	-	21		-
(154)	Nail	Fe	26	Total weight (154): 1075	-
(154)	Tacks	Cu	32		Some with wood attached
(154)	Miscellaneous	-	10		-
(155)	Nails	Fe	3	Total weight (155): 595	-
(155)	Tack	Cu	13		-
(155)	Miscellaneous	-	13		-
(156)	Tack	Cu	5	Total weight (156): 30	-
(156)	Nail	Fe	1		Some wood attached
(156)	Miscellaneous	-	3		-

(169)	Miscellaneous	Pb	1	26	-
(176)	Tack	Cu	41	Total weight (176): 190	Most embedded in wood
(176)	Nail	Fe	2		In wood
(177)	Nail	Fe	3	Total weight (177): 166	Some wood attached to 1
(177)	Tack	Fe	5		Wood attached to 1
(177)	Miscellaneous	Fe	3		
(203)	Handle	Fe	1	Total weight (203): 62	-
(203)	Miscellaneous	Fe	2		Square rods
(213)	Key	Cu?	1		Small key, probably to a box or similar rather than a door.
(213)	Nail	Fe/CU	4		2 nails, 2 misc bits
(222)	Flashing	Pb	1	36	
(233)	Tack	Fe	3	Total weight (233): 30	Some wood attached
(233)	Nail	Fe	3		-
(233)	Miscellaneous	Fe	2		
(259)	Slag	-	1	10	Shiny
(280)	Nail	Fe	1	Total weight (280): 34	-
(280)	Miscellaneous	Fe	1		-
(281)	Nail	Fe	1	Total weight (281): 88	-
(281)	Miscellaneous	Fe	3		
(295)	Nail	Fe	1	36	-
Compact layer under slab (24/05/16)	Nail	Fe	11	Total weight: 190	-
""	Tack	Cu	4		Some wood attached
""	Miscellaneous	-	3		-
Dark layer beneath backfill (skull; 09/08/16)	Nail	Fe	4	Total weight: 550	-

APPENDIX XIII: MISCELLANEOUS

(76) by Mike Hammerson

One Roman coin was retrieved from this context. The observe shows a bust of Constantius II facing right, and the reverse shows the Emperor spearing a fallen barbarian horseman.

It was an irregular copy of the very well-known later Constantinian "Fallen Horseman" type; these copies are extremely common on many British sites, far outnumbering the regular coinage, and range from reasonably size and competence to staggeringly small and crude, so much so that it is puzzling how they actually passed for coinage. It will date to c.AD 355-65, after which they were replaced fairly quickly by the Valentinianic coinage, though it may be that they carried on as some kind of small change, but there's insufficient evidence.

They were in all probability made "locally", but I also believe that most were semi-official, perhaps to address a major shortage of official coinage.

(80)

A single wooden button with four thread holes was recovered.

(213)

A single white glass marble/stopper was recovered.



Figure 116: 'Fallen Horseman' Roman coin, recovered from dropshaft 12. No scale.



Figure 117: Comparative example of the coin recovered from dropshaft 12. No scale.

APPENDIX XIV: SCHEDULED MONUMENT CONSENTS



Historic England

LONDON OFFICE

Ms Sarah Whitehorn
City of London Corporation
Department of the Built Environment
PO Box 270
Guildhall
City of London
EC2P 2EJ

Direct Dial: 020 7973 3739

Our ref: S00104103

2 June 2015

Dear Ms Whitehorn

**Ancient Monuments and Archaeological Areas Act 1979 (as amended); Section 2
control of works
Application for Scheduled Monument Consent**

**LONDON WALL AND ALDGATE, CITY OF LONDON
Scheduled Monument No: SM LO 26 K, HA 1002048
Our ref: S00104103
Application on behalf of the City of London**

1. I am directed by the Secretary of State for Culture, Media & Sport to advise you of the decision regarding your application for Scheduled Monument Consent received 2 February 2015 in respect of proposed works at the above scheduled monument concerning the planting of trees within the scheduled area of the London Wall, Gate and Bastion. The works were detailed in the following documentation submitted by you:

Method statement

Section: Western Space Tree Planting Relationship with London Wall
Plan: Western Space Tree Planting Relationship with London Wall
Arboricultural Report
Archaeological Desk-Based Assessment

2. In accordance with paragraph 3(2) of Schedule 1 to the 1979 Act, the Secretary of State is obliged to afford you, and any other person to whom it appears to the Secretary of State expedient to afford it, an opportunity of appearing before and being heard by a person appointed for that purpose. This opportunity was offered to you by Historic England and you have declined it.

3. The Secretary of State is also required by the Act to consult with the Historic Buildings and Monuments Commission for England (Historic England) before deciding



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Historic England will use the information provided by you to evaluate your application for Scheduled Monument Consent. Information contained in this application and any information obtained from other sources will be retained in all cases in hard copy form and/or on computer for administration purposes and future consideration where applicable.



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whether or not to grant Scheduled Monument Consent. Historic England considers the effect of the proposed works upon the monument to be beneficial for the presentation and public enjoyment of the monument and surrounding space, but necessitating unavoidable ground disturbance. Necessary archaeological excavation, supervision and recording arrangements are included within the application, the conditions within this consent and covered by arrangements with Compass Archaeology.

I can confirm that the Secretary of State is agreeable for the works to proceed providing the conditions set out below are adhered to, and that accordingly Scheduled Monument Consent is hereby granted under section 2 of the 1979 Act for the works described in paragraph 1 above, subject to the following conditions:

- (a) The works to which this consent relates shall be carried out to the satisfaction of the Secretary of State, who will be advised by Historic England. At least 1 weeks' notice (or such shorter period as may be mutually agreed) in writing of the commencement of work shall be given to Iain Bright (Assistant Inspector of Ancient Monuments), Historic England, 1 Waterhouse Square, 138-142 Holborn, London, EC1N 2ST; iain.bright@HistoricEngland.org.uk, in order that an Historic England representative can inspect and advise on the works and their effect in compliance with this consent.
- (b) Prior to the planting of trees in or immediately adjacent to the scheduled area, further archaeological investigation will be required to gather data with regard to the nature and depth at which the remains of London Wall, bastion and gate survive below ground. This data will be used to inform a judgement on whether the tree species selected for the scheme will pose a threat to the archaeological remains of the monument through root action. If a risk is identified an alternative tree species will be chosen in consultation with Historic England.
- (c) A Written Scheme of Investigation (WSI) for archaeological works is to be provided to and approved by Historic England prior to the commencement of works on site. The WSI should encompass all additional investigatory works required as part of this consent and contain contingency for further works if deemed necessary.
- (d) A geotextile membrane will be installed in all tree pits located within or immediately adjacent to the scheduled areas to act as a root barrier and assist in the protection of the archaeological remains.
- (e) Any significant remains observed during the course of excavation works will be fully recorded by the attendant archaeologist. Remains associated with the scheduled monument of London Wall, bastion and gate are to be left



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undisturbed and undamaged. The attendant archaeologist is to be given adequate time to clean and fully record the remains before the trench is backfilled. In the event of such a discovery, Historic England is to be notified to allow for an inspection of the remains, if required. A methodology for preservation *in situ* of any such remains will be agreed in consultation with Historic England.

- (f) If masonry related to London Wall, bastion and gate are observed during the course of the excavation of the tree pits, this will necessitate the relocation of each tree pit affected so as to not impact on the remains on the scheduled monument. Any relocation within the scheduled area will need to be agreed with Historic England and may require additional mitigation measures congruent to those outlined above.
- (g) The trees shall not be planted until Historic England is content that no archaeological remains associated with the monument are present or deemed to be at risk.
- (h) Mechanical excavators are to be fitted with toothless buckets to lessen the risk of damage to potential archaeological remains. Power hand-held breaking tools are only to be used on modern/concrete remains, or remains deemed not to be of archaeological significance and/or already recorded by the attendant archaeologist. No breaking tools of any kind are to be employed on masonry associated with the scheduled monument of London Wall, bastion and gate.
- (i) As part of the project, the location of London Wall, bastion and gate is to be marked out by means of a change of finish within the new paving stones. The exact design and implementation of this is to be agreed in consultation with Historic England.
- (j) The existing interpretation panel is to be reinstated as part of the project.
- (k) All those involved in the implementation of the works granted by this consent must be informed by the owner, occupier and/or developer that the land is designated as a scheduled monument under the Ancient Monuments and Archaeological Areas Act 1979 (as amended); the extent of the scheduled monument as set out in both the scheduled monument description and map; and the implications of this designation.
- (l) Equipment and machinery shall not be used or operated in the scheduled area in conditions or in a manner likely to result in damage to the monument/ ground disturbance other than that which is expressly authorised in this consent.



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Historic England will use the information provided by you to evaluate your application for Scheduled Monument Consent. Information contained in this application and any information obtained from other sources will be retained in all cases in hard copy form and/or on computer for administration purposes and future consideration where applicable.



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- (m) A report on the archaeological recording shall be sent to the Historic Environment Record and to Iain Bright at Historic England within 6 months of the completion of the works (or such other period as may be mutually agreed).
 - (n) The contractor shall complete and submit an entry on OASIS (On-line Access to the Index of Archaeological Investigations - <http://oasis.ac.uk/england/>) prior to project completion, and shall deposit any digital project report with the Archaeology Data Service, via the OASIS form, upon completion.
4. By virtue of section 4 of the 1979 Act, if no works to which this consent relates are executed or started within the period of five years beginning with the date on which this consent was granted (being the date of this letter), this consent shall cease to have effect at the end of that period (unless a shorter time period is set by a specific condition above).
5. This letter does not convey any approval or consent required under any enactment, bye law, order or regulation other than section 2 of the Ancient Monuments and Archaeological Areas Act 1979.
6. Your attention is drawn to the provisions of section 55 of the 1979 Act under which any person who is aggrieved by the decision given in this letter may challenge its validity by an application made to the High Court within six weeks from the date when the decision is given. The grounds upon which an application may be made to the Court are (1) that the decision is not within the powers of the Act (that is, the Secretary of State has exceeded the relevant powers) or (2) that any of the relevant requirements have not been complied with and the applicant's interests have been substantially prejudiced by the failure to comply. The "relevant requirements" are defined in section 55 of the 1979 Act: they are the requirements of that Act and the Tribunals and Inquiries Act 1971 and the requirements of any regulations or rules made under those Acts.

Yours sincerely

Iain Bright

Assistant Inspector of Ancient Monuments

E-mail: iain.bright@HistoricEngland.org.uk

For and on behalf of the Secretary of State for Culture, Media and Sport

cc Kathryn Stubbs, Matthew Cooper, Iain Simmons



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Historic England will use the information provided by you to evaluate your application for Scheduled Monument Consent. Information contained in this application and any information obtained from other sources will be retained in all cases in hard copy form and/or on computer for administration purposes and future consideration where applicable.



Historic England

LONDON OFFICE

Ms Sarah Whitehorn
City of London Corporation
Department of the Built Environment
PO Box 270
Guildhall
City of London
EC2P 2EJ

Direct Dial: 020 7973 3739

Our ref: S00104103

14 August 2015

Dear Ms Whitehorn

**Ancient Monuments and Archaeological Areas Act 1979 (as amended); Section 2
control of works
Application for Scheduled Monument Consent**

**LONDON WALL AND ALDGATE, CITY OF LONDON
Scheduled Monument No: SM LO 26 K, HA 1002048
Our ref: S00104103
Application on behalf of the City of London**

1. I refer to your correspondence of 24th July 2015 requesting a variation to the Scheduled Monument Consent granted on 2nd June 2015, Case No. S00104103, in relation to works at the above scheduled monument.
2. The requested variation is to undertake works associated with the redevelopment of the Aldgate gyratory (including ground reduction, relocation of traffic signals, reconstruction of street carriageway, construction of new footways, installation of lamp columns, gully pots, catch pits, new drain connections, utility boxes, diverted services/ducts, planters, a bollard and a CCTV camera).
3. The Secretary of State is also required by the Act to consult with the Historic Buildings and Monuments Commission for England (Historic England) before deciding whether or not to grant Scheduled Monument Consent. Historic England considers the effect of the proposed works upon the monument to be works which would result in unacceptable degrees of loss to the historic fabric, buried archaeological deposits or evidence but where suitable safeguards have been specified within the conditions of this variation.

I can confirm that the Secretary of State has decided that the works may proceed providing that the conditions of the existing consent letter are adhered to together with the following additional conditions:



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Historic England will use the information provided by you to evaluate your application for Scheduled Monument Consent. Information contained in this application and any information obtained from other sources will be retained in all cases in hard copy form and/or on computer for administration purposes and future consideration where applicable.



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- (a) These works are to be monitored by a suitably qualified archaeologist in accordance with an approved Written Scheme of Investigation (WSI).
- (b) Any remains related to the scheduled monument - comprising the wall, gate and bastion - are to be fully recorded by the attendant archaeologist and subsequently left undisturbed and undamaged. Historic England are to be notified in the event of such a discovery and the remains are to be preserved *in situ*. Unless agreed otherwise with Historic England, this will result in the relocation of the proposed intervention so as to not risk damage to or destruction of the scheduled monument.

4. Your attention is drawn to the provisions of section 55 of the 1979 Act under which any person who is aggrieved by the decision given in this letter may challenge its validity by an application made to the High Court within six weeks from the date when the decision is given. The grounds upon which an application may be made to the Court are (1) that the decision is not within the powers of the Act (that is, the Secretary of State has exceeded the relevant powers) or (2) that any of the relevant requirements have not been complied with and the applicant's interests have been substantially prejudiced by the failure to comply. The "relevant requirements" are defined in section 55 of the 1979 Act: they are the requirements of that Act and the Tribunals and Inquiries Act 1971 and the requirements of any regulations or rules made under those Acts.

Yours sincerely

Iain Bright

Assistant Inspector of Ancient Monuments

E-mail: iaibright@HistoricEngland.org.uk

For and on behalf of the Secretary of State for Culture, Media and Sport

cc Kathryn Stubbs, Iain Simmons



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Historic England will use the information provided by you to evaluate your application for Scheduled Monument Consent. Information contained in this application and any information obtained from other sources will be retained in all cases in hard copy form and/or on computer for administration purposes and future consideration where applicable.

APPENDIX XV: OASIS DATA COLLECTION FORM

OASIS ID: compassa1-336486

Project details

Project name	Aldgate Highway Changes and Public Realm Project
Short description of the project	Between 2013 and 2018 Compass Archaeology undertook a programme of archaeological works during the City of London Corporation's redevelopment of the Aldgate, Houndsditch, and Duke Street area. The archaeological programme included evaluation trenches dug over the footprint of the Roman and Medieval City Wall and Gate at Aldgate (LO26K); watching briefs undertaken during the excavation of dropshafts; tree planting pits; service re-routing trenches, and redevelopment of the churchyard of St Botolph's-without-Aldgate. These archaeological works recorded numerous archaeological features including the foundations of the Roman City Wall on Duke's Street; and extramural activity in the form of the infilled Roman and medieval versions of the City Ditch; backfilled Roman and medieval quarry pits; medieval street surfaces, post-medieval basements / coal cellars, former boundary walls of the churchyard to St Botolph's and disturbed graves. These features produced pottery, CBM, coins, animal bones, glass, clay tobacco pipe and some human remains.
Project dates	Start: 01-08-2013 End: 09-03-2018
Previous/future work	Yes / No
Any associated project reference codes	DKE13 - Sitecode
Any associated project reference codes	city 020 - Contracting Unit No.
Any associated project reference codes	LO26K - SM No.
Type of project	Recording project
Site status	Scheduled Monument (SM)
Site status	Listed Building
Current Land use	Other 11 - Thoroughfare
Current Land use	Other 4 - Churchyard
Current Land use	Other 3 - Built over

Monument type	CITY WALL Roman
Monument type	CITY DITCH Roman
Monument type	QUARRY PIT Roman
Monument type	LAND SURFACE Roman
Monument type	CITY DITCH Medieval
Monument type	QUARRY PIT Medieval
Monument type	MADE GROUND Medieval
Monument type	ROAD SURFACE Medieval
Monument type	BASEMENT Post Medieval
Monument type	COAL CELLAR Post Medieval
Monument type	MADE GROUND Post Medieval
Monument type	CRYPT Post Medieval
Monument type	GRAVE Post Medieval
Significant Finds	POTTERY Roman
Significant Finds	COIN Roman
Significant Finds	CBM Roman
Significant Finds	POTTERY Medieval
Significant Finds	CBM Medieval
Significant Finds	POTTERY Post Medieval
Significant Finds	CBM Post Medieval
Significant Finds	GLASS Post Medieval
Significant Finds	CLAY TOBACCO PIPE Post Medieval
Significant Finds	COFFIN METAL Post Medieval
Significant Finds	HUMAN BONES Post Medieval
Significant Finds	ANIMAL BONE Uncertain

Investigation type	"Test-Pit Survey","Watching Brief"
Prompt	Scheduled Monument Consent
Prompt	National Planning Policy Framework - NPPF

Project location

Country	England
Site location	GREATER LONDON CITY OF LONDON CITY OF LONDON Aldgate Highway Changes and Public Realm Project
Postcode	EC3N 1HL
Study area	22523 Square metres
Site coordinates	TQ 33499 81114 51.512659876611 -0.075936152121 51 30 45 N 000 04 33 W Polygon
Site coordinates	TQ 33500 81216 51.513576354176 -0.075883113871 51 30 48 N 000 04 33 W Polygon
Site coordinates	TQ 33696 81322 51.51448256398 -0.073019698359 51 30 52 N 000 04 22 W Polygon
Site coordinates	TQ 33751 81255 51.513867362028 -0.072252884052 51 30 49 N 000 04 20 W Polygon
Height OD / Depth	Min: 10.96m Max: 13.02m

Project creators

Name of Organisation	Compass Archaeology
Project brief originator	Assistant Director Historic Environment, City of London
Project design originator	Compass Archaeology
Project director/manager	Geoff Potter
Project supervisor	Heidi Archer
Type of sponsor/funding body	City of London Corporation

Project archives

Physical Archive recipient	Museum of London archaeological archive
Physical Contents	"Animal Bones", "Ceramics", "Glass", "Metal", "Worked bone"
Physical Archive notes	Coin, Clay tobacco pipe
Digital Archive recipient	Museum of London Archaeological Archive
Digital Contents	"other"
Digital Media available	"Images raster / digital photography", "Spreadsheets", "Text"
Paper Archive recipient	Museum of London Archaeological Archive
Paper Contents	"other"
Paper Media available	"Context sheet", "Drawing", "Notebook - Excavation", ' Research', ' General Notes', "Photograph", "Plan", "Section", "Unpublished Text"

Project bibliography 1

Publication type	Grey literature (unpublished document/manuscript)
Title	Aldgate Highway Changes and Public Realms Project
Author(s)/Editor(s)	Heidi Archer
Date	2018
Issuer or publisher	Compass Archaeology Ltd
Place of issue or publication	250 York Road, Battersea, SW11 3SJ
Description	Unpublished client report detailing the findings of the evaluation and watching brief programme. Includes background to the redevelopment of the Aldgate area, historic and archaeological background to the works area. Includes description of the site location, geology and topography. Written description accompanied by illustrative photographs, site plans and sections. Appendices contain specialist reports on the different finds categories.

APPENDIX XVI: LONDON ARCHAEOLOGIST SUMMARY

Aldgate Highway Changes and Public Realm Project, City of London EC3A TQ 33626
81241 Heidi Archer Archaeological Evaluation and Watching Brief 1st August 2013 – 9th
March 2018 City of London Department of the Built Environment DKE13

A programme of archaeological evaluation and watching brief was conducted on the site of the gyratory system between Sir John Cass Foundation Primary School and St Botolph-without-Aldgate Church, ahead of redevelopment as an open pedestrian space. The earliest features were sections of the Roman City wall and ditch running NNW-SSE along Duke's Place, to the east of the Aldgate. The extramural occupation of Roman Londinium was represented by a series of brickearth and gravel extraction pits, rubbish pits and a potential land surface. Following the Roman withdrawal the City ditch began to silt up and the land was reclaimed. The medieval occupation of the area was represented a sequence of ditch fills and further quarry / rubbish pits. Several trenches along the eastern side of the open space exposed a linear feature comprising well-compacted burnt daub and ceramic building material overlain by a thin lens of gravel. The feature was interpreted as the remains of the Houndsditch routeway, which ran NNW-SSE to the west of St Botolph's Church through the medieval and post-medieval periods. Moving into the post-medieval period, development was prolific. The completion of the infilling of the City ditch and clearance of the City wall and gate in the 18th century enabled the construction of new properties fronting Duke's Place and Houndsditch. The post-medieval period was well represented on the site by numerous coal cellars, basements and associated stratigraphy. The pre- and post-1740s church was represented by two brick foundations for an entrance staircase on the western aspect of the building, and approximately thirteen coffin burials, twelve of which were infants or juveniles. Widespread truncation of many of the earlier features was caused by extensive bomb damage in the area and subsequent post-war clearance, and the erection of a large multi-storey building which existed on the site between the 1940s and 1960s.