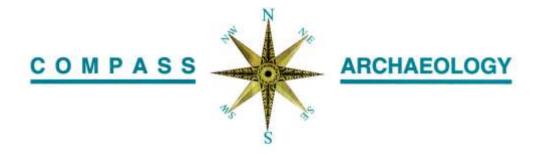
THE CHURCH OF ST. ANDREW HOLBORN Redevelopment of the North and West Gardens

City of London, EC4A 3AB

An Archaeological Watching Brief

September 2014



THE CHURCH OF ST. ANDREW HOLBORN Redevelopment of the North and West Gardens

City of London, EC4A 3AB

An Archaeological Watching Brief

Site Code: SAH14

NGR (Centre): TQ 31470 81518

COMPASS ARCHAEOLOGY LIMITED 5-7 SOUTHWARK STREET LONDON SE1 1RQ

Telephone: 0207 403 9660

Email: mail@compassarchaeology.co.uk

Authors: Honza Horak and James Aaronson

September 2014

©Compass Archaeology Limited

Abstract

Between March and May 2014 Compass Archaeology undertook an archaeological watching brief during the redevelopment of the north and west gardens of the Church of St. Andrew Holborn, City of London, EC4A 3AB. The watching brief included monitoring the removal of stone paving and the excavation of extensive trenching for a new drainage system in the area of the north and west gardens.

All recorded archaeological layers contained very occasional, randomly re-deposited, human remains as a result of the 19th-century cemetery clearance. During the groundworks only one in situ burial was identified, but because of an early identification it was decided to leave it undisturbed and reroute the drainage trench.

The archaeological watching brief identified an earlier church wall running parallel, and at times underneath the northern side of the current church footprint. This is thought to possibly be of Tudor date, though re-using some earlier medieval stonework within the fabric.

During the removal of paving in the north garden, two burial vaults were uncovered, broadly dating to the 18th to earlier 19th centuries. The later vault contained five lead coffins, (2 adults and 3 children), belonging to the Bullock family, whilst the older vault remained closed. Both vaults had been attached to the earlier church wall mentioned above.

Contents

			Page
1	Introduc	tion	1
2	Site loca	tion, geology and topography	1
3	Archaeo	logical and historical background	3
4	Propose	d development	6
5	Archaeo	logical research questions	8
6	Methodo	blogy	8
7	Results		11
8	Conclus	ions	39
9	Bibliogr	aphy	40
Appe	ndix I:	Pottery analysis by Paul Blinkhorn	41
Appe	ndix II:	Ceramic Building Material Analysis by Sue Pringle	42
Appe	ndix III:	Bone analysis by Valentina Bernardi	43
Appe	ndix IV:	Clay tobacco pipe by Honza Horak	45
Appe	ndix V:	Worked stone by James Aaronson	46
Appe	ndix VI:	Other finds	49
Appe	ndix VII	A story of one family – Bullocks of Holborn	50
Appe	ndix VII	I: OASIS online data collection form	52
Appe	ndix IX:	London Archaeologist summary	55

Figures

8		Page
Fig.1	Site location, showing the application area outlined in red	1
Fig.2	Site location in relation to the British Geological Survey, Sheet 256	2
Fig.3	Extract from Morgan's survey of 1682	4
Fig.4	Extract from a proposals plan for the Holborn Viaduct	5
Fig.5	Plan showing the proposed downtakings as part of the watching brief	6
Fig.6	Plan showing line of proposed drains; the trenches for which were to be monitored during the watching brief	7
Fig.7	Outline plan of the watching brief area with trenches observed	12
Fig.8	Plan of trenches showing archaeology encountered	13
Fig.9	Photo showing Section 2 at the southern end of Trench 1, facing S, (1m scale)	15
Fig10	Section 3, midway along northeast side of Trench 3, facing NE	16
Fig.11	Trench 2 facing NW, 13 th of May 2014	17
Fig.12	A multi-phase plan of the vault(s) and adjacent Church wall, with north at the top of frame	19
Fig.13	Photograph of early wall v/001, facing east, with the present church built on top but set back to the south (0.3 m scale)	21
Fig.14	The two vaults, looking towards the north wall of the Church: the brick-roofed v/003 and the partly-open v/004 $$	22
Fig.15	The east end of v/004, showing the blocked up entrance to v/003 Including the truncated arch	23
Fig.16	Interior of $v/003$ as viewed from existing ground level. Note the disturbed and decaying coffins and disarticulated bones. Facing S	23
Fig.17	The lead coffin sticking out into the new vault, $v/004$, facing west, (1m scale)	24
Fig.18	Coffin projecting into the vault, showing how the wall of the vault has been built around it	24
Fig.19	The ledger stone covering $v/004$ and its transcription, (0.5m scale)	25

Fig.20	The five lead coffins in v/004 facing east	26
Fig.21	The vault(s) facing east towards the northern entrance to St Andrews Church,(1m scale)	27
Fig.22	The eastern end of Wall 1 as exposed, showing the mixture of materials used in its construction, (0.5m scale)	28
Fig.23	Section through southern end of Trench 4	30
Fig.24	Former drainage box at the northern end of Trench 8, facing ESE, (1m scale)	33
Fig.25	Former drainage box at the southern end of Trench 8, facing ESE, (1m scale)	33
Fig.26	Trench 9 facing SW towards the north wall of the Church. The line of Trench 7 is visible in the foreground, (1m scale)	35
Fig.27	Trench 10 facing E, towards the west face of the Church	36
Fig.28	Wall 2 facing south, (1m scale)	37
Fig.29	Line drawing of Wall 2	37
Fig.30	Wall 3, facing south, (1m scale)	38
Fig.31	Detailed shots of the re-used stonework, (0.3m scales)	38
Fig.32	Drawing of one of the pieces of window tracery recovered from within upper part of W3	46
Fig.33	Rough illustration of how the above fragment of window tracery would have fit into the original window	46
Fig.34	Drawings of second fragment of window tracery, interior face, (left), and side on, (right)	47
Fig.35	Section through window tracery found at west end of W3	48
Fig.36	Photograph showing the location of masonry fragments illustrated above within W3	48

Figures 1 and 2 reproduced from OS data with the permission of the Ordnance Survey on behalf of The Controller of HMSO. © Crown Copyright. All rights reserved. Compass Archaeology Ltd., licence no. AL 10003131

1 INTRODUCTION

- **1.1** Compass Archaeology Ltd was commissioned by the City of London, Department of the Built Environment: Environmental Enhancement, to undertake an archaeological watching brief during the garden improvement works project at St. Andrew Holborn Church Gardens, (NGR TQ 31470 81518).
- **1.2** A Written Scheme of Investigation, (WSI), for the archaeological watching brief was prepared, (Compass Archaeology 2013), and submitted to Kathryn Stubbs, (City of London, Assistant Director Historic Environment), for approval prior to the commencement of fieldwork. The archaeological fieldwork itself took place between the 24th of March and the 30th of May 2014, and was undertaken by Honza Horak and Geoff Potter of Compass Archaeology Ltd.

2 SITE LOCATION, GEOLOGY AND TOPOGRAPHY

2.1 The site is located on a triangular shaped plot of land immediately southeast of Holborn Circus. It is bounded by Holborn Viaduct to the north, St Andrew's Street to the west and Shoe Lane to the east.



Fig.1: Site location, showing the application area outlined in red

2.2 According to data available from the British Geological Survey, (Sheet 256), the site lies over superficial deposits of Hackney Gravel on the interface with London Clay and alluvial deposits associated with the former course of the River Fleet which lies to the east of the site.

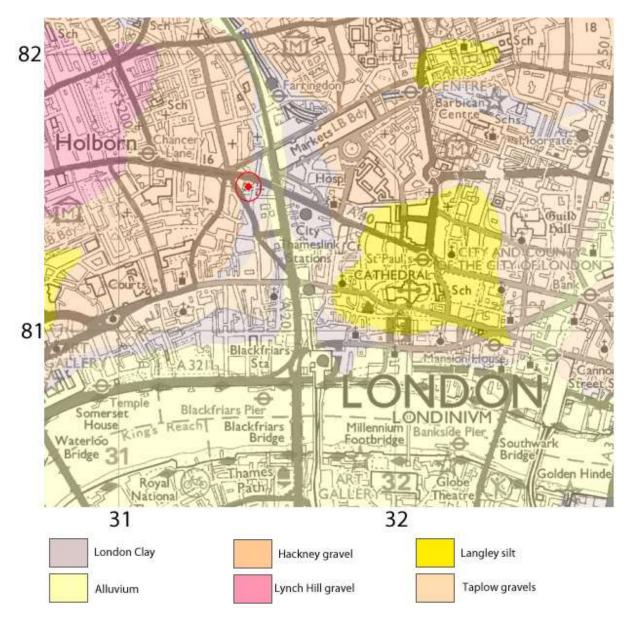


Fig.2: Site location in relation to the British Geological Survey, Sheet 256

2.3 The site levels vary substantially across the site due to its location on Holborn Hill. The Holborn Viaduct to the north of the site lies at approximately 16mOD. The 'North garden' is accessed via a flight of steps to garden level at approximately 13.5mOD, a not inconsiderable drop of 2.5m. The 'West garden' is accessed from the west side of the site, off of St Andrew's Street, which falls from c15.6mOD at the northwest end of the triangle to 12.5mOD at the southeastern tip. The west garden itself is fairly level at approximately 14.9mOD.

3 ARCHAEOLOGICAL AND HISTORICAL BACKGROUND

The following archaeological background is derived from the prepared WSI, (Compass Archaeology 2013).

3.1 Prehistory

There is no clear archaeological evidence indicating prehistoric activity within the study area or its immediate surroundings.

3.2 Roman

Roman finds from the area are represented by a large rubbish pit, containing 135 pottery sherds dating to the 3rd century AD, excavated during the clearing of the Crypt in 2001-2002 by MoLAS.

Parts of the western extramural cemetery for Roman London have been identified covering a large area to the north and east of the study area, around St Bartholomew's Hospital and Atlantic House. It is not believed that St Andrews is situated within the wider cemetery site but as proved by MoLAS the land was within the sphere of Roman influence.

3.3 Anglo-Saxon

Although St Andrew's is described as "old" by a documentary source dating back to *c*951AD no Saxon archaeology has been recorded within the site itself.

3.4 Medieval

Little appears to have been documented about the early history of St Andrew's, however, it is believed that the Church has occupied the same spot since its original construction. It was known in early sources as St Andrews Holbournestrate and later as St Andrews de Holeburn.

During the medieval period, St Andrew's was held by St Paul's at an early date but soon transferred to Bermondsey Abbey in Southwark, who held it until the dissolution of the Abbey in the middle of the 16th-century.

The Church was maintained from 1348 by the gift of John Thavie, a local armourer, who "left a considerable Estate towards the support of the fabric forever". The money invested from that original donation still funds much of the maintenance work today.

In the 1440s the church was rebuilt with the addition of a tower at the western end.

3.5 Post-medieval

The 'Agas map' of the mid-16th century depicts the church as being situated in the northeast corner of a square plot of land on the corner of Schow Lane, with Holborn to the north. At this time St Andrew's Street does not exist and buildings occupy land

immediately to the west of the churchyard. The River Fleet was still open, in the valley to the east.

The church is known to have survived the Great Fire in 1666, but whether due to disrepair or an overarching plan the church was demolished and rebuilt by William Stanton and Edward Pierce between 1684 and 1686 according to designs by Wren. It was Wren who designed the crypt beneath the church and tower. Immediately prior to its redesign the church is depicted on Morgan's survey of 1682, (fig.3), occupying a similar footprint as on Agas's map, but with a large collection of buildings having encroached in the northwest corner of the churchyard. The southern range of these buildings would partly fall within what is now the western garden.

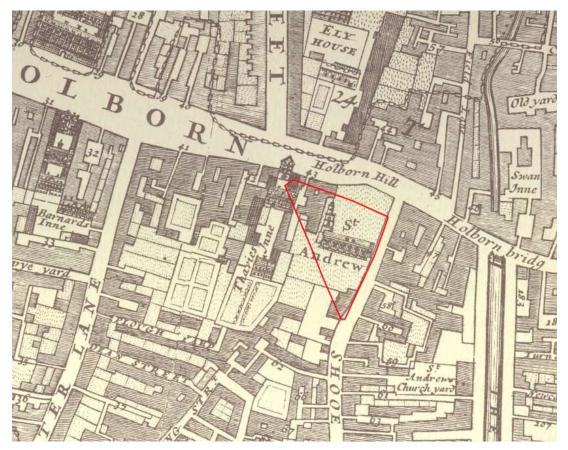


Fig.3: Extract from Morgan's survey of 1682

In 1736/7 the upper River Fleet was culverted / roofed over, to provide a space for the newly created Fleet Market, depicted to the east of the church on Rocque's Survey of London.

The church site remained largely unchanged until the late 1860s when it was decided to create a more pleasant / safe route across the Fleet valley, linking The City with the rest of West London. The Holborn Valley Improvement Scheme was completed in 1869 and involved the construction of the Holborn viaduct spanning the valley down which ran Farringdon Street. In order for this to be accomplished a large number of properties were demolished along both sides of Holborn in the vicinity of St Andrew's. The scheme also included the creation of St Andrew's Street along the western side of the churchyard creating a shallower sloping route down to Fleet Street.

The creation of the viaduct and St Andrew's Street changed the shape of St Andrew's churchyard to its present state; as a triangular plot with a much reduced northern and western churchyard. In a trade off, the church was granted permission to build a new rectory and church court in the southeast corner of the site. Both schemes led to the removal of between 11,000 and 12,000 burials from the site, many being reburied at the City Cemetery in Ilford but some of the more prestigious being moved to the crypt below the church.



Fig.4: Extract from a proposals plan for the Holborn Viaduct. Note how much of the churchyard to the north and south are to be encroached upon / affected by the scheme

In 1941 the church was hit by an incendiary bomb, and completely gutted. Eventually it was decided to rebuild the church to Wren's original designs. It was completed in 1961. It was re-opened as a non-denominational 'Guild Church'.

The modern layout of the site was established by 1968.

3.6 Previous archaeological investigations

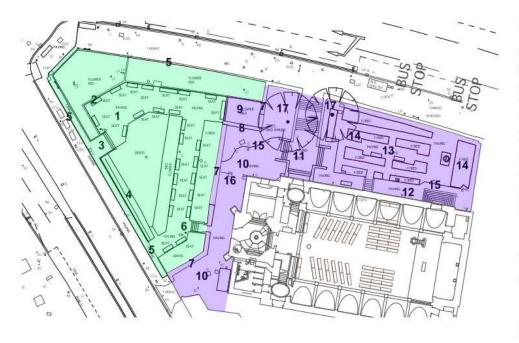
In 2001-2002 Museum of London Archaeology Services, supervised and conducted the clearance of the crypt, during which 1794 burials were removed and sent to City London Cemetery, Ilford. 1055 of the burials were within lead coffins, the remainder being wooden and 995 legible nameplates were identified, dating between 1691 and 1853.

It was during this clearance work that the Roman pit mentioned above, (3.2), was unearthed.

4 **PROPOSED DEVELOPMENT**

4.1 The proposed development included the removal and lowering of various brick walls, gates, paved areas, bedding trenches and stairs, the installation of improved lighting and the relocation / raising of existing memorials within the study site. The scheme also involved laying down a new drainage system, which included numerous below ground excavations.

St Andrew Holborn Downtaking



Downtaking notes:

 Stone paving removed and set aside for reuse within the gardens (city).

2) Benches removed and set aside for reuse.

3) Steps removed and associated paving removed and set aside for reuse.

4) Beech hedge removed.

5) Perimeter fence and gates from the garden (city) removed.

6) Steps and retaining walls removed.

Walls reduced in height.

8) Wall removed.

9) Planting bed and retaining wall removed.

10) Yorkstone paving removed.

 Church steps and paving removed and set aside for reuse as required.

12) Gravestones and associated memorials removed and set aside for resetting post level changes.

13) Stone paving removed.

14) Planting removed with certain shrubs set aside for replanting. Shrubs to be tagged by Church with Corporation advive on potential to replant.

15) Stone edging removed.

16) Railings removed for resetting once post level changes.

17) Two trees felled

Fig.5: *Plan showing the proposed downtakings as part of the watching brief. The area in blue covers the area of the watching brief. The area in green was discarded due to the extreme disturbance that was perceived by previous basementing and occupation.* (Adapted from original drawing by bere architects supplied by the CoL)

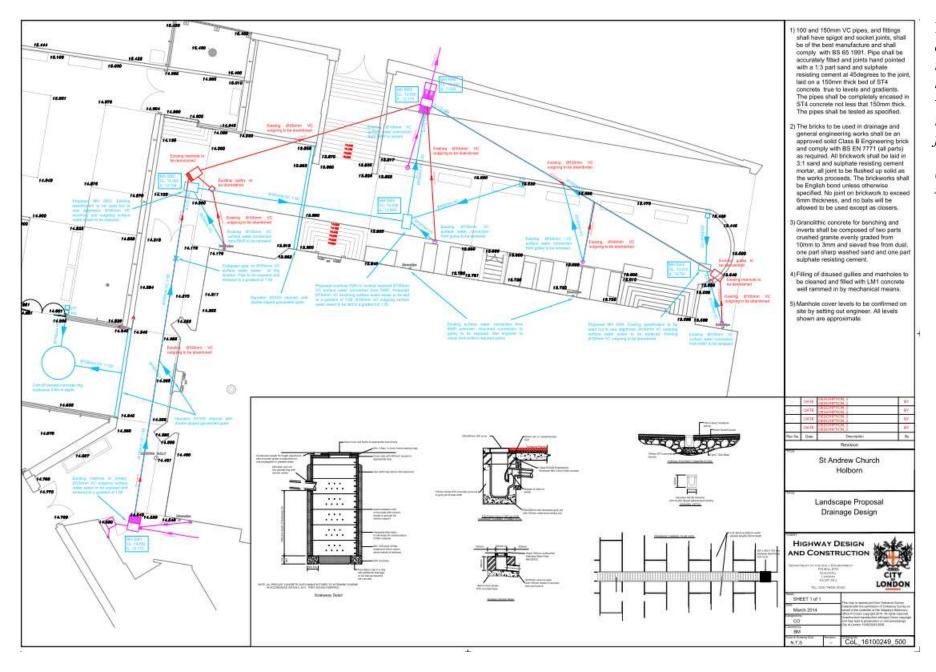


Fig.6: Plan showing line of proposed drains; the trenches for which were to be monitored during the watching brief. Pipes are in blue with direction of flow shown.

(Taken from originals supplied by CoL)

5 ARCHAEOLOGICAL RESEARCH QUESTIONS

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

- Is there any evidence for prehistoric activity on the site? If so form does this take?
- Is there any evidence of Roman activity on the site? If so is this related to extra-mural activities such as the nearby cemetery, or linked to the rubbish pit found in 2002?
- Is there any evidence of Saxon or medieval occupation? Is this related to the early foundation of the church / its 15th century remodelling/ or its former use as part of the burial ground?
- Is there any evidence for post-medieval activity on the site such as the rebuilding of the church in 1684-86? Or bomb damage in 1941?
- At what level does archaeology and the natural geology survive across the site?

6 METHODOLOGY

6.1 Standards

- **6.1.1** The field and post-excavation work was carried out in accordance with English Heritage guidelines, (in particular, Standards and Practices in Archaeological Fieldwork, Guidance Paper 3). Works also conformed to the standards of the Institute of Field Archaeologists, (Standard and Guidance for Archaeological Watching Briefs). Overall management of the project was undertaken by a full Member of the Institute.
- **6.1.2** Fieldwork was carried out in accordance with the Construction (Health, Safety & Welfare) Regulations. All members of the fieldwork team held valid CSCS Cards, (Construction Skills Certificate Scheme), and wore hi-visibility jackets, hard-hats, and steel-toe-capped boots as required during the watching brief. All members of the fieldwork team also followed the contractors' health and safety guidelines.

6.2 Fieldwork

6.2.1 The archaeological watching brief took place during groundworks associated with the improvement works. An archaeologist was present during these works as appropriate; monitoring any excavations, lifting of paving / memorials, removal of wall footings and investigating and recording any archaeological remains.

The City of London Historic Environment Team, (Kathryn Stubbs), was advised of the on-site start date, and of any significant remains exposed.

Removal of existing stone paving, including several re-used memorial slabs, was monitored. The excavation of drainage trenches, (labelled TR 1 to 10 on Figure 7), and measuring a total of approx. 87m in length, was archaeologically monitored. This trenching varied in width from between 0.4m to 1.2m and was dug to as much as 1.40m deep. Excavation was widened in several trenches, (TR 1, 3, 4, 5, 6 and 8), to facilitate new manholes or run-off gullies.

- **6.2.2** When archaeological remains were exposed adequate time was allowed for investigation and recording, although every effort was made not to disrupt the development programme.
- **6.2.3** Archaeological deposits and features were investigated and recorded in stratigraphic sequence, and finds dating evidence recovered. Archaeological contexts were recorded on pro-forma sheets by written and measured description, and drawn in plan and section, generally at scales of 1:10 or 1:20. The investigations were recorded on a general site plan and related to the Ordnance Survey grid. Levels were taken on any archaeological features or deposits derived from an Ordnance Datum Benchmark located on the north east corner of the church.

The fieldwork record was supplemented as appropriate by digital photography.

- **6.2.4** The Client and the City of London Historic Environment Team were kept advised of the progress of the fieldwork, and in particular any significant finds or remains that required additional work. Where significant remains were encountered Compass informed all parties as soon as possible, and further mitigation measures were agreed upon and implemented. These included additional archaeological work, (for example a greater degree of hand excavation or specialist work off-site), as well as preservation of remains in situ. Where feasible the latter required only slight modifications to the design.
- **6.2.5** The Ministry of Justice was contacted and an AASI licence granted prior to the commencement of the fieldwork. The archaeological procedures were all in accordance with the Ministry of Justice's 2008 statement: 'Burial Law and Archaeology'. This document sets out the requirements for licence applications to be made under the Burial Act of 1857 wherever human remains are buried in sites to which the Disused Burial Grounds (Amendment) Act 1981 or other burial ground legislation does not apply. All human remains encountered during the course of the fieldwork were treated with proper respect and attention, and if at all possible, and where appropriate, preserved *in situ*.

6.3 **Post-excavation**

- **6.3.1** Assessment of finds were undertaken by appropriately qualified staff, (see appendices I-VI). Finds were treated in accordance with the appropriate guidelines, including the Museum of London's 'Standards for the Preparation of Finds to be permanently retained by the Museum of London'.
- **6.3.2** 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 once an appropriate record had been made.

6.4 **Report and Archive**

- **6.4.1** Copies of this report will be supplied to the Client, the City of London Historic Environment Team, and the Guildhall Library.
- **6.4.2** This report contains a description of the fieldwork plus details of any archaeological remains or finds, and an interpretation of the associated deposits. Illustrations have been included as appropriate, including a site plan located to the OS grid.

A short summary of the project has been appended using the OASIS Data Collection Form, and in paragraph form suitable for publication within the 'excavation round-up' of the London Archaeologist.

- **6.4.3** There is no provision for further analysis or publication of significant findings. Should these be made the requirements would need to be discussed and agreed with the Client and with the City of London Historic Environment Team.
- **6.4.4** Assuming that no further work is required, an ordered indexed and internally consistent archive of the evaluation will be compiled in line with MoL Guidelines for the Preparation of Archaeological Archives, and will be deposited in the Museum of London Archaeological Archive under site code SAH14. The integrity of the site archive should be maintained, and the landowner will be urged to donate any archaeological finds to the Museum.

7 **RESULTS**

- 7.1 The archaeological watching brief was conducted in two stages. The first stage ran from the 24th to the 5th April 2014, and included four site visits. An initial visit was made to the site to monitor the removal of stone slabs on the western side of the church. However, no archaeological features were observed.
- **7.2** The second stage involved the monitoring of trenching for the new drainage. This took place between the 13th and 30th May 2014 over the course of 13 days. During this period 10 trenches measuring an overall length of c 87m were dug. Eight of these were situated in the area of the North Garden and two in West Garden, often following the lines of earlier drains.

Despite the monitoring of the drainage trenches, no significant archaeological features were observed. Very occasional remains of human bone were found in almost all of the monitored trenches, which only confirms how substantial the clearance of the cemetery in the second half of 19th-century must have been. With one exception, no *in situ* burials have been registered.

- **7.3** Preceding the excavation of the drainage trenches removal of the remaining stone paving and memorial slabs during the second stage of then watching brief uncovered two burial vaults adjacent to the north east entrance of church, and following the line of the existing north wall.
- 7.4 What follows is a written description of the trenchworks as undertaken, and appropriately numbered in roughly chronological order. The following sections should be read in conjunction with figures 7 and 8 for trench numbers and locations, and with figures 9-31 as appropriate.



Fig.7: Outline plan of the watching brief area with trenches observed in red with number

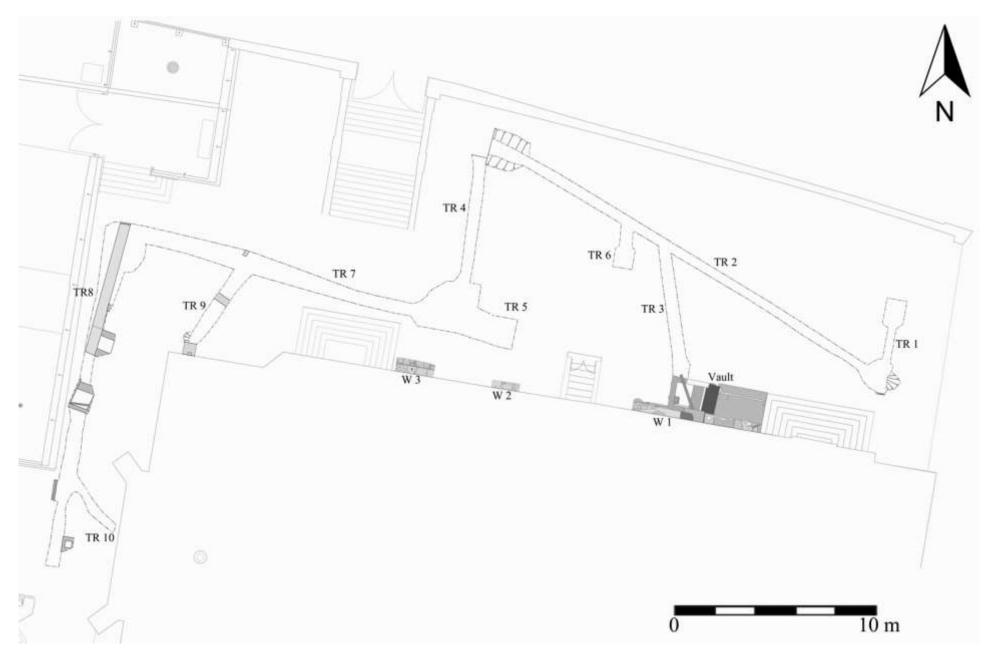


Fig.8: Plan of trenches showing archaeology encountered, (greyscale)

7.5 Trench 1 (fieldwork: 13.05.14)

- **7.5.1** Trench 1 was excavated from the stone slabs in front of the northeast entrance of the church and continued north, measuring approx. 4.70m in length and 0.45m in width, with extensions to new gullies in the south and north of the trench. The maximum depth excavated was 1.30m.
- **7.5.2** The lower trench fill comprised a grey soil horizon, (1/003), up to 1m thick, from the bottom of the trench, overlain by a brown-grey horizon, (1/002), in turn overlain by a further dark grey soil, (1/001). All layers had a similar consistency and inclusions.

Context No.	Context Type	Description	Thickness (m)
1/001	Deposit	Dark grey layer, containing degraded CBM, pieces of human bones and stones	0.16
1/002	Deposit	Brown-grey layer, containing degraded CBM, pieces of human bones and stones	0.14
1/003	Deposit	Grey layer, containing degraded CBM, pieces of human bones and stones	>1.00
1/004	Masonry	Wall made of red bricks	Excavated extension: 0.54 by 0.40
1/005	Deposit	Layer of stones covering the wall	<0.24
1/006	Deposit	Layer of concrete	<0.40
1/007	Masonry	Stone slabs overlying concrete	0.09
1/008		Modern gully	

7.5.3 Bone, together with building rubble and other remains, were observed from surface level to the base of the trench. However, all material was distributed randomly; the bones were not arranged in anatomical order, nor did they form any clusters. The only archaeological feature was the face of a wall made of red bricks, (1/004), partially uncovered in the southern part of the trench (fig.9). This wall was aligned parallel with the church wall. It was most likely forming part of a former crypt or burial vault. The masonry was buried beneath a pile of stones, (1/005), overlain by concrete, (1/006), and covered by stone slabs, (1/007). No cut for wall 1/004 was observed. In the eastern section of the trench, the foundations for a modern gully, (1/008), were observed.



Fig.9: Photo showing Section 2 at the southern end of Trench 1, facing S, (1m scale).

7.6 Trench 2 (fieldwork: 13.05.14)

- **7.6.1** Trench 2 of approx. 21.40m in length ran from the gully extension in the southern part of the Trench 1 towards the existing manhole in the northwest part of the North Garden. Its width and depth were similar to Trench 1. Its placement was in the area of an earlier drain pipe embedded in concrete.
- **7.6.2** The observed stratigraphy, (fig.10), consisted of a grey soil deposit, (2/003), overlain by a brown-grey layer (2/002), covered with a mixed brown-grey deposit (2/001). All layers had a similar consistency and inclusions; human bones, stones, a few sherds of 19th-century pottery and crushed building rubble. A burnt layer of wood and stones, (2/004), was identified between 2/002 and 2/001.

Context No.	Context Type	Context Description	Thickness (m)
2/001	Deposit	Mixed brow-grey and grey layer, containing degraded CBM, pieces of human bone and stones	>0.15
2/002	Deposit	Brown-grey layer, containing degraded CBM, pieces of human bone and stones	<0.2
2/003	Deposit	Grey layer, containing degraded CBM, pieces of human bone and stones	>1.15
2/004	Deposit	Layer of black burnt stones	<0.12

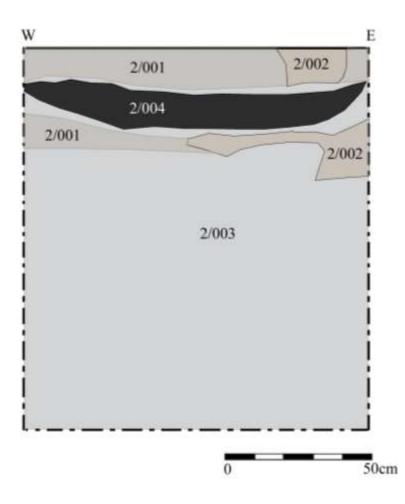


Fig 10: Section 3, midway along northeast side of Trench 3, facing NE

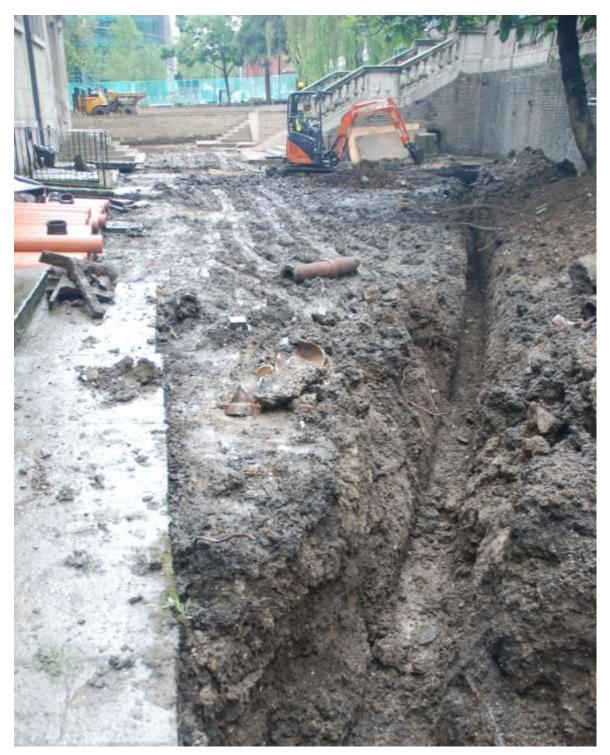


Fig.11: Trench 2 facing NW, 13th of May 2014

7.7 Trench 3 (fieldwork: 14.05.14 & 19.05.14)

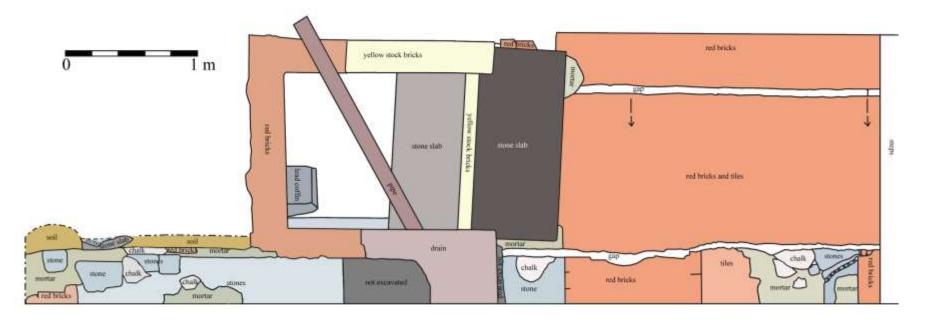
- **7.7.1** Trench 3 was placed on a N-S alignment. It measured 6.50m in length, between 0.50m to 1.0m in width, and was excavated by up to 0.90m in depth. The trench was dug to connect Trench 2 with a gutter pipe beneath stone paving next to the church wall. This excavation exposed not only the buried pipe but also two burial vaults containing several lead coffins.
- **7.7.2** The general stratigraphic sequence comprised a grey deposit containing degraded (3/003), overlain by brown-grey soil (3/002), overlain by light grey layer (3/001).

Context No.	Context Type	Context Description	Thickness (m)
3/001	Deposit	Light grey layer, containing degraded CBM, pieces of human bone and stones	>0.15
3/002	Deposit	Brown-grey layer, containing degraded CBM, pieces of human bone and stones	0.20
3/003	Deposit	Grey layer, containing degraded CBM, pieces of human bone and stones	>0.55

7.7.3 The only archaeological feature observed in this trench was the brick wall of the vault described below in 7.8, at the far southern end of the trench.

7.8 Vault (fieldwork: 14.05.14 – 16.05.14)

7.8.1 During the removal of the existing stone paving between the northern entrance steps to the church and the steps into the crypt in the north garden, two burial vaults, (fig.11), were uncovered, (v/003 and v/004). As well as the vaults an earlier church wall was also identified, (v/001). Altogether, three different structures and four different building phases were identified (see overleaf).



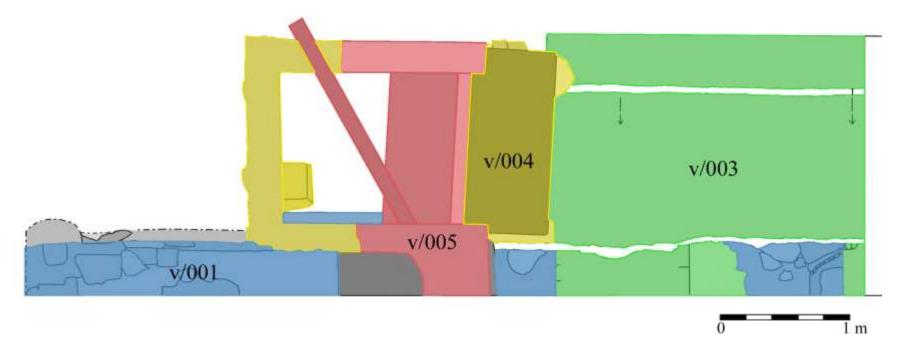


Fig.12: A multi-phase plan of the vault(s) and adjacent Church wall, with north at the top of frame

Context No.	Context Type	Context Description	Thickness (m)
v/001	Masonry	Earlier church wall made of stones, mortar and occasional bricks	>2.00
v/002	Cut	Construction cut for vault v/003, (not observed)	>2.00
v/003	Masonry	An earlier vault made of red bricks, attached to stone wall v/001	2.00
v/004	Masonry	Later vault made of red bricks, for the Bullocks family, attached to the western side of v/003	2.00
v/005	Masonry	A modern alteration to the Bullocks vault	-

7.8.2 The oldest phase of construction identified was an earlier church wall, (v/001; shown on fig. 8 as W1), which was situated below the current church wall, (fig.13). It was constructed mainly from stone blocks and mortar and was later incorporated as the southern wall for vault v/003, (fig.12). It was partially covered by red bricks and tiles, which are not part of the original construction, but kept it visually consistent with the rest of the vault. The observed thickness of the wall was 0.40m and was seen to continue down at least 2m. No construction cut for the vault, (v/002), was observed.



Fig.13: Photograph of early wall v/001, facing east, with the present church built on top but set back c 0.35m to the south (0.3 scale)

7.8.3 A brick-built vault, (v/003), was built adjoining earlier church wall v/001. It was roofed with red bricks and housed several coffins. The original entrance in the form of an arch was visible in the eastern side of the second vault, (v/004), the original west side of the early vault. This arch would no doubt have originally included steps leading down to it from ground level, providing access to the vault, but the stairs had been removed and archway sealed upon construction of vault v/004.

The vault was not opened, but through a crack along the northern side of the roof several decaying and seemingly overturned, lead coffins were visible, with a collection of long bones and other disarticulated remains strewn about, (fig.16). It may have been that the vault was substantially disturbed during construction of v/004.



Fig.14: *The two vaults, looking towards the north wall of the Church: the brick-roofed v/003 on the left of the frame and the partly-open v/004 to the right* (1m scale)



Fig.15: The east end of v/004, showing the blocked up entrance to v/003, including the truncated arch. This entrance would once have had steps leading up to ground level



Fig.16: Interior of v/003 as viewed through the crack in the roof from existing ground level. Note the disturbed and decaying coffins and disarticulated bones. Facing S

7.8.4 A second vault, also built of red bricks, was attached to the eastern side of the earlier one. The original arched entrance belonging to the earlier vault had been sealed by a brick wall, (fig.15), to form the eastern wall of the new vault, and a very peculiar thing was observed in the western wall of the new vault. The wall had been built up around a lead coffin. This resulted in the coffin partially sticking out of the wall, (figs.17 and 18), and into the interior of the vault itself. It must be presumed that this coffin predates the construction of the burial vault, and was perhaps originally buried within the open ground of the churchyard. It was then exposed when construction of vault v/004 began and instead of moving the burial, (which may have taken considerable effort and time), the work team simply built around it. What the relatives of the recipients of the new vault made of this odd arrangement can only be imagined!



Fig.17: The lead coffin sticking out into the new vault, v/004, facing west, (1m scale)



Fig.18: Coffin projecting into the vault, showing how the wall of the vault has been built around it **7.8.5** Five lead coffins were situated inside the opened burial vault. Three of them, due to their smaller size, were believed to belong to children. They were lain one atop the other. Two additional coffins were larger and were therefore originally thought to contain the parents, these were also placed one on top of another. Although there was a ledger stone with inscriptions covering the vault, it was partially weathered and not all the names and dates were legible¹. What follows is a photograph and transcript of the inscription on the aforementioned slab dating the vault to the early 19th-century:



..... WHO DIED DECEM(BER) AGED 2 YEARS AND 10 MONTHS ALSO WILLIAM FRANCIS BULLOCK WHO DIED JANUARY 18TH 18..... AGED 1 YEAR AND 6 MONTHS ALSO ANN BULLOCK, WHO DIED MARCH 8TH 1833 AGED 7 YEARS AND 4 MONTHS CHILDREN OF THE ABOVE. ALSO THE ABOVE MRS ANN BULLOCK, WHO DIED JULY 19TH 1833, AGED 36 YEARS.

Fig.19: *The ledger stone covering v/004 and its transcription*, (0.5m scale)

¹ For a longer discussion on the occupying coffins see Appendix VII

7.8.6 The coffins themselves were made of lead, and had begun to deteriorate, buckling and splitting apart. They were left in the vault and are not planned to be removed. As part of the garden's redevelopment stone slabs will be returned to their original positions where possible, supplemented by replacement stone as necessary.

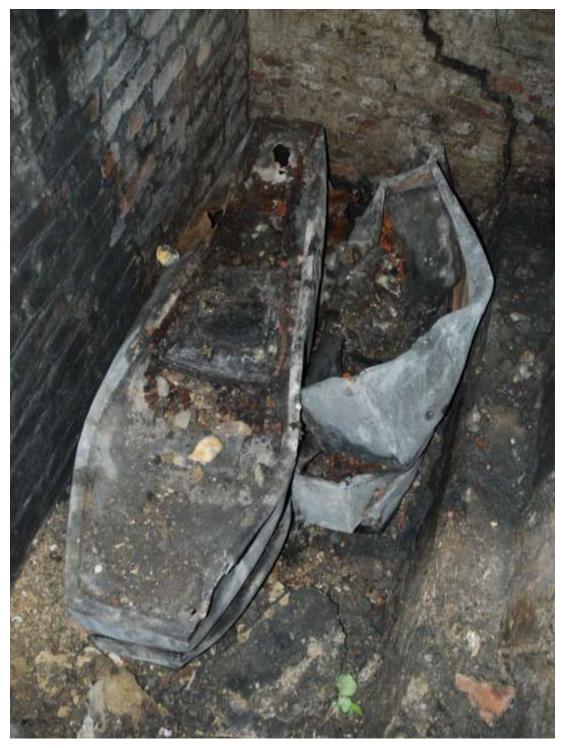


Fig.20: The five lead coffins in v/004 facing east, the three children's coffins are stacked to the right, and two adults to the left. The wall at the top of frame is a later insertion, blocking up the former access to vault v/003 to the east

- **7.8.7** A modern intrusion caused by the instalment of a modern gutter pipe across the vault led to vault v/004 being slightly disturbed and damaged. A plain stone slab had been added into the eastern wall of v/004 to create a support for the drain. Everything was then sealed beneath the re-laid stone paving.
- **7.8.8** No archaeological artefacts were recovered during the investigation of the vault. The oldest element was the earlier church wall, which seems to be of late medieval / early post-medieval origin, (possibly 16th century), judging by the brick samples taken².



Fig.21: The *vault(s) facing* east towards the northern entrance to St Andrews Church. *v*/004 *is in the* foreground, whilst earlier vault v/003 is the more obviously red-brick structure in the background. Also note the earlier church wall. *v*/001, on the right of frame, (1m scale)

² See appendix II

7.9 Wall 1 (fieldwork: 21.05.14)

- **7.9.1** A small trench measuring roughly 1.70m long and 0.50m wide was opened next to the church wall and beyond the vault to verify whether earlier wall v/001 could be observed beyond the vault itself.
- **7.9.2** The exposed wall was shown to be constructed from a mixture of different stones and brick, (of which samples were taken), bonded with a coarse lime mortar. The wall, as seen, measured $1.73m \log_{10} 0.32$ to 0.38m wide and was excavated to a depth of c0.40m. There was also an apparently plain stone slab, or at least part of one, buried next to the northern face of the wall. This was not fully exposed.



Fig.22: The eastern end of Wall 1 as exposed, showing the mixture of materials used in its construction. Vault v/003 is to the right of frame, built up against and slightly over the wall, (0.5m scale)

7.9.3 The wall itself is marked as W1 on a general plan of extensions to the original excavated area (fig.8), and shown as part of v/001, (blue), on the more detailed phase plan, (fig.12).

7.10 Trench 4 (fieldwork: 19.05.14)

- **7.10.1** Trench 4 was dug from the manhole where Trench 2 ended and extended south towards the church. Its total length was approximately 8.80m, and it was cut 0.50 to 0.8m wide. The maximum excavated depth was 1.80m. The southern end of the trench was extended, to form a 3.00m by 2.50m box to house a new manhole, similar to that in Trench 1.
- **7.10.2** Stratigraphy of the southern end of the trench was made up of light grey topsoil (4/001), 0.25 m thick, in which typical inclusions were visible. This layer covered two courses of brick wall, some 0.16m thick, aligned east to west, (4/002). Below this brick remnant was a 0.55m thick layer of concrete, (4/003), broken in the middle separating it into two layers. The concrete was overlain by a layer of at least seven stone slabs, (4/005), which evidently formed the foundation for the former (& recently removed) church steps. These were also recorded in Trench 7 in front of the existing steps. Alongside these slabs there was a thick layer of grey soil, (4/004), containing the usual inclusions of small mixed stones, rooty matter and some disarticulated human bone. No cuts were observed for the foundations.

Context No.	Context Type	Context Description	Thickness (m)
4/001	Deposit	Light grey layer, containing degraded CBM, fragments of human bone and mixed stones	>0.25
4/002	Masonry	Two courses of red bricks (headers)	0.16
4/003	Deposit	Layer of concrete with a breakage in the middle	>0.55
4/004	Deposit	Grey layer, containing degraded CBM, fragments of human bone and mixed stones	>0.45
4/005	Deposit	Stone slabs lain one over another. Probably a foundation for the church steps	>0.45

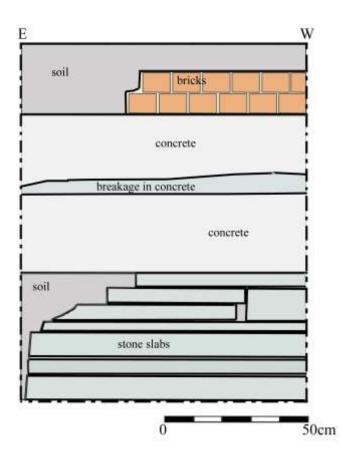


Fig.23: Section through southern end of Trench 4

- **7.10.3** Below the stone paving slab foundation some disturbed human long bones were observed, and in the eastern section of the trench a human skull facing upwards, with pieces of (coffin?) wood, appeared. Further investigation confirmed that this latter was an *in situ* burial. As it was not mandatory to disturb it, it was left *in situ*, and the trench was rerouted instead. It would appear that the burial postdates the general clearance of the graveyard during the construction of the Holborn Viaduct, and is most likely of later 19th century date.
- **7.10.4** A few sherds of pottery were collected from layer 4/004, dating the deposit to the 17th century, including a sherd of post-medieval slipped redware and English tin-glazed ware. The deposit also included two sherds of Romano-British undecorated Samian ware, but these were deemed to be residual.

7.11 Trench 5 (fieldwork 20.05.14 - 21.05.14)

- **7.11.1** Trench 5 was dug as an extension to the manhole pit sunk at the southern end of Trench 4. It was 2.00m long, (E-W), and 1.50m wide, (N-S), and was dug 1.10m deep.
- **7.11.2** The stratigraphic sequence, included a grey silty-clay layer, (5/003), overlain by brown-grey soil, (5/003), sealed by a light-grey layer, (5/003).

Context No.	Context Type	Context Description	Thickness (m)
5/001	Deposit	Light grey layer, containing degraded CBM, fragments of human bone and mixed stones	>0.15
5/002	Deposit	Brown-grey layer, containing degraded CBM, fragments of human bone and mixed stones	0.20
5/003	Deposit	Grey layer, containing degraded CBM, fragments of human bone and mixed stones	>0.75

7.11.3 No archaeological remains or finds were encountered.

7.12 Trench 6 (fieldwork: 21.04.14)

7.12.1 Trench 6 was dug in close vicinity to Trench 3. It was oriented on a north-south alignment and measured approximately 2.00m in length by 0.60m wide, with a further 1.00m² extension for a gully at its southern end. Its northern end connected mid-way along the southern side of Trench 2.

Context No.	Context Type	Context Description	Thickness (m)
6/001	Deposit	Light grey layer, containing degraded CBM, pieces of human bone and stones	>0.15
6/002	Deposit	Brown-grey layer, containing degraded CBM, pieces of human bone and stones	0.20
6/003	Deposit	Grey layer, containing degraded CBM, pieces of human bone and stones	>0.55

7.12.2 No archaeological remains, nor finds were encountered.

7.13 Trench 7 (fieldwork: 22.04.14-27.04.14)

- **7.13.1** Trench 7 extended westwards from the manhole in Trench 4, and measured approx. 13.5m in length and was up to 1m wide. Its depth was 1.3m.
- **7.13.2** The observed stratigraphy was made up of a dark grey deposit, (7/001), covering a layer of modern bricks, (7/002), lain over a layer of concrete, (7/003), and further layers of stone slabs, (7/004), continuing all the way down to the bottom of the trench. This

feature was believed to be the foundations for the northern entrance steps to the churchyard. Approximately 7m from the eastern end of the trench this layer vanished.

Further stratigraphy comprised a grey soil, (7/005), similar to the one observed in other trenches. A brick wall, (7/006), of six courses of single headers, was encountered in the western half of the trench, and probably formed part of some earlier drainage construction.

Context No.	Context Type	Context Description	Thickness (m)
7/001	Deposit	Light grey layer, containing degraded CBM, pieces of human bones and stones	<0.15
7/002	Masonry	Up to five courses of bricks lain over concrete and stone slabs	<0.40
7/003	Deposit	Concrete layer	< 0.40
7/004	Deposit	Layer of stone slabs. A foundation for the northern entrance steps from Holborn Viaduct	>0.50
7/005	Deposit	Grey layer, containing degraded CBM, pieces of human bone and stones	>1.30
7/006	Masonry	Simple wall made of at least six courses of single headers. Potentially part of some earlier drain	>0.50

7.13.3 No significant archaeological features were observed in the area of memorial slabs, and similarly in the area of grey soil.

7.14 Trench 8 (27.05.14-30.05.14)

- **7.14.1** Trench 8 was dug at a right angle to the western end of Trench 7, along a N-S alignment and measured 17.30m in length. It ran parallel with the new retaining wall built along the eastern side of the West Garden. The trench followed the line of an earlier drainage pipe, which was encountered. The trench was up to 0.70m wide and up to 1.40m deep. A roughly square extension, 2.10m by 2.40m, was added to its northern end for the insertion of a new manhole.
- **7.14.2** Observed stratigraphy consisted of dark grey topsoil, (8/001), overlying a brown clayey-soil, (8/002), in the northern end of the trench. Both layers had similar inclusions, (small bones, stones, CBM), and consistency, however the lower one was more compact and formed mainly of clay. Beneath this clayey layer, there was a layer of light-grey material made up of mortar and building rubble, (8/003).

Furthermore there was a more or less continuous layer of former drainage, formed of red bricks placed into the surrounding material, (8/004). This early drainage method was later replaced by a metal drain pipe, (8/007). Another pipe, (8/008), was observed running alongside the wall to the West Garden. Separate layers of mortar and building rubble, (8/005), was identified in-between the two phases of former drainage.



Fig.24: Former drainage box at the northern end of Trench 8, facing ESE, (1m scale)



Fig.25: Former drainage box at the southern end of Trench 8, facing ESE, (1m scale)

In the southern end of the trench there was a single, thick, brown clayey-soil layer, (8/006), containing infrequent building debris and broken pieces of stone slab from the top to the bottom of the trench.

Context No.	Context Type	Context Description	Thickness (m)
8/001	Deposit	Dark grey layer, containing degraded CBM, pieces of human bone and stones	0.40
8/002	Deposit	Brown clayey layer with some building debris	0.75
8/003	Deposit	Light grey layer made of mortar and building debris	0.52
8/004	Masonry	Former drainage made of red bricks	>1.30
8/005	Deposit	Light grey layer made of mortar and building debris	>1.30
8/006	Deposit	Brown clayey layer with some building debris, (bricks), and broken stone slabs	>1.00
8/007		Metal drain pipe	0.12
8/008		Metal drain pipe	0.12

7.14.3 No artefacts were recovered from this trench and no archaeological features were observed. If there were any in the past, they were most likely destroyed by the insertion of the drainage pipes. Human bones encountered in this trench were scarce, and were only observed as broken fragments within the layers.

7.15 Trench 9 (fieldwork: 28.05.14-29.05.14)

7.15.1 Trench 9 ran from a gutter on the northwest corner of the church towards the southern side of Trench 7 and measured 5.00m long. Its width was 0.75m and it was up to 0.7m deep.



Fig.26: Trench 9, facing SW towards the north wall of the Church. The line of Trench 7 is visible in the foreground, (1m scale)

7.15.2 Stratigraphically, there was only one layer. This was a grey layer containing degraded CBM, pieces of human bone and stones, (9/001), similar to that observed across the churchyard throughout the watching brief, (see 7/005). There was a concrete pipe, (9/002), placed within this layer and also a concrete base for the existing gutter, (9/003).

Context No.	Context Type	Context Description	Thickness (m)
9/001	Deposit	Grey layer, containing degraded CBM, pieces of human bone and stones	>0.70
9/002		Drain pipe inside concrete	0.36
9/003		Concrete base for the gutter	

7.15.3 No archaeological features or finds were recorded in this trench.

7.16 Trench 10 (fieldwork 29.05.14)

- **7.16.1** Trench 10 was a branch off of the eastern side of Trench 8 towards the western entrance to the church. It measured 2.95m in length, 0.50m in width and was excavated up to 0.80m deep.
- **7.16.2** There were only two layers visible in Trench 10. These were an upper layer of building rubble, (10/001), sealing a compact brown clayey deposit, (10/002), with building debris within it. It was the same soil as observed in Trench 8, (see 8/006).

Context No.	Context Type	Context Description	Thickness (m)
10/001	Deposit	Layer of building rubble	0.20
10/002	Deposit	Brown clayey layer with some building debris, (bricks)	>0.50

7.16.3 There were no archaeological finds or features observed in Trench 10.



Fig.27: Trench 10 facing E, towards the west face of the Church

7.17 Walls 2 and 3 (20.04.14-21.04.14)

- **7.17.1** Two smaller, additional, trenches were opened along the north side of the church to confirm the presence further to the west of the earlier church wall, v/001, encountered during excavation of the vault area, (see 7.8). Their positions are marked on fig.8 as W2 and W3.
- **7.17.2** Wall 2 was uncovered for a length of 1.38m and was observed stepping out *c*0.38m from below the extant church wall. It was made from stone and mortar, but also included elements of red brick. One of the larger stone blocks bore marks of stone masonry, possibly identifying it as re-used or unfinished window tracery, (fig.28).



Fig.28: Wall 2 facing south. The extant northern wall of the church is at the top of frame. The stone at the left end of the scale showed signs of having once been part of a window, (1m scale)

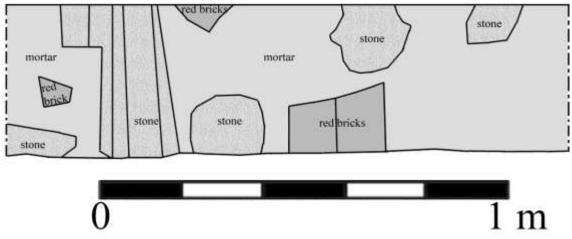


Fig.29: Line drawing of Wall 2

7.17.3 Wall 3 was observed as a length of 1.90m stepping out 0.35m from below the current church wall. This section of the wall was also made of roughly shaped stone and mortar, but no bricks were observed. The stonework included a couple of pieces of medieval window tracery, (figs.30 & 31, and appendix V). Immediately adjacent to this wall there was a layer of stone paving slabs, a few centimetres lower than the wall which could have been part of an earlier floor / ground surface.



Fig.30: Wall 3, facing south, with at least two re-used architectural fragments including part of a window mullion at the far right end, and a larger piece of tracery above the 1m scale. Note the stone slabs below the scale, apparently representing a former paved surface

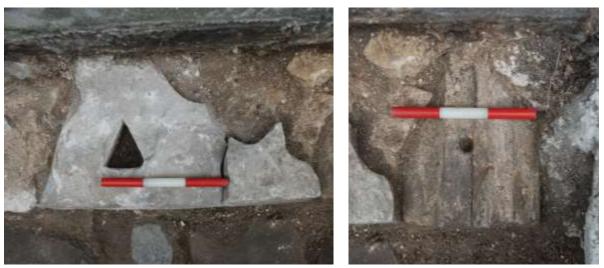


Fig.31: Detailed shots of the re-used stonework, (0.3m scales)

7.17.4 In both cases the present church stands over the earlier wall, so it is plausible that the current church was rebuilt closely along the same alignment as the medieval one.

8 **CONCLUSIONS**

The lack of *in situ* burials outside of the burial vaults demonstrated the effectiveness of the graveyard clearance that had taken place during the Holborn Valley Improvement Scheme in the 1860s. The lack of archaeological deposits (or many finds) from before the post-medieval period probably also reflects the impact of the graveyard clearance in removing / truncating earlier deposits, although there may still be remains at a deeper level.

The survival of a substantial earlier wall/footing within the fabric of the northern side of the church demonstrates the continuity between the different phases of church building that have taken place on the site. The fact that parts of this earlier wall also included re-used window tracery broadly datable to the mid 14th-15th-century also indicates the longevity of the site; although it cannot conclusively be proved that the stonework came from an immediate predecessor to the wall in question.

The earlier wall base also represents a potentially significant addition to the documented history of the church. The two recorded rebuilds took place in the 15^{th} century (apparently the 1440s) and again in the mid 1680s. The wall base clearly predated the late 17^{th} century rebuild – its outer line was offset some 350mm to the north, with a rough upper surface evidently left by demolition of the previous structure. However, brick samples from the structure have been broadly dated to the 16^{th} /early 17^{th} century, and it was specifically noted that two of the samples were not very early: on this basis the wall base must postdate the mid 15^{th} century rebuild.

There appears to be no record of a major 16th (or early 17th) century rebuild of st Andrews. Nevertheless, it is known that the Church was

after the Dissolution of the Monasteries Henry VIII gave it to Lord Wriothesley, later Lord Chancellor and Earl of Southampton, who was buried here (d.1550).

The two brick vaults unearthed during the watching brief also demonstrate the importance of the site as a place of Christian burial right up to the early 19th-century; indeed right up to within 25 years or so of the site eventually being cleared as evident from the Bullock family vault.

The presence of two sherds of Roman pottery within deposits in Trench 4 is of little consequence and cannot be interpreted as evidence of Roman occupation. The sherds could easily have been brought in from elsewhere and are certainly residual in nature.

The watching brief was a success and clarified the extent and depth of archaeological remains within the study area. Post-medieval archaeology, in the form of brick walls / burial vaults, survives within 300mm of the existing ground surface.

9 **BIBLIOGRAPHY**

Baker, T.M.M. (2000), London: Rebuilding the City after the Great Fire

Bere Architects and Jeremy Rye Studio, (2013), St Andrew Holborn Design and Access Statement

British Geological Survey, (1994), Sheet 256: North London

Compass Archaeology, (2013), A Written Scheme of Investigation for an Archaeological Watching Brief during improvement works at the Church of St. Andrew, Holborn, EC4

City of London, (2013), City of London Draft Local Plan

City of London, (2011), Local Development Framework: Core Strategy - Development Plan Document

City of London, (1998), *Planning Advice Note 3: Archaeology in the City of London – Archaeology Guidance*

Hyde, R, (1999), Ward Maps of the City of London

London Archaeological Archive and Research Centre, *LAARC Online Catalogue* http://archive.museumoflondon.org.uk/laarc/catalogue/

Noorthouck, J, (1773), A New History of London including Westminster and Southwark, Book II

St Andrew's Church website, www.standrewholborn.org.uk/

Thornbury, W, (1878), Old and New London Vol.2

Appendix I: Pottery analysis by Paul Blinkhorn

The pottery assemblage comprised 15 sherds with a total weight of 141g. It was quantified using the chronology and coding system of the Museum of London Type-Series, (eg. Vince 1985), as follows:

CREA:	Creamware, 1740-1830. 1 sherd, 2g.
HORT:	Horticultural Earthenwares, 19 th – 20 th century. 1 sherd, 42g
PMSR:	Post-Medieval Slipped Redware, 1480 – 1650. 1 sherd, 18g.
SWSG:	Staffordshire white salt-glazed stoneware, 1720-1780. 1 sherd, 4g.
TGW:	English tin-glazed ware, 1600-1800. 3 sherds, 8g.
TPW:	Transfer-printed Whiteware (underglaze), 1830-1900. 8 sherds, 51g.

In addition, two sherds of residual Romano-British pottery (16g), both plain Samian Ware, were also noted. The pottery occurrence by number and weight of sherds per context by fabric type is shown in Table 1. Each date should be regarded as a *terminus post quem*. The range of fabric types is typical of sites in London. All the sherds are small, and most of the earlier post-medieval material is abraded to some degree.

	RB		PMSR		TGW		SWSG		CREA		TPW		HORT		
Context	No	Wt	No	Wt	No	Wt	No	Wt	No	Wt	No	Wt	No	Wt	Date
U/S	1	14											1	42	U/S
1					2	4					2	4			19thC
2											3	38			19thC
1/001											1	1			19thC
2/003							1	4	1	2	2	8			19thC
4/004	1	2	1	18	1	4									17thC
Total	2	16	1	18	3	8	1	4	1	2	8	51	1	42	

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

Bibliography

Vince, AG, (1985), The Saxon and Medieval Pottery of London: A review in Medieval Archaeology 29, pp25-93

Appendix II: Ceramic Building Material Analysis by Sue Pringle

A total of 3 bricks were taken and kept during the archaeological watching brief. All three samples were recovered from the earlier church wall, where they were spotted only randomly. One of them came from W1 and two conjoined bricks came from W2. They did not form any brick structure by themselves. They may have been reused in this construction, as not all of the observed bricks were complete.

Context no.	Context cbm date	Period	Fabric	Form	Count	Weight	L	В	Т	Condition	Comments			
W1	1500-1700	РМ	3033	brick	1	1211	120+	113	63	M, Rd	lime mortar. 16th-early 17th?			
W2	1500-1700	РМ	3033	brick	2	1623	153+	110	55	м	conjoin. 2 bricks mortared together. Unfrogged; indented margin to larger brick, the other is obscured by lime mortar. Probably not very early - 16th-17th c?			
W2	1500-1700	РМ	3033	brick	-	-	109+	60+	62	-	The second brick from the above.			

Table 3: Brick specification

Appendix III: Bone analysis by Valentina Bernardi

Methods:

Loose bone recovered during the groundworks were analysed by direct observation, prior to reinterment. Age assessment of the juveniles was carried on from observation of tooth eruption and epiphyseal fusion and diaphysis length following Al Qahtani (2009) and Scheuer and Black (2000) respectively. Sex was estimated from cranial and pelvic morphology following Buikstra and Ubelaker (1994).

Quantity:

183 fragments of human bones and 2 animal bones were recovered from the N/W area that formed part of the graveyard of St. Andrew's Church.

Context:

Bones were scattered around the whole area as a result of the previous excavation of the graveyard in the 1860s to remove the bodies to a new location.

Conditions of the remains:

All the bones were disarticulated and most of them fragmented.

Discussion, (refer to the table overleaf showing bone count by element):

The bones recovered contained elements from both adult and juvenile individuals, however the majority were from adults.

The juvenile individuals were mostly represented by long bones and pelvis. The lower limbs were better represented then the upper limbs, with the femur being the most frequent followed by the humerus. The length and fusion stage of most juvenile elements suggest that the majority of these individuals were toddlers at the time of death, somewhere between 1 to 4 years of age. One of the femora was much longer than the others, about 23cm in length; although as both epiphyses were still completely unfused the child must have been younger than 12. The pelvic area was represented by 3 ilia, all of them were completely unfused and their size suggested age at death between 1 to 4 years of age.

Ageing and sexing of the adult remains was not attempted, with the exception of one of the skull fragments that was complete enough to determine that the individual was probably a young female of around 20 to 25 at the time of death. The cranial morphology of this skull corresponded to that of a female, with small mastoid processes, sharp orbit margins and a flat glabella. The left maxilla still retained several of the teeth, (second premolar, first and second molar). The teeth were not worn and the cusps were still sharp and well delineated. The third molar was lost post mortem, however the alveolus is still preserved and shows that the tooth was partially erupted at the time of death, though not completely formed yet.

Two additional bones were found to be a sheep metapoidal and a sheep incisor.

Bibliography

Buikstra, J. E., Ubelaker, D. H. (1994), Standard for Data Collection from Human Skeletal Remains. Fayetteville, Arkansas: Arkansas Archaeological Survey Report N. 44.

Scheuer, L. and Black, S. (2000), Developmental Juvenile Osteology. London: Elsevier Academic Press.

Adults	Skull frags	Mandible	Clavicle	Scapula	Rib frags	Vertebrae	Pelvis	Humerus	Radius	Ulna	Carpels	Metacarpels	Femur	Tibia	Fibula	Tarsal	Metatarsel	Unident.	Totals
Right prox		1	1					1					1	1					
Left prox		1	1										3						
Right distal								3					4						
Left distal								2					5	2					
Right shaft								2											
Left shaft								1	1				2						
Unsided shaft	48				20			4	4	1			8	5	4				
Unsided distal			1					1	1				1		1		1		
Unsided prox													3						
Unsided				3				1				1							
Right complete								1	1	1			2			1	3		
Left complete																			
Complete		1									1								
Total	48	3	3	3	20	4	6	16	7	2	1	1	29	8	5	1	4	9	170
Sub adults																			
Left								1					3						
Right							3	1					2	1					
Unsided					1													1	
Total					1		3	2					5	1				1	13
Grand total																			183

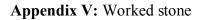
Appendix IV: Clay tobacco pipe by *Honza Horak*

A total of twenty-two pieces of clay tobacco pipe were recovered from three trenches: trenches 1, 2 and 4. Only three pieces however were stratigraphically located. The rest of them were collected from clearance. Details are shown below:

Context	Description
+ (Tr 1)	Stem fragment; <i>c</i> 53 mm by 9 mm (length x diam.)
	" " <i>c</i> 44 mm by 9 mm
	" " <i>c</i> 49 mm by 8 mm
	" " <i>c</i> 48 mm by 9 mm
	" " <i>c</i> 42 mm by 9 mm
	" " <i>c</i> 44 mm by 8 mm
	" " <i>c</i> 39 mm by 9 mm
	" " <i>c</i> 38 mm by 8 mm
	" " <i>c</i> 28 mm by 7 mm
	" " <i>c</i> 38 mm by 9 mm
	" " <i>c</i> 36 mm by 7 mm
	" " <i>c</i> 37 mm by 7 mm
1/001	Stem fragment; <i>c</i> 48 mm by 8 mm (length x diam.)
+ (Tr 2)	Stem fragment; <i>c</i> 58 mm by 10 mm (length x diam.)
	" " <i>c</i> 50 mm by 10 mm
	" " <i>c</i> 57 mm by 9 mm
	" " <i>c</i> 46 mm by 10 mm
	" " <i>c</i> 39 mm by 9 mm
	" " <i>c</i> 31 mm by 6 mm
	" " <i>c</i> 23 mm by 5 mm
2/003	Stem fragment; <i>c</i> 48 mm by 8 mm (length x diam.). The stem colour is black and there is an inscription, which says: '+ - CF L A M E G E -'
4/004	Bowl on a heel with a stem piece, rim with milling marks.
,	Stem: 55 mm by 10 mm. Bowl: 38 mm by 17 mm.
	Most resembles Type 15 in Oswald's simplified typology, c mid. 19 th century (Oswald 1975).

Bibliography

Oswald, A. (1975), Clay Pipes for the Archaeologist. British Archaeological Reports 14



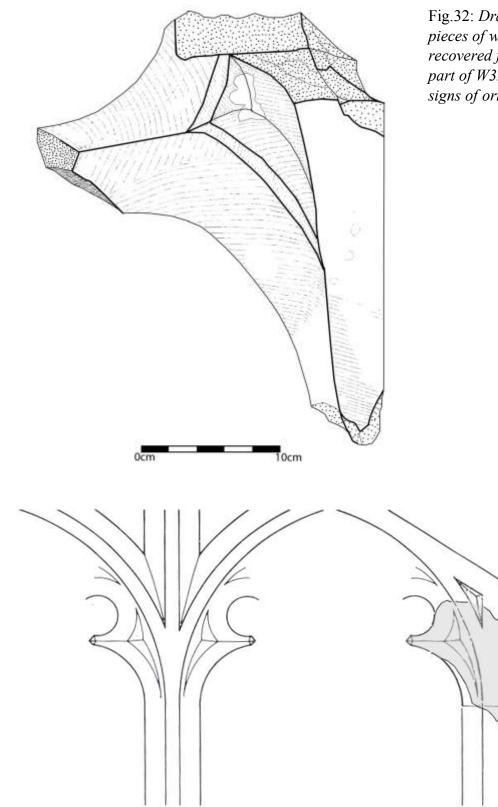


Fig.32: Drawing of one of the pieces of window tracery recovered from within upper part of W3. Interior face, with signs of original limewash

Fig.33: Rough illustration of how the above fragment of window tracery would have fit into the original window. It is a typical example of a Cinquefoil windowhead executed in the Perpendicular style, c1350-1540 similar to examples found at St Mary Spital and St Mary Graces

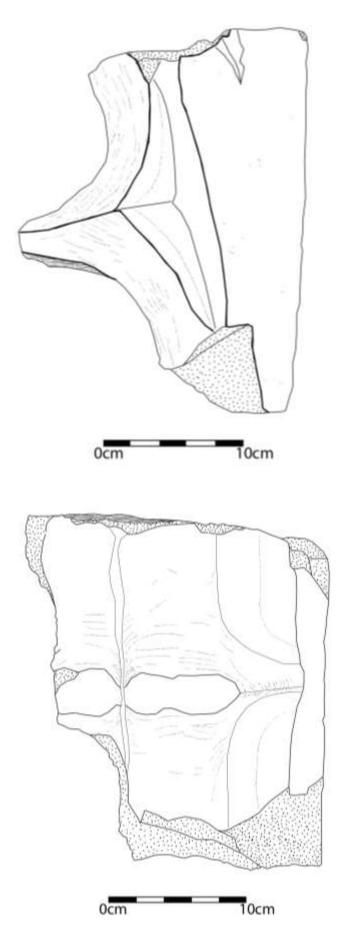


Fig.34: Drawings of second fragment of window tracery, interior face, (left), and side on, (right)

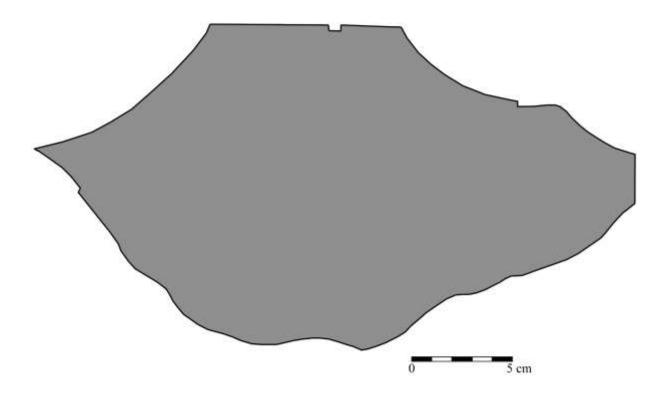


Fig.35: Section through window mullion found at the west end of W3



Fig.36: Photograph showing the location of masonry fragments illustrated above within W3

Appendix VI: Other finds

Metal

In total three metal objects were recovered during the archaeological watching brief. This consists of two iron nails, 60 mm long, and one bronze/copper rivet, 14 mm in diam. The iron nails came from clearance of trench 1, and the rivet is from context 2/003. Together with the rivet a piece of mineralised wood with rivet imprints was also recovered. All these pieces were most likely parts of coffins.

Glass

One piece of glass was recovered from the spoil heap of the trench 1. The piece has strong goldenlike corrosion, though the original colour of glass was green. Due to the curvature of the piece, this is most likely a piece of bottle, of post-medieval ($^{217^{th}-18^{th}}$ century) date. Its respective measurements were: $37 \times 21 \times 10$ mm.

Appendix VII: A story of one family – Bullocks of Holborn

(The following information about the Bullock family is taken from the Family Search website, and The Family History of Katherine Anne Sandison website, (www.http://gritqouy.com). There might be some discrepancies in the accuracy of the data, especially birth dates and christening, and also dates of death and burial dates might have become mixed).

Mr Benjamin Bullock was born in 1789 in Abington, Berkshire into the family of farmer Richard Bullock. His occupation was a cook. During his life he was married three times. His first marriage, to an unknown woman, occurred sometime before 1820. We do not know what happened to his first wife, but on 26 September 1820 he married Ann Cantis, (born in 1795), from the parish of St Mary Magdalen, Bermondsey, Surrey. Soon after, on 27 April 1821, she gave birth to their first son Benjamin, however the child died in September the same year. Around this time they are known to be living at 83 Grays Inn Lane, Middlesex. In the following years they had another six children: Isabella, (born 8 Aug 1822), John, (27 Sep 1824 – Dec 1824), Ann, (4 Nov 1825 – 8 March 1833), Richard, (10 Nov 1827 – Aug 1830), Rose Hannah Mary, (1830 – Jan 1833) and William Francis (16 Jul 1831 – Jan 1833). As will be observed all of their children with the exception of Isabella died soon after they were born or at a very young age. In July 1833 the children's mother Ann Bullock also died. Five people, two adults and three kids were buried in the vault.

Who is actually buried in the vault? As can be seen from its inscription, (Figure 19), there are definitely three children, two of whom we know by names: Ann and William Francis. The name of the third one was weathered away. But we know that he/she died at the age of 2 years and 10 months. Regarding the fact that in the vault there only three small coffins, the other three children who died earlier than their siblings were most likely buried elsewhere. This knowledge shortens our list of potentials to one name; Rose Hannah Mary who was the only other child to die in a close time range and of the right age.

After identifying the third child one would assume that the remaining two larger coffins belong to the parents buried alongside some of their offspring. From the stone slab it is obvious that there is the mother as she died in 1833, as did several of her children. The top of the slab was partially weathered and the father's name has disappeared. However, there was a strong indication to his presence in the vault, as the inscription below the child's names reads '*children of the above*'. As the mother is mentioned below the children, it would logically point towards father's name.

Even if his name was mentioned on the slab, was he actually buried in the vault? When the plaque on the top on one of the adult coffins was cleaned, it did not read *Benjamin Bullock*, nor *Ann Bullock*, but *Jane Bullock*. Who is Jane Bullock? She was born as Jane Stiles in 1816 at Missenden, Buckinghamshire, and on 14th October 1851 she married Benjamin Bullock and became his third wife. Her daughter Jane Sophia was born on 20 November 1853, however Jane Bullock is known to have died in November of the same year, (probably as a result of childbirth or of some postpartum complications).

It seems likely that Benjamin Bullock built the vault for himself and his second family, however he was never buried there. Instead he buried his third wife there, whilst he took care of their newborn child. His first daughter Isabella started her own family in 1843. Jane Sophia moved out from Grays Inn Lane, probably after her father's death, as she is mentioned as living with her aunt Esther Stiles at Teddington, Middlesex by 1871³. In 1879 she like her older sister got married and started her own family.

³https://familysearch.org/search/record/results?count=20&query=%2Bgivenname%3A%22Rose%20Hannah%20 Mary%22~%20%2Bsurname%3ABullock~%20%2Bdeath_place%3Aholborn~%20%2Bdeath_year%3A1833-1833~

Appendix VIII: OASIS online data collection form

Project details	
Project name	Church of St Andrew Holborn, City of London: An archaeological watching brief
Short description of the project	Between March and May 2014 Compass Archaeology undertook an archaeological watching brief during the redevelopment of the north and west gardens of the Church of St. Andrew Holborn, City of London, EC4A 3AB. The watching brief included monitoring the removal of stone paving and extensive trench excavation for a new drainage system in the area of the north and west gardens. All recorded archaeological layers contained very occasional, randomly re-deposited, human remains as a result of the 19th-century cemetery clearance. During the groundworks only one in situ burial was identified, but because of an early identification it was decided to leave it undisturbed and reroute the drainage trench. The archaeological watching brief identified an earlier church wall running parallel with and largely underneath the northern side of the current church footprint. This is possibly of a Tudor date, though re-using some earlier medieval stonework within the fabric. During the removal of paving in the north garden two burial vaults were uncovered, dating approximately from the later 18th to earlier 19th centuries. The later vault contained five lead coffins, (2 adults and 3 children), belonging to the Bullock family, whilst the older vault remained closed. Both vaults had been attached to the earlier church wall mentioned above.
Project dates	Start: 24-03-2014 End: 30-05-2014
Previous/future work	No / No
Any associated project reference codes	SAH14 - Sitecode
Type of project	Recording project
Site status	None
Current Land use	Other 5 - Garden
Monument type	WALL Post Medieval
Monument type	BURIAL VAULTS Post Medieval
Significant Finds	POTTERY SHERDS Roman
Significant Finds	POTTERY SHERDS Post Medieval
Significant Finds	WINDOW MOULDING Medieval

OASIS ID: compassa1-188707

Investigation type	"Watching Brief"
Prompt	Faculty jurisdiction
Project location	
Country	England
Site location	GREATER LONDON CITY OF LONDON CITY OF LONDON Church of St Andrew Holborn, North and West gardens
Postcode	EC4A 3AB
Study area	545.00 Square metres
Site coordinates	TQ 31470 81518 51.5167676884 -0.105011228664 51 31 00 N 000 06 18 W Point

Project creators

Name of Organisation	Compass Archaeology
Project brief originator	City Archaeologist
Project design originator	Compass Archaeology
Project director/manager	Geoff Potter
Project supervisor	Honza Horak
Type of sponsor /funding body	City of London Corporation
Name of sponsor /funding body	City of London Corporation

Project archives

Physical Archive recipient	Museum of London Archive
Physical Contents	"Ceramics","Metal","other"
Digital Contents	"other"

Digital Media available	"Images raster / digital photography", "Text"
Paper Contents	"other"
Paper Media available	"Map","Notebook - Excavation',' Research',' General Notes","Plan","Unpublished Text"
Project bibliography 1	
Publication type	Grey literature (unpublished document/manuscript)
Title	THE CHURCH OF ST. ANDREW HOLBORN
Author(s)/Editor(s)	Horak, H and Aaronson, J
Date	2014
Issuer or publisher	Compass Archaeology
Place of issue or publication	5-7 Southwark Street, SE1 1RQ
Description	Short summary report of the results of the watching brief. Includes historical, archaeological, geological and topographical background of the site, details of the methodology used, photographs and descriptions of all areas monitored, and brief conclusions reached.

Appendix IX: London Archaeologist summary

Site Address:	The Church of St Andrew Holborn, City of London, EC4A 3AB
Project type:	Watching brief
Dates of fieldwork:	24 th March – 30 th May
Site code:	SAH14
Site supervisor:	Geoff Potter
NGR:	3147 8151
Funding body: Enhancement	City of London, Department of the Built Environment: Environmental

Between March and May 2014 Compass Archaeology undertook an archaeological watching brief during the redevelopment of the north and west gardens of the Church of St. Andrew Holborn, City of London, EC4A 3AB. The watching brief included monitoring the removal of stone paving and extensive trenching for a new drainage system in the area of the gardens.

All recorded archaeological layers contained very occasional, randomly re-deposited, human remains as a result of the 19th-century cemetery clearance. During the groundworks only one *in situ* burial was identified, but it was decided to leave it undisturbed and reroute the drainage trench.

The archaeological watching brief identified an earlier church wall running parallel with and below the northern side of the current church footprint. This is possibly of a Tudor date, though re-using some earlier medieval stonework within the fabric.

During the removal of paving in the north garden, two burial vaults were uncovered, broadly dating from the later 18th to earlier 19th century. The later vault contained five lead coffins, (2 adults and 3 children), belonging to the Bullock family, whilst the older vault remained closed. Both vaults were attached to the earlier church wall mentioned above.