MIDDLESEX HOSPITAL ANNEXE
44 Cleveland Street
London W1T

London Borough of Camden

Evaluation Report V.2

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Report on an archaeological evaluation

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Summary

This report presents the results of the archaeological test trench evaluation carried out by MOLA at Middlesex Hospital Annex, 44 Cleveland Street, London, W1T 4JT. The report was commissioned from MOLA by the client, University College London Hospitals Charity (UCLHC).

In accordance with the Written Scheme of Investigation for Archaeological Evaluation and Watching brief (MOLA 2018) seven evaluation trenches were undertaken on the site between 4 February and 11 April 2019. Subsequent to the evaluation, site investigation (SI) trenches were excavated around the southern, eastern and northern boundaries of the site to determine the survival of articulated skeletons in these locations. Four hand dug SI pits were also excavated (two along the northern perimeter and two along the southern perimeter), and the articulated skeletons in these locations were hand excavated. Four machine dug SI pits were also excavated.

The archaeological evaluation was undertaken within the property boundary of the Strand Union Workhouse (1778–1873). Six trenches were located within the cemetery; a single trench was also located at the front of the workhouse. The earliest deposits encountered were a series of large late-18th century quarry pits. A series of late 18th-century wheel ruts were found leading to the front of the workhouse which were likely made during the construction of the workhouse between 1775–78.

The workhouse cemetery was located to the rear of the site; 55 articulated burials were recovered from three trenches (50 adults and 5 sub-adults dating to between 1780 and 1853 were excavated).

The main impact associated with the new development is the construction of a new larger and deeper basement and associated piled foundations. The new basement and piled foundations would remove any surviving archaeological remains within its footprint. It is therefore anticipated that controlled excavation of the human remains will be undertaken in advance of the groundworks on site. However, the decision on the appropriate archaeological mitigation of the deposits rests with GLAAS (Greater London Archaeological Advisory Service) and the Local Planning Authority.

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1 Introduction

1.1 Site background

1.1.1 An archaeological test trench evaluation was carried out by MOLA at Middlesex Hospital Annex, 44 Cleveland Street, London, W1T 4JT ('the site') between 4 February and 11 April 2019 (Fig 1). Site investigation (SI) trenches and localised SI pits were subsequently excavated between 15 April and 9 July around the southern, eastern and northern boundaries of the site. This document is the Report on that work.

1.1.2 A Desk Based Assessment (DBA) was previously and submitted in support of the planning application which assessed the archaeological potential of the whole site (MOLA 2017). This document should be referred to for information on the natural geology, archaeological and historical background of the site, and the initial interpretation of its archaeological potential.

1.1.3 The site comprises the group of buildings of the former Middlesex Hospital Annexe, and is bounded by Cleveland Street to the south-west, no. 34–42 Cleveland Street (Middlesex House) to the south-east, the rear of the Sainsbury's Welcome Centre on Howland Street to the north and north-west and the rear of buildings fronting Charlotte Street to the east and north-east. The centre of the site lies at National Grid reference 529260 181810 (A).

1.1.4 The building was historically known as the Central London Sick Asylum, The Strand Union Workhouse Infirmary and the Covent Garden workhouse

1.1.5 The site contains a late 18th century Grade II listed workhouse. It does not lie within a Local Authority Archaeological Priority Area (APA) but is within a Conservation Area.

1.2 Planning background

1.2.1 The legislative and Planning framework in which the evaluation took place was fully set out in the Written Scheme of Investigation (see Section 9, MOLA 2017). To summarise here:

1.2.2 The development received planning permission on 15th of January 2017 and included Condition No 6. The condition was formulated in consultation with GLAAS and requires that:

> *6 - **No** development consisting of works below ground level shall take place shall take place until a stage 1 written scheme of investigation (WSI) has been submitted to and approved by the local planning authority in writing. For land that is included within the WSI, no works shall take place other than in accordance with the agreed WSI, and the programme and methodology of site evaluation and the nomination of a competent person(s) or organisation to undertake the agreed works.*
>
> *If heritage assets of archaeological interest are identified by stage 1 then for those parts of the site which have archaeological interest a stage 2 WSI shall be submitted to and approved by the local planning authority in writing. For land that is included within the stage 2 WSI, no demolition / development shall take place other than in accordance with the agreed stage 2 WSI which shall include:*
>
> *The statement of significance and research objectives, the programme and methodology of site investigation and recording, interpretation and/or public*

engagement strategy and the nomination of a competent person(s) or organisation to undertake the agreed works.

The programme for post-investigation assessment and subsequent analysis, publication and dissemination and deposition of resulting material. This part of the condition shall not be discharged until these elements have been fulfilled in accordance with the programme set out in the stage 2 WSI

1.2.3 The evaluation was carried out to fulfil part of condition 6 (Consent reference 2017/0414/P; Condition number 6).

1.3 Scope of the evaluation

1.3.1 Evaluation is defined by Historic England as intended to provide information about the archaeological resource to contribute to the:

1.3.2 - formulation of an appropriate response or mitigation strategy to planning applications or other proposals which may adversely affect such archaeological remains, or enhance them; and/or

1.3.3 - formulation of a proposal for further archaeological investigations within a programme of research

1.3.4 An archaeological evaluation is a limited fieldwork exercise designed to test the conclusions of preliminary desk-based work. It is not the same as full excavation.

1.3.5 The evaluation was carried out within the terms of the relevant Standard for evaluation specified by the Chartered Institute for Archaeologists (CIFA, 2014).

1.3.6 All work has been undertaken within the research priorities established in the Museum of London's A research framework for London Archaeology, 2002.

1.3.7 All work was undertaken within research aims and objectives established in the Written Scheme of Investigation for the evaluation (MOLA 2018, Section 2.2).

2 Topographical and historical background

2.1 Topography

2.1.1 A detailed description of the geology, archaeology and history of the site was provided in the earlier Historic environment assessment (MOLA 2017). A brief resume is provided here:

2.1.2 British Geological Survey digital data shows the geology of the site comprises Thames River Terrace Gravels of the Lynch Hill Terrace, overlying London Clay. The top of any untruncated natural gravels on the site is estimated to lie at *c* 1.2m below ground level (25.4m OD) or higher, although later ground disturbance may have truncated this level.

2.2 Archaeology

2.2.1 Historic mapping shows that the site was in open grounds or fields in the mid-18th century and was developed towards the late 18th century into the Covent Garden Workhouse and later the Strand Union Workhouse.

2.2.2 In May 1775, the Covent Garden vestry obtained an Act of Parliament (15 Geo II c. 50) "to enable the inhabitants of the parish… to purchase a piece of ground for a workhouse and for providing an additional burial ground for the parish". The central building on the west of the site, set back from Cleveland Street, was constructed between 1775 and 1778 as a workhouse for the parish of St Paul, Covent Garden.

2.2.3 Although the Historic England listing for the Grade II listed former 18th-century workhouse gives the date of consecration as 1788, Richardson (2012, 76) describes a ceremony which took place in April 1790, during which the entire plot (except for the footprint of the original workhouse) corresponding to the current site outline was consecrated.

2.2.4 The rear of this building was modified, and others were constructed both before and after the site became the Strand Union Workhouse in *c* 1836, but these early additions have since been removed.

2.2.5 Documentary evidence has shown that the site was used as a burial ground up until the mid-19th century and disarticulated bones have been discovered on the site during recent geotechnical site investigations (MOLA, 2018). Historic records suggest that the entire plot was consecrated and used for at least a 70-year period.

2.2.6 An account by Dr Joseph Rogers (in his *Reminiscences of a workhouse medical officer*) describes the layout of the site from 1856–1868, and also comments on building modifications of the workhouse. His account also provides information regarding the presence of burials, which were discovered during excavation for the laundry room foundations (Rogers 1889, 13–14):

> "On proceeding to dig out the foundation, the workmen came on a number of skeletons, the yard having been originally the poor burial ground of St Paul's, Covent Garden, for which the Workhouse, etc, had been built, and had been rented by the Guardians from that parish when the Strand Union was formed. So full was this yard of human remains, that the contractor was compelled to go down twenty feet all round, before a foundation for the laundry could be obtained".

2.2.7 New extensions to the rear of the 18th-century building were constructed in 1874 to 1875, when the site became the Central London Sick Asylum; the north and south wings of the 18th-century building were continued to the east end of the site,

enclosing a yard between them and, at the same time, two separate ranges were constructed running from Cleveland Street eastwards, backing on to the north and south sides of the site, respectively. These buildings still exist, although they have subsequently been modified to a greater or lesser extent, notably after they were acquired in 1924 by the Middlesex Hospital (situated 100m south of this site) and used by the hospital's outpatients from 1926 until vacated in 2006.

3 Evaluation methodology

3.1 Field methodology

3.1.1 Seven evaluation trenches (Fig 2) measuring 8m X 6m were excavated. Six trenches were located to the rear of the workhouse building; one trench (TR 7) located at the front of the building.

3.1.2 At approximately 1.20m below ground level the trenches 1 - 6 were stepped through the modern made ground to facilitate a safe base trench footprint of 5m X 3m. The trenches were stepped down to the top of the archaeological horizon/ top of surviving grave cuts.

3.1.3 Of the seven trenches, four were selected to be excavated to the base of the grave stacks / top of natural sand and gravel to investigate the full depth of the archaeological sequence surviving on site. Trench boxes were used to support the sides of the deep excavations. Trenches 1, 3, 5 and 7 were selected as trench box locations.

3.1.4 On completion of the evaluation, an SI trench was excavated by machine along the northern, eastern and southern perimeter of the site to determine the presence/ absence of human remains in the area which will be impacted by the secant pile wall.

3.1.5 Four hand-excavated test pits (HTP1–4) were dug through the archaeological sequence to inform on the existing foundations and facilitate the temporary works design.

3.1.6 Four engineering test pits (ETP1-4) were also dug through natural/ truncated material to inform the tempoarary works design/ basement box design.

3.1.7 Trench locations were individually surveyed on site by MOLA surveyors and subsequently tied to the OS grid by MOLA Geomatics.

3.1.8 Where referenced in this report (eg ‘13.45m OD’), levels relate to OS Ordnance Datum and were calculated by measurement from a nearby spot height on a plan provided to us (Existing Drainage Plan).

3.2 Recording methodology

3.2.1 A written and drawn record of all archaeological deposits encountered was carried out in accordance with the Written Scheme of Investigation (MOLA 2018).

3.3 Site archive

Number of overall location plans	1
Number of Context (SU) sheets	224
Number of photographs	984
Number of Plan sheets	152
Number of Sections	7

4 Results of the evaluation

4.1 Trench 1

Location	North-east
Dimensions	8m X 6m
Modern ground level/top of slab	26.77m OD
Base of modern fill	25.27m OD
Depth of archaeological stratigraphy above natural (if any)	4.04m
Level of base of lowest features or deposits observed	21.23m OD
Top of surviving natural observed at	21.23m OD
Level of base of trench	21.23m OD

4.1.1 Trench 1 was in the north-eastern part of the site and the base of the trench footprint measured 8m north-south X 6m east-west. A 2.50m square trench box was installed within the footprint of the larger trench to enable excavation of the full sequence of archaeological deposits down the natural geology. No articulated skeletons were recovered from this trench.

4.1.2 The natural geology (sand and gravel) [193] reached at 21.23m OD / 5.54m bgl (Fig 3). Overlying the natural was a 0.84m thick deposit of compacted light brown clayey sand [184] containing frequent pieces of crushed brick and mortar (Fig 4). This deposit produced pottery dating to 1720–50 and the top was recorded at 22.25m OD. Running along the western edge of the shaft was a north-south aligned cut [191] which measured 0.90m wide (to the limits of excavation) by 1.02m deep. It was filled [192] with a dark brown clayey sand with frequent pieces of crushed brick and mortar.

4.1.3 Sealing cut [192] was a 0.13m thick layer of light brown clayey sand [183] overlain by a 0.90m thick layer of mid red-grey silty sand recorded at 22.48m OD. Above this was a 0.22m thick layer of mid brown sandy silt [168] with occasional shell and pottery dating to between 1720–50. This was overlain by a 0.18m thick layer of black organic sandy silt [167]. Above this was a 0.63m thick layer of organic dark red-brown silty sand [125] containing frequent fruit seeds which was overlain by a 0.14m thick layer of black organic silt [124] which produced finds of level and metal leather and metal. The top was recorded at 23.44m OD. This layer was overlain by a 0.14m thick red-brown silty sand [123] which in turn was overlain by a dark red-brown sandy silt [77].

4.1.4 Within the larger 8m X 6m trench was a 0.15m thick layer of light grey mortar [76] recorded at 24.36m OD. Above was a 0.30m thick layer of dark brown sandy silt with the top at 24.71m OD.

4.1.5 Truncating the above layers was a large pit [60] running into the western trench section measuring 5m north-south by 2m east-west by 1m deep (to the limits of excavation). It contained fill [59] with a mid-yellow-brown clayey silt with frequent brick and mortar fragments overlain by a deposit of light grey mortar with frequent brick and [75]. The upper layer was a red-brown sandy silt [1] with frequent brick and mortar rubble containing pottery dated from 1760-80 (Fig 5). The top of this deposit was recorded at 25.27m OD. Ground level was recorded at 26.77m OD in this location.

4.2 Trench 2

Location	North-west
Dimensions	8m X 6m
Modern ground level/top of slab	26.50m OD
Base of modern fill/slab	24.47m OD
Depth of archaeological stratigraphy above natural (if any)	3.46m
Level of base of lowest features or deposits observed	21.01m OD
Top of surviving natural observed at	21.01m OD
Level of base of trench	21.01m OD

4.2.1 Trench 2 was located at the north-western part of the site and measured 8m north-south by 6m east-west (Fig 6). The base of the trench footprint measured 8m north-south X 6m east-west. This trench was not selected for the installation of a trench box.

4.2.2 To determine the depth of natural sand and gravel in this location without temporary works, the base of the trench was hand augered and natural sand and gravel [177] was recorded at 21.01m OD. 5.50m bgl.

4.2.3 Truncating the natural was a large pit [176] measuring 3.46m deep which extended beyond the limits of the trench. It was filled [68], [175] with a dark brown sandy silt which produced brick rubble, glass, clay tobacco pipe, pottery, bone and oyster shell. The top of the pit was recorded at 24.47m OD.

4.2.4 Crossing the trench in an east-west direction was a brick wall [63] placed on a concrete foundation for the northern hospital wing. The wall measured 0.84m wide by 4m deep. The top was recorded at 25.31m OD. The top of the trench was recorded at 26.50m OD.

4.2.5 Ground level was recorded at 26.50m OD in this location.

4.3 Trench 3

Location	East
Dimensions	8m X 6m
Modern ground level/top of slab	26.90m OD
Base of modern fill/slab	25.28m OD
Depth of archaeological stratigraphy above natural (if any)	3.97m
Level of base of lowest features or deposits observed	21.31m OD
Top of surviving natural observed at	21.31m OD
Level of base of trench	21.31m OD

4.3.1 Trench 3 was located at the eastern part of the site and the base of the trench footprint measured 8m north-south X 6m east-west. A trench box was installed to facilitate the safe excavation of the burials in this location (Figs 7 + 8).

4.3.2 The natural sand and gravel [196] was reached at 21.31m OD, 5.59m bgl. Truncating the natural was a large pit filled with a 0.55m thick dark brown sandy silt [195] which produced pottery dating to 1660–1700. This deposit was sealed by a 1.50m thick black organic black sandy silt [181] which produced clay tobacco pipe

dating to 1740–60; the top was recorded at 23.14m OD. This was overlain by a 1m thick dark brown sandy silt [149]. Within the eastern part of the trench box was a 0.20m thick layer of grey mortar with occasional brick fragments [101] recorded at 24.32m OD. Above was a 0.30m thick layer of dark brown sandy silt with frequent fragments of mortar and brick [100] which was overlain by a 0.90m thick layer of black sandy silt with moderate charcoal flecks [99]. The top was recorded at 25.00m OD.

4.3.3 Covering the open trench was a 0.10m thick layer of moderately compacted grey sandy mortar and brick fragments [2] recorded at 25.28m OD. Pottery recovered from deposit [2] was dated to 1760–80. This is the same layer as [18] within Trench 5.

4.3.4 Truncating the above deposits were two grave cuts [21] and [31]. Five skeletons were recorded within grave cut [21]; skeleton numbers [84], [82], [73], [69], [19] (earliest first). Each was originally placed within a coffin, of which only fragments survive. The top of the grave was recorded at 25.00m OD. Within grave cut [31] were 6 skeletons [121], [108], [106], [97], [71], [27] (earliest first). Each was placed within a coffin. The top of the grave was recorded at 24.87m OD.

4.3.5 Above grave cuts [21] and [31] were two further grave cuts [26] and [36]. Within grave cut [26] were 5 skeletons [94], [88], [80], [24], [22] (earliest first). Each was placed within a coffin. The top of the grave was recorded at 24.75m OD. Within grave cut [36] were 5 skeletons [90], [78], [34], [32], [8] (earliest first). As above, each of these skeletons was placed within a coffin. The top of the grave was recorded at 24.94m OD (Fig 7, Fig 9).

4.3.6 Truncating the cemetery was a brick drain [6]. From the backfill of the drain a few fragments of disarticulated human bone were collected [5]. The top was recorded at 25.56m OD.

4.3.7 Above the drain was the brick and concrete rubble with the top of the trench recorded at 26.90m OD.

4.3.8 The average occupancy of grave cuts in Trench 3 was 5.25.

4.3.9 Ground level was recorded at 26.90m OD in this location.

4.4 Trench 4

Location	Centre of the site
Dimensions	8m X 6m
Modern ground level/top of slab	26.58m OD
Base of modern fill/slab	24.70m OD
Depth of archaeological stratigraphy above natural (if any)	2.77m
Level of base of lowest features or deposits observed	21.93m OD
Top of surviving natural observed at	Not reached
Level of base of trench	21.93m OD

4.4.1 Trench 4 was in the centre of the site the base of the trench footprint measured 8m north-south X 6m east-west. This trench was not selected for the installation of a trench box.

4.4.2 No articulated skeletons were recorded within this trench.

4.4.3 The natural sand and gravel was not reached in this location due to the presence of ground water. A large pit [185] measuring beyond the limits of the trench was recorded at 2.77m thick in the trench, to a depth 21.93m OD. The pit was filled with a dark brown sandy silt with brick and mortar rubble, pottery, animal bone and

oyster shell [52], [53] . The top was recorded at 24.70m OD. The top of the trench was recorded at 26.58m OD.

4.4.4 Ground level was recorded at 26.58m OD in this location.

4.5 Trench 5

Location	South
Dimensions	8m X 6m
Modern ground level/top of slab	27.02m OD
Base of modern fill/slab	25.30m OD
Depth of archaeological stratigraphy above natural (if any)	2.10m
Level of base of lowest features or deposits observed	23.21m OD
Top of surviving natural observed at	23.65m OD / base of natural 23.21m OD
Level of base of trench	23.21m OD

4.5.1 Trench 5 was located at the southern part of the site the base of the trench footprint measured 8m north-south X 6m east-west. A trench box was installed to facilitate the safe excavation of the burials in this location.

4.5.2 The top of natural sand and gravel [188] was reached at 23.65m OD dropping to 23.21m OD to the north, though burials and other archaeological deposits were found cut into the natural ground. The base of the sand and gravel was recorded at 23.21m OD Truncating the natural, was a large pit [187] which extended beyond the limits of the trench box (Figs 11 + 12). The lower fill was a light orange silty clay with frequent brick fragments [173] which produced pottery dating to 1740–80. Above was a 0.15m thick layer of yellow-brown silty clay [18] with frequent brick fragments. Clay tobacco pipe recovered dated to 1740–60. The top was recorded at 25.30m OD. This is the same layer as [2] within Trench 3.

4.5.3 Truncating the above layer [18] were a series of five graves (Fig 13). The trench box was targeted over three graves. The southern grave cut [42] contained six skeletons [169], [147], [135], [117], [115], [40] (earliest first). The grave was filled with a black silt [39]. To the north, another grave [13] contained seven skeletons [171], [150], [143], [113], [112], [17], [15] (earliest first). Each was placed within a coffin. The grave was filled with a black silt [16] which produced pottery dating to 1720–60. To the north was a grave [9] which contained two skeletons [38], [11] (earliest first). The grave fill was a black silt [12].

4.5.4 At the southern edge of the shaft was a grave [190] which exposed five skeletons [189], [186], [134], [133], [140] (earliest first).

4.5.5 Further south was grave [57] outside of the trench box footprint which was only partially excavated to prevent damage to the skeletons. Two skeletons [56], [55]. The fill was a black silt [54]. The top of the burial horizon was recorded at 25.30m OD, 1.72m below ground levelThe average occupancy of grave cuts in Trench 5 was 6 (excluding grave cut [57] which was only partially excavated).

4.5.6 Ground level was recorded at 27.02m OD in this location.

4.6 Trench 6

Location	South-west
Dimensions	8m X 6m
Modern ground level/top of slab	27.02m OD
Base of modern fill	25.30m OD
Depth of archaeological stratigraphy above natural (if any)	2.45m
Level of base of lowest features or deposits observed	22.85m OD
Top of surviving natural observed at	22.85m OD
Level of base of trench	22.85m OD

4.6.1 Trench 6 was located at the southern part of the site and measured 8m east-west X 6m north-south. This trench was not selected for the installation of a trench box.

4.6.2 The natural sand and gravel [180] were recorded at 22.85m OD / 4.17m bgl. Truncating the natural was a large pit [179] measuring beyond the limits of the trench. The pit was filled [178] with successive tipping of dark brown sandy silt with brick fragments and lime mortar. The pit was overlain by a layer of compacted crushed brick forming a surface [51]. This was overlain by a 0.28m thick layer of dark brown sandy silt [49] with frequent brick and mortar fragments. Above was a 0.12m-0.32m thick layer of dark red-brown silty sand [58] with brick fragments recorded at 25.28m OD. This was overlain by a 0.10m-0.22m thick layer of yellow-brown sticky clay [50] recorded at 25.29m OD.

4.6.3 At the western end of the trench and truncating the deposits discussed above was a single grave [45] measuring 0.70m long by 0.50m wide by beyond 0.46m deep. Within the grave were 6 skeletons (grave cut not fully excavated) each placed within a coffin [46], [86], [153], [92], [93], [110]. Each skeleton had slumped down on to the earlier skeletons with the head and torso nearly vertical within the grave (Fig 14).Skeleton [110] was left *insitu*. The upper grave fill [47], [114] comprised a mid-grey sandy silt which produced pottery dating to 1740–60. The top was recorded at 25.30m OD. Above was a 1.72m thick brick and concrete rubble with ground level at 27.02m OD.

4.6.4 Ground level was recorded at 27.02m OD in this location

4.7 Trench 7

Location	West, adjacent to Cleveland Street
Dimensions	2.5m X 2.5m
Modern ground level/top of slab	27.69m OD
Base of modern fill	26.75m OD
Depth of archaeological stratigraphy above natural (if any)	0.70m
Level of base of lowest features or deposits observed	26.04m OD
Top of surviving natural observed at	26.04m OD
Level of base of trench	26.04m OD

4.7.1 Trench 7 was located at the western part of the site and measured 2.5m by 2.5m. Due to the proximity of the trench to surrounding site / building walls, a trench box was installed in this location.

4.7.2 The natural sand and gravel [174] was reached at 26.04m OD, 1.65m below ground

level. Overlying the natural was a 0.16m thick compacted sand and gravel [166] forming a possible path or road surface. This surface was truncated by a series of north-east–south-west aligned wheel ruts [156], [158], [160] and [162] recorded at 26.16m OD (Fig 15).

4.7.3 Overlying the wheel ruts was a 0.30m thick layer of mid brown sand and gravel with patches of clay and occasional brick fragments [139] (fig 16). The top was recorded at 26.23m OD. Above was a 0.15m thick layer of mid brown sandy silt [138] which produced pottery dating to 1580–1750. Within the north-eastern part of the trench was a small pit [142] measuring 0.46m by 0.25m by 0.46m deep. The pits were filled with deposit [141] with a mid-brown sandy silt. Crossing the trench, in a north-south direction, was a north-south aligned cut. It [137] measured 1.48m north-south by 1.48m east-west (to the limits of excavation by 0.18m deep. It was filled [127] with a mid-brown sandy silt.

4.7.4 Above was a 0.15m thick layer of dark brown organic sandy silt with crushed brick and coal dust [126] which produced pottery dating to 1660–1800. This was overlain by a layer of crushed red brick and white lime mortar [120] possibly forming a surface. The top was recorded at 26.48m OD. The upper layer was a 0.32m thick layer of dark brown sandy silt [119] which was recorded at 26.75m OD. Above this was a north-south aligned brick wall and a mixture of brick rubble and hardcore.

4.7.5 Ground level was recorded at 27.69m OD in this location

4.8 South and east perimeter site investigation trench

4.8.1 For the results of the 2018 watching brief (on prior SI works) see Appendix 2 at the end of this report.

South perimeter site investigation trench

4.8.2 A 40m long X 2m wide trench was excavated by machine along the southern boundary wall to determine the location and presence of burials (Figs 17 +18). At the western end of the trench, adjacent to the South House, the natural sand was reached at 25.89m OD, 1.07m below ground level.

4.8.3 Grave cuts were recorded along part of the trench adjacent to the cemetery wall. Here, the natural sand and gravel was reached at 24.76m OD, 2.20m below ground level. Within the south-east corner was a large cess-pit [203] formed within the corner of the cemetery walls. A west wall was added against a buttress along the south wall. A small machine excavated slot revealed that the cess-pit continued beyond 3m below ground level (beyond 23.96m OD).

4.8.4 The base of the south cemetery wall was recorded at 24.42m OD in the west and 24.46m OD in the east c.2.50m below ground level.

4.8.5 Within the souther SI trench, an area approximately 22.5m long was determined to contain grave cuts and was designated a ‘red zone’. No grave cuts were seen in the remainder of the SI trench along the southern perimeter.

East perimeter trench

4.8.6 A 40m long X 2m wide trench was excavated by machine along the eastern cemetery wall (fig 17). At 17m north of the south cemetery wall were a series of graves which continued to 25m (north of the cemetery wall). The graves were recorded at between 0.90m and 1.20m west of the east cemetery wall. The top of the burial horizon was recorded at 2m below ground level at c.24.90m OD.

4.8.7 Within the eastern SI trench, an area approximately 10m long was determined to contain grave cuts and was designated a ‘red zone’. No grave cuts were seen in the remainder of the SI trench along the eastern perimeter.

North perimeter trench

4.8.8 A 39m long X 2m wide trench was excavated by machine along the northern perimeter (Fig 17). The western end of the trench was located within the former basement of the North House. The former basement had truncated the horizons to the natural gravel to 23.54m OD, 3.19m below ground level. The base of the cemetery wall was observed at 23.00m OD in this location, 3.60m below ground level overlying a hardstanding of large cobbles.

4.8.9 To the east, multiple graves were identified, both adult and infant. A number were aligned east-west with a few recorded on an unusual north-south alignment. The top of the burial horizon was recorded a 25.26m OD (west) to 25.33m OD (east), some 1.26m below ground level. The graves had truncated a 0.75m thick crushed brick and mortar layer [253] which was previously recorded within trenches 1, 3, 5, and 6.

4.8.10 At the eastern end of the trench was a large amount of disarticulated human bone redeposited on and around the foundations of the former hospital walls. Further east was black silt which contained two human skulls. This deposit was truncated by the construction trench for the north-south aligned concrete boundary wall.

4.8.11 Within the northern SI trench, an area approximately 28.5m long was determined to contain grave cuts and was designated a 'red zone'. No grave cuts were seen in the remainder of the SI trench along the eastern perimeter.

Engineering test pits within the backfill of the east boundary wall (ETP1–2)

4.8.12 Within the north-east area of the site, two pits (ETP3–4) were excavated within the backfill of the north-eastern concrete boundary wall. The test pits revealed the concrete retaining wall sat upon a concrete slab measuring 0.30m thick and extending 1.10m to the west at 24.26m OD. The concrete foundation sat upon a 0.10m thick concrete blinding. The foundations sat upon a layer of black silt at 23.85m OD, 2.74m below ground level.

Engineering test pit at the corner of the South House (ETP 4)

4.8.13 At the north-east corner of the South House was a 3m square engineering pit. Much of the pit was truncated by a modern manhole and a construction trench for an east-west aligned wall located at the northern part of the test pit. The natural sand was reached at 24.43m OD, 2.30m below ground level.

4.8.14 Along the south section of the test pit were three east-west aligned skeletons. The earliest was recorded at 24.79m OD, with a further skeleton at 25.03m OD. A further skeleton was recorded at 25.23m OD.

Two hand-excavated test pits along the south cemetery wall (HTP 1–2)

4.8.15 Two square hand-excavated test pits were dug along the south wall to reveal the depth and foundations of the southern cemetery wall. Skeletons were partially excavated in these locations. The first test pit revealed the skeletons of three infants [209], [210], [211], one juvenile [215] and three adults [212], [216], [207] (Fig 19). The base of the earliest grave was recorded at 24.85m OD.

4.8.16 The second test pit (to the east) uncovered four adult skeletons [219], [220], [222], [224]. The earliest grave [224] was recorded at 24.76m OD, 2.20m below ground level with the highest skeleton recorded at 25.21m OD, 1.75m below ground level.

Two engineering test pits along north cemetery wall (ETP3–4)

4.8.17 Located along the north cemetery wall were two engineering test pits (ETP1 - west) and (ETP2 - east).

4.8.18 Within ETP 1, the step-footing of the cemetery wall was recorded at 23.41m OD, 3.20m below ground level. Six skeletons were excavated, with the earliest placed within a grave measuring 0.34m deep. The earliest skeleton was an adult [250] placed within an east-west aligned grave. It was recorded at 25.02m OD. Above, and placed to the south, was the skeleton of an infant [249] recorded at 24.93m OD. To the north was an adult skeleton [245] recorded at 25.05m OD. Above was the skeleton of an infant [242] recorded at 25.21m OD. To the west was the skeleton of an infant [238] recorded at 25.23m OD. A little to the south was a skull [234] recorded at 25.26m OD, 1.33m below ground level.

4.8.19 Within ETP2 the step-footing of the cemetery wall was recorded at 23.39m OD, 3.20m below ground level. Against the wall were cobbles (23.89m OD) overlain by a 0.50m thick layer of organic black silt [254] recorded at 24.24m OD. This was overlain by a 0.75m thick layer of crushed brick and mortar at 25.10m OD.

4.8.20 Six skeletons were placed within a grave measuring 0.73m deep. The earliest skeleton [251] was of an adult placed within an east-west aligned grave [261]. The skeleton was recorded at 24.60m OD. Above was the skeleton of a child [248] which was overlain by a disturbed burial [247]. A further adult skeleton [243] slumped to the south. A skeleton of a juvenile [233] also slumped to the south and it was recorded at 25.00m OD. Above this was another juvenile skeleton [232] which was recorded at 25.20m OD, 1.39m below ground level.

The finds and human bone

Pottery by Nigel Jeffries

4.8.21 Pottery from targeted key contexts was spot dated to assist with the dating of archaeological contexts on site. A summary of the bulk and registered finds recovered during the evaluation is detailed in Appendix 1.

4.8.22 Where pottery was present (in the numbered deposits below) then this was the material used as the principal means to date the context. If, however, pottery was not in one of the contexts then the other dateable material was utilised e.g. clay tobacco pipe and glass.

Context	Land use	Material scanned	Earliest date	Latest date
1	Pit fill	PPOT	1760	1780
2	Layer	PPOT	1760	1780
16	Grave fill	PPOT	1720	1760
18	Layer	CTP	1740	1760
47	Grave fill	PPOT	1740	1760
126	Road surface	PPOT	1660	1800
138	Road surface	PPOT	1580	1750
168	Pit fill	PPOT	1720	1750
173	Pit fill	PPOT	1740	1780
181	Layer	CTP, GLASS	1740	1760
184	Pit fill	PPOT	1720	1750
195	Pit fill	PPOT	1660	1700

Table 2: Scanned date for finds by targeted key contexts

The Human bone

By Niamh Carty

Introduction

4.8.23 The human bone assemblage provides evidence of burials associated with the 18th century Strand Union Workhouse and Covent Garden Parish.

4.8.24 This report contains an osteological evaluation of the surviving *in situ* articulated human remains excavated from three trenches; Trench 3 (28 contexts), Trench 5 (20 contexts), and Trench 6 (7 contexts). The data has been examined as both in relation to the overall assemblage of 55 contexts of articulated human bone, and by individual trench.

Methods

4.8.25 The inhumations were assessed using MOLA standard procedures and recorded directly onto an Oracle 9i (v9.2.0) relational database system. Numeric coding was used to assign age and sex to each individual. Preservation was estimated on a three-point scale from good to poor. Completeness was calculated in 5% increments from 5%–95% based on the following proportions: skull 20%, legs and feet 20%, arms and hands 20%, torso and pelvis 40%. A summary catalogue was produced characterising the presence/absence and condition of the skull and the presence/absence of the dentition, torso and pelvis, and legs, feet, arms and hands by number present. Subadult age was estimated from the eruption of the permanent molars. Where such indicators were absent, individuals were simply recorded as 'subadult'. Adult sex was estimated from rapid visual assessment of the morphology of the pelvis and skull (Buikstra and Ubelaker 1994) and recorded on a five-point scale.

Age code	**0**	Neonate/foetus
	1	1 month to 6 years (to M1 erupted)
	2	7-12 years (M2 unerupted)
	3	13-16 years (M3 unerupted)
	7	Adult
	12	Sub-adult (age unknown)
Sex code	**1**	Male
	2	? Male
	3	Intermediate
	4	? Female
	5	Female
	9	Undetermined
	0	Sub-adult

Table 2 Demographic assessment categories

4.8.26 Gross pathological changes were recorded by disease category, coded according to Connell and Rauxloh (2003), with supporting summary descriptions. Intrusive human and animal bone was noted and the minimum number of individuals (MNI) for each context estimated from the maximum number of repeated elements taking age, sex and morphology into account. A note was made of bone condition and any staining present. All results are preliminary and subject to adjustment during detailed observation for full analysis.

Overall results: Condition and disturbance

4.8.27 Archaeological evaluation recovered 55 contexts of *insitu* articulated burials. The majority of the remains showed good levels of bone preservation with minimal erosion and fine surface details clearly visible (41/55: 74.5%). Moderate levels of preservation were identified in 10 burials (10/55: 18.2%) and four contexts were poorly preserved (4/55: 7.3%).

4.8.28 Green staining from contact with copper objects was present in 10 contexts (10/55: 18.2%) and iron fragments, most likely remnants of coffin fittings or nails, were found adhered to the bones of one individual (1/55: 1.8%). Intrusive animal bone was found in six contexts (6/55: 10.9%). The completeness of burials ranged from 5–95%. The majority of the assemblage (39/55: 70.9%) had ≥ 50% of skeletal elements present with 67.3% (37/55) ≥ 75% complete, and 15 ≤ 25% complete (15/55: 27.3%). Intrusive skeletal elements were present in 30.9% of contexts (17/55).

Demography

4.8.29 The demographic analysis of the assemblage identified 50 adults (50/55: 90.9%) and five subadults (5/55: 9.1%). The pooled adult demographic data revealed a slightly higher proportion of females (24/55: 43.6%) compared to males (17/55: 30.9%). It was not possible to estimate the biological sex of nine adults (9/55: 16.4%). The majority of subadults were aged between one month and six years at death (3/5: 60%), one individual was aged seven to 12 years (1/5: 20%) and one individual (1/5: 20%) was aged 13–17 years.

	n	%
Neonatal/foetal	0	0
1 month to 6 years	3	5.5
7-12 years	1	1.8
13-17 years	1	1.8
Subadult	0	0
Adult	50	90.9
Total	55	100

Table 3 Overall age distribution of articulated burials

Paleopathology

4.8.30 Crude prevalence rates of pathological lesions were calculated in order to give an indicator of the disease load and the potential of the assemblage at full analysis.

4.8.31 The most commonly observed pathological bone change was dental disease. This affected 40 individuals (40/55: 72.7%), 37 adults (37/50: 74%) and three subadults (3/5: 60%). This comprised evidence of dental caries (cavities), calculus (calcified plaque), ante-mortem tooth loss, enamel hypoplasia (developmental crown defects) and dental abscesses (*Table*).

	Adult		Male		Female		Sub-adult		Total	
	N	%	N	%	N	%	N	%	N	%
Caries	24	48.0	10	58.8	14	58.3	2	40.0	26	47.3
Calculus	27	54.0	13	76.5	14	58.3	1	20.0	28	50.9

Enamel hypoplasia	14	28.0	5	29.4	9	37.5	2	40.0	16	29.1
Periodontal disease	24	48.0	12	70.6	12	50.0	1	20.0	25	45.5
Periapical abscesses	10	20.0	5	29.4	5	20.8	1	20.0	11	20.0
Antemortem tooth loss	33	66.0	14	82.4	19	79.2	0	0.0	33	60.0

Table 4 Overall dental disease crude prevalence

4.8.32 Adult male [108] (Trench 3) had an edentulous maxilla and mandible, having lost all teeth during life, and adult female [15] (Trench 3) had very heavy deposits of dental calculus in the maxillary dentition. Rounded wear facets to the anterior dentition of two adult females; [92] (Trench 6) and [147] (Trench 5) and one adult male [135] (Trench 5), suggested habitual clay pipe smoking. No evidence of dental treatment or prostheses was observed.

4.8.33 Degenerative joint disease was recorded in 31 adults (31/50: 76.3%). In all cases this affected the joints of the vertebral column and included evidence of Schmorl's nodes (herniation) osteoarthritis, osteophytes (new bone formation) and inter-vertebral disc disease (pitting).

4.8.34 Osteoarthritis (eburnation) was found in the joint surfaces of 12 adults (12/50: 24%), including the femoropatellar (knee) joints of adult female [27] and adult male [69] and the left temporomandibular joint (jaw) of adult female [71] (all from Trench 3).

4.8.35 Osseous changes associated with seronegative spondylarthropathy were observed in the hand joints of adult female [46] (Trench 6) and erosive lesions in the feet associated with gout were observed in adult male [69] (Trench 3).

4.8.36 Non-specific infectious bone changes affected 10 adults (10/50: 20%) and one subadult (1/5: 20%) comprising plaques of new bone formation (periosteal lesions). Two adult males, [69] and [121] (Trench 3), had inflammation on the visceral (inside) surfaces of the ribs. An adult male [69] and adult female [78] (Trench 3) had evidence of new bone in the maxillary sinuses, which indicates chronic sinusitis.

4.8.37 Non-specific osteitis affected adult female [22] (Trench 3) and non-specific osteomyelitis affected adult female [143] (Trench 5). Adult female [32] (Trench 3) had bony signs of a specific infection, specifically acquired (venereal) syphilis.

4.8.38 Evidence of traumatic injury was present in 12 adults (12/50: 24%). Four adults had well healed fractures, including adult female [34] (Trench 3) with evidence for multiple healed rib fractures and adult male [40] (Trench 5) who displayed evidence for a healed fracture to the midshaft of the left femur, with associated misalignment, shortening and ossified soft tissue. Three adults displayed evidence for dislocation (3/50: 6%), including adult female [15] (Trench 3) with a healed fracture and dislocation, and associated joint contour changes, to the left shoulder joint.

4.8.39 Three adults (3/50: 5.5%) had evidence of circulatory bone disorders including Scheuermann's disease (juvenile kyphosis) in the vertebral column of adult female [106] (Trench 3) and evidence for bilateral slipped femoral epiphyses in two adult females, [71] and [78] (Trench 3).

4.8.40 Neoplastic disorder was observed in the form of multiple button osteomas on the frontal of adult male [108] (Trench 3).

4.8.41 Cribra orbitalia was observed in eight individuals (8/55: 14.5%), one subadults and seven adults. Porotic hyperostosis of the cranial vault was observed in six adults (6/50: 12%).

4.8.42 Bowing and flattening of the lower limbs of seven individuals (7/55: 12.7%), six adults (6/50: 12%) and one subadult (1/5: 20%), suggested they had bone changes consistent with a diagnosis of vitamin D deficiency rickets.

4.8.43 Endocranial lesions were observed in six individuals (6/55: 10.9%), five adults (5/50: 10%) and one subadult (1/5: 20%). Caffey's disease (infantile cortical hyperostosis) was observed in subadult [113] (Trench 5). Thickening of the cranial vault consistent

with changes observed in Paget's disease was evident in adult male [144] (Trench 6).

4.8.44 A large ossified mass was uncovered from the pelvis of adult female [71] (Trench 3). This measures 107.5mm by 64.8mm and weighs 348g and may represent a large portion of calcified soft tissue likely to belong to an organ, but further analysis and x-ray will be required to fully identify where it was formed and why.

Trench 3: Condition and disturbance

4.8.45 The majority of the remains recovered from Trench 3 showed good levels of bone preservation with minimal erosion and fine surface details clearly visible (20/28: 71.4%). Moderate levels of preservation were identified in five burials (5/28: 17.9%) and three contexts were poorly preserved (3/28: 10.7%).

4.8.46 Green staining from contact with copper objects was present in six contexts (6/28: 21.4%). Intrusive animal bone was found in four contexts (4/28: 14.3%). The completeness of burials from Trench 3 ranged from 5–95%. The majority of the assemblage (22/28: 78.6%) had ≥ 50% of skeletal elements present with 71.4% (20/28) ≥ 75% complete, and 17.9% ≤ 25% complete (5/28). Intrusive skeletal elements were present in 46.4% of contexts (13/28).

Demography

4.8.47 The demographic analysis of the assemblage from Trench 3 identified 25 adults (25/28: 89.3%) and three subadults (3/28: 10.7%). The pooled adult demographic data revealed a higher proportion of females (14/28: 50%) compared to males (8/28: 28.6%). It was not possible to estimate the biological sex of three adults (3/28: 10.7%). The majority of subadults were aged between one month and six years at death (2/3: 66.6%) and one individual was aged 13–17 years (1/3: 33.3%).

	N	%
Neonatal/foetal	0	0
1 month to 6 years	2	7.1
7-12 years	0	0
13-17 years	1	3.6
Subadult	0	0
Adult	25	89.3
Total	28	100

Table 5 Trench 3 age distribution of articulated burials

Paleopathology

4.8.48 The most commonly observed pathological bone change in Trench 3 was dental disease. This affected 21 individuals (21/28: 75%), 19 adults (19/25: 76%) and two subadults (2/3: 66.6%). This comprised evidence of dental caries (cavities), calculus (calcified plaque), ante-mortem tooth loss, enamel hypoplasia (developmental crown defects) and dental abscesses.

	Adult		Male		Female		Sub-adult		Total	
Individuals	**25**		**8**		**14**		**3**		**28**	
	N	**%**	**N**	**%**	**N**	**%**	**N**	**%**	**N**	**%**
Caries	10	40.0	3	37.5	7	50.0	1	33.3	11	39.3
Calculus	12	48.0	5	62.5	7	50.0	1	33.3	13	46.4
Enamel hypoplasia	7	28.0	1	12.5	6	42.9	1	33.3	8	28.6
Periodontal disease	11	44.0	5	62.5	6	42.9	1	33.3	12	42.9
Periapical abscesses	4	16.0	1	12.5	3	21.4	1	33.3	5	17.9
Antemortem tooth loss	18	72.0	6	75.0	12	85.7	0	0.0%	18	64.3

Table 6 Trench 3 overall dental disease crude prevalence

4.8.49 Degenerative joint disease was recorded in 15 adults from Trench 3 (15/25: 60%). Osteoarthritis (eburnation) was found in the joint surfaces of 10 adults (12/25: 48%).

4.8.50 Non-specific infectious bone changes affected seven adults (7/25: 28%) and one subadult (1/3: 33.3%) comprising plaques of new bone formation (periosteal lesions).

4.8.51 Evidence of traumatic injury was present in seven adults (7/25: 28%). Cribra orbitalia was observed in six adults (6/25: 24%). Porotic hyperostosis of the cranial vault was observed in three adults (3/25: 12%).

4.8.52 Bowing and flattening of the lower limbs of seven individuals (7/55: 12.7%), six adults (6/50: 12%) and one subadult (1/5: 20%), suggested they had bone changes consistent with a diagnosis of vitamin D deficiency rickets.

4.8.53 Endocranial lesions were observed in four individuals (4/28: 14.3%), three adults (3/25: 12%) and one subadult (1/3: 33.3%).

Trench 5: Condition and disturbance

4.8.54 The majority of the remains recovered from Trench 5 showed good levels of bone preservation with minimal erosion and fine surface details clearly visible (15/20: 75%). Moderate levels of preservation were identified in four burials (4/20: 20%) and one context was poorly preserved (1/20: 5%).

4.8.55 Green staining from contact with copper objects was present in two contexts (2/20: 10%). The completeness of burials from Trench 5 ranged from 5–95%. The majority of the assemblage (13/20: 65%) had ≥ 75% complete and 35% ≤ 25% complete (7/20). Intrusive skeletal elements were present in 40% of contexts (8/20).

Demography

4.8.56 The demographic analysis of the assemblage from Trench 5 identified 18 adults (18/20: 90%) and two subadults (2/20: 10%). The pooled adult demographic data revealed a slightly higher proportion of females (8/18: 44.4%) compared to males (6/18: 33.3%). It was not possible to estimate the biological sex of four adults (4/18: 7.4%). One subadults was aged between one month and six years at death and one was aged between seven and 12 years.

	N	%
Neonatal/foetal	0	0

1 month to 6 years	1	10
7-12 years	1	10
13-17 years	0	0
Subadult	0	0
Adult	18	90
Total	20	100

Table 7 Trench 5 age distribution of articulated burials

Paleopathology

4.8.57 The most commonly observed pathological bone change in Trench 5 was dental disease. This affected 15 individuals (15/20: 75%), 14 adults (14/18: 77.8%) and one subadults (1/2: 50%). This comprised evidence of dental caries (cavities), calculus (calcified plaque), ante-mortem tooth loss, enamel hypoplasia (developmental crown defects) and dental abscesses (*Table*).

	Adult		**Male**		**Female**		**Sub-adult**		**Total**	
Individuals	**18**		**6**		**8**		**2**		**20**	
	N	**%**	**N**	**%**	**N**	**%**	**N**	**%**	**N**	**%**
Caries	11	61.	5	83.3	6	75.0	1	50.0	12	60.0
Calculus	12	66.	6	100.	6	75.0	0	0.0	12	60.0
Enamel hypoplasia	6	33.	3	50.0	3	37.5	1	50.0	7	35.0
Periodontal disease	10	55.	5	83.3	5	62.5	0	0.0	10	50.0
Periapical abscesses	5	27.	3	50.0	2	25.0	0	0.0	5	25.0
Antemortem tooth loss	11	61.	6	100.	5	62.5	0	0.0	11	55.0

Table 8 Trench 5 overall dental disease crude prevalence

4.8.58 Degenerative joint disease was recorded in 12 adults from Trench 5 (12/20: 60%). Osteoarthritis (eburnation) was found in the joint surfaces of one adult (1/18: 5.6%).

4.8.59 Non-specific infectious bone c
hanges affected four adults (4/18: 22.2%) and one subadult (1/2: 50%) comprising plaques of new bone formation (periosteal lesions).

4.8.60 Evidence of traumatic injury was present in two adults (2/18: 11.1%). Cribra orbitalia was observed in one subadult (1/2: 50%). Porotic hyperostosis of the cranial vault was observed in one adult (1/18: 5.6%).

4.8.61 Bowing and flattening of the lower limbs of two individuals (2/20: 10%), one adult (1/18: 5.6%) and one subadult (1/2: 50%), suggested they had bone changes consistent with a diagnosis of vitamin D deficiency rickets.

4.8.62 Endocranial lesions were observed in one subadult (1/2: 50%).

Trench 6: Condition and disturbance

4.8.63 The majority of the remains recovered from Trench 6 showed good levels of bone preservation with minimal erosion and fine surface details clearly visible (6/7: 85.7%). Moderate levels of preservation were identified in one burial (1/7: 14.3%).

4.8.64 Green staining from contact with copper objects was present in two contexts (2/7: 28.6%). Intrusive animal bone was found in two contexts (2/7: 28.6%). The completeness of burials from Trench 3 ranged from 5–95%. The majority of the assemblage (4/7: 57.1%) ≥ 75% complete and 42.9% ≤ 25% complete (3/7). Intrusive skeletal elements were present in 42.9% of contexts (3/7).

Demography

4.8.65 The demographic analysis of the assemblage from Trench 6 identified seven adults. The pooled adult demographic data revealed a slightly higher proportion of males (3/7: 42.9%) compared to females (2/7: 28.6%). It was not possible to estimate the biological sex of two adults (2/7: 28.6%).

	N	%
Neonatal/foetal	0	0
1 month to 6 years	0	0
7-12 years	0	0
13-17 years	0	0
Subadult	0	0
Adult	7	100
Total	7	100

Table 9 Trench 6 age distribution of articulated burials

Paleopathology

4.8.66 The most commonly observed pathological bone change in Trench 6 was dental disease. This affected four individuals (4/7: 57.1%). This comprised evidence of dental caries (cavities), calculus (calcified plaque), ante-mortem tooth loss, enamel hypoplasia (developmental crown defects) and dental abscesses.

	Adult		Male		Female		Sub-adult		Total	
Individuals	7		3		2		0		7	
	N	%	N	%	N	%	N	%	N	%
Caries	3	42.9%	2	66.7%	1	50.0%	0	0.0%	3	42.9%
Calculus	3	42.9%	2	66.7%	1	50.0%	0	0.0%	3	42.9%
Enamel hypoplasia	1	14.3%	1	33.3%	0	0.0%	0	0.0%	1	14.3%
Periodontal disease	3	42.9%	2	66.7%	1	50.0%	0	0.0%	3	42.9%
Periapical abscesses	1	14.3%	1	33.3%	0	0.0%	0	0.0%	1	14.3%
Antemortem tooth loss	4	57.1%	2	66.7%	2	100.0%	0	0.0%	4	57.1%

Table 10 Trench 6 overall dental disease crude prevalence

4.8.67 Degenerative joint disease was recorded in four adults from Trench 6 (4/7: 57.1%). Osteoarthritis (eburnation) was found in the joint surfaces of 1 adult (1/7: 14.3%).

4.8.68 Non-specific infectious bone changes affected two adults (2/7: 28.6%) comprising

plaques of new bone formation (periosteal lesions).

4.8.69 Evidence of traumatic injury was present in one adult (1/7: 14.3%). Cribra orbitalia was observed in two adults (2/7: 28.6%).

4.8.70 Bowing and flattening of the lower limbs of two individuals (2/7: 28.6%), suggested they had bone changes consistent with a diagnosis of vitamin D deficiency rickets.

4.9 The site as a whole

4.9.1 The archaeological evaluation has demonstrated the extent, depth and condition of the articulated burials and archaeology across the site. It has also identified areas of absence of burials in certain locations (Trench 1, Trench 2 and Trench 4).

4.9.2 Across the site, the untruncated natural sand and gravel was generally recorded at 26.04m OD, 1.65m below ground level (in Trench 7) to 25.89m OD, 1.07m below ground level (to the east of the South House, within the south perimeter trench). Burials were recorded cut into the natural ground and into historic made ground (i.e. pit fills).

4.9.3 Truncating the natural geology across the site was a large pit or a series of large pits probably representing quarry pits for the extraction of the natural sand for building purposes. Within trench 1 and 3 the pits had truncated the natural to 21.23m OD, 5.54m below ground level (Trench 1) and at 21.31m OD, 5.59m below ground level (Trench 3). The earliest backfill deposit of the pits comprised crushed brick and mortar [184] which produced pottery dating to 1720–50 (Trench 1). Above were a series of organic silt deposits which produced pottery dating to 1720–50, leather, metal and clay tobacco pipes. One layer in Trench 1 [125] produced numerous small fruit seeds which may indicate the quarry was used as a cess pit. A similar deposit was recorded in Trench 5 [181] which produced clay tobacco pipe dating to 1740–60. In Trench 5 was a further quarry pit [187] with the base recorded from 23.65m OD (south) dropping to 23.21m OD (north). The earliest fill comprised brick and mortar fragments [173] which produced pottery dating to 1740–80 similar to the fill [184] in Trench 1.

4.9.4 Within Trench 6 the base of the quarry pit [179] was reached at 22.85m OD, 4.17m below ground level. It was filled with successive tipping of dark brown sandy silt with brick fragments and lime mortar.

4.9.5 Overlying the pits was a levelling layer comprised a 0.10m-0.32m thick fairly compacted layer of crushed brick and mortar [2] (Trench 1), [18] (Trench 5) and [58] (Trench 6) which produced pottery dating to 1760–80 and recorded at 25.28m OD (Trench 1), 25.30m OD (Trench 5) and at 25.28m OD (Trench 6).

4.9.6 Truncating the above layer [2], [18], and [58] within Trenches 3, 5, and 6 was the cemetery for the Workhouse. Within each trench each skeleton was placed within a coffin; although the wood of the coffin had degraded, the coffin nails survived.

4.9.7 The skeletons were stacked in single graves cuts, with many instances of the body being placed with the head at the west end of the grave and the subsequent skeleton with the head at the east end of the grave (Trench 3).

4.9.8 The skeletons were mixed with male and female adults, children and infants. Within each grave which was fully excavated there were between 5 and 7.

4.9.9 Within Trench 3 the lowest skeleton was recorded at 23.88m OD (3.02m below ground level); the highest skeleton recorded at 24.79m OD (2.11m below ground level). Within Trench 5 the lowest skeleton was recorded at 23.95m OD (3.07m below ground level) to the highest recorded at 25.30m OD (1.72m below ground level). Within Trench 6 the lowest skeleton was recorded at 23.87m OD (3.15m below ground level) to 24.61m OD (2.41m below ground level).

4.9.10 Within Trenches 2 and 4 there was a large pit with the base recorded at 21.01m OD, 5.50m below ground level (Trench 2). Crossing the trench in an east-west direction was a brick wall [63] placed on a concrete foundation for the northern hospital wing. The wall continued into Trench 1.

5 Archaeological potential

5.1 Answering original research aims

5.1.1 Several broad objectives and research questions had been identified for this evaluation:

- *What is the nature and level of natural topography?*

  Across the site, the untruncated natural sand and gravel was generally recorded from 26.04m OD/ 1.65m below ground level (in Trench 7) to 25.89m OD/ 1.07m below ground level (to the east of the South House, within the south perimeter trench). Burials were recorded cut into the natural ground and into historic made ground (pit fills).

- *What are the earliest deposits identified?*

  The earliest deposits identified were the quarry pits recorded in Trenches 1, 3, 5 and 6 dating to the late 18th century. The wheel ruts recorded in Trench 7 are also of a similar date.

- *Is there any evidence of activity on the site prior to its development towards the end of the 18th century?*

  There is no evidence for activity prior to the end of the 18th century.

- *What below ground evidence of the workhouse/asylum buildings survives on the site?*

  The workhouse/asylum buildings which were known to be located on site appear to have been truncated by the later hospital buildings (Fig 20).

- *To what extent have the burials on site been disturbed/removed by later development?*

  In general, the burials do not appear to be disturbed. A few leg bones were found on top of a drain in Trench 3 and a number of human bones were found in the brick and concrete rubble within Test Pit 3 located within the north-eastern part of the site. A very limited amount of disarticulated human bone was recovered from Trench 3 (Figs 21- 24).

- *What indications of the health of the living population are there (growth and development, disease and injury)?*

  The health of the population living in the workhouse is addressed by the osteology report above.

- *Is there evidence of social zoning of the burials? Can the burials from the workhouse be distinguished from the general parish burials?*

  The even spacing of the grave cuts in Trenches 5 and 6 could indicate that these burials relate to Covent Garden Parish. The disorganised density of burials placed from top to toe on top of one another in Trench 3 appears to suggest that these were lower status individuals who dies in the workhouse.

- *Can the burials be dated?*

  The grave fills date to the late 18th century to the mid-19th century.

- *What is the demographic profile of the burials?*

  The demographic profile of the burials of the identified 50 adults and five subadults. The adult demographic data revealed a slightly higher proportion of females (43.6%) compared to males (30.9%). The majority of subadults were aged between one month and six years at death (60%), one individual was aged seven to 12 years (20%) and one individual (20%) was aged 13–17 years.

- *Do any of the burials display pathologies? If so, what is their nature and extent?*

  The most commonly observed pathological bone change was dental disease. This affected 40 individuals, 37 adults and three subadults. This comprised evidence of dental caries (cavities), calculus (calcified plaque), ante-mortem tooth loss, enamel hypoplasia (developmental crown defects) and dental abscesses.

  Degenerative joint disease was recorded in 31 adults. In all cases this affected the joints of the vertebral column and included evidence of Schmorl's nodes (herniation) osteoarthritis, osteophytes (new bone formation) and inter-vertebral disc disease (pitting).

  Osteoarthritis (eburnation) was found in the joint surfaces of 12 adults, including the femoropatellar (knee) joints of adult female [27] and adult male [69] and the left temporomandibular joint (jaw) of adult female [71] (all from Trench 3).

  Osseous changes associated with seronegative spondylarthropathy were observed in the hand joints of adult female [46] (Trench 6) and erosive lesions in the feet associated with gout were observed in adult male [69] (Trench 3).

  Non-specific infectious bone changes affected 10 adults and one subadult comprising plaques of new bone formation (periosteal lesions). Two adult males, [69] and [121] (Trench 3), had inflammation on the visceral (inside) surfaces of the ribs. An adult male [69] and adult female [78] (Trench 3) had evidence of new bone in the maxillary sinuses, which indicates chronic sinusitis.

  Non-specific osteitis affected adult female [22] (Trench 3) and non-specific osteomyelitis affected adult female [143] (Trench 5). Adult female [32] (Trench 3) had bony signs of a specific infection, specifically acquired (venereal) syphilis.

  Three adults had evidence of circulatory bone disorders including Scheuermann's disease (juvenile kyphosis) in the vertebral column of adult female [106] (Trench 3) and evidence for bilateral slipped femoral epiphyses in two adult females, [71] and [78] (Trench 3).

  Neoplastic disorder was observed in the form of multiple button osteomas on the frontal of adult male [108] (Trench 3).

  Cribra orbitalia was observed in eight individuals, one subadults and seven adults. Porotic hyperostosis of the cranial vault was observed in six adults.

  Endocranial lesions were observed in six individuals, five adults and one subadult. Caffey's disease (infantile cortical hyperostosis) was observed in subadult [113] (Trench 5). Thickening of the cranial vault consistent with changes observed in Paget's disease was evident in adult male [144]

(Trench 6).

A large ossified mass was uncovered from the pelvis of adult female [71] (Trench 3) which may represent a large portion of calcified soft tissue likely to belong to an organ.

- *Is there any evidence relating to trauma by violence or accident in the burials?*

  Evidence of traumatic injury was present in 12 adults. Four adults had well healed fractures, including adult female [34] (Trench 3) with evidence for multiple healed rib fractures and adult male [40] (Trench 5) who displayed evidence for a healed fracture to the midshaft of the left femur, with associated misalignment, shortening and ossified soft tissue. Three adults displayed evidence for dislocation, including adult female [15] (Trench 3) with a healed fracture and dislocation, and associated joint contour changes, to the left shoulder joint.

- *What can the osteological data tell us about the quality and content of the diet consumed?*

  Bowing and flattening of the lower limbs of seven individuals, six adults and one subadult, suggested they had bone changes consistent with a diagnosis of vitamin D deficiency rickets.

- *Is there any evidence of the deliberate disinterment of burials to make way for later inhumations, and how was disturbance of earlier burials by extension of the workhouse managed?*

  The earlier burials were generally left *insitu* with burials placed directly on top of the underlying burials. Many were placed head to toe. There were no intercutting graves as generally seen in medieval cemeteries.

- *What are the latest deposits identified?*

  The latest deposits identified date to the extension of the hospital buildings in the mid-19th century.

- *What is the extent of modern disturbance?*

  Modern disturbance comprises the large pits located in Trenches 2 and 4 which are dug to 5.50m below ground level. The concrete foundation to the north and south wings of the hospital were recorded at 4m below ground level. In general, the remaining walls, drains and services were recorded to a depth of 1.20m below ground level which have not disturbed the burials.

5.2 General discussion of potential

5.2.1 The evaluation has shown that the potential for the survival of burials are located along the north, east and south areas of the site, as well as along the perimeter cemetery wall. No burials were found at the front of the workhouse (Trench 7).

5.2.2 The potential for survival for deep cut features within the cemetery boundary is high. Trench 1 was found to contain a large cess pit and in the central area behind the workhouse (east of the site) the area was truncated by a large pit reaching 5.50m below ground level (seen in Trenches 2 and 4).

5.2.3 The site has also has the potential for structural remains and evidence of other activity associated with the Workhouse. In trench 7, a compacted path or road surface was recorded. This surface was truncated by a series of north-east–south-west aligned wheel ruts

5.2.4 The association of the burials with the 18th and 19th-century Covent Garden Workhouse will greatly help to further our knowledge and understanding of a hitherto archaeologically underrepresented socially disadvantaged group, the 'largely anonymous inhabitants of the capital' (Museum of London 2002, 70).

5.2.5 The investigation and osteological analysis of the buried population under modern archaeological conditions will contribute to our knowledge of a population who lived at a time of great change and who through various means may have ended their days at the Strand Union Workhouse. This association with the workhouse would have impacted on all areas of the lives of those who inhabited there, including health and disease. Comparisons can be drawn with contemporary assemblages in London and nationwide.

5.3 Assessment of the evaluation

5.3.1 The Greater London Archaeological Advisory Service (GLAAS) guidelines (English Heritage, 1998) carry out an assessment of the success of the evaluation to illustrate what level of confidence can be placed on the information which will provide the basis of the mitigation strategy.

5.3.2 Seven archaeological evaluation trenches were located across the site within the unbasemented areas. All trench locations were targeted based on the impact associated with the new development.

5.3.3 Archaeological excavation reached the base of the archaeological deposits in all locations except Trenches 4 + 6.

5.3.4 Burials were identified along the northern, eastern and southern areas of the site were identified in Trench 3, 5, 6 and the perimeter trenches located along the original cemetery boundary wall.

5.3.5 In conclusion, given that natural deposits were reached and that the sequential deposits above it were fully recorded, a high degree of confidence can be placed on

6 Proposed development impact and conclusions

6.1.1 Considering the results from all the trenches, it appears that archaeological deposits survive extensively across the site in the form of articulated burials relating to the workhouse cemetery and deep cess pits and quarry pits.

6.1.2 The proposed basement footprint would occupy the full extent of the site to the east of the workhouse building. The new basement (and the method for construction of the new basement) would remove all surviving archaeological remains from its footprint. It is anticipated that GLAAS and the LPA will require controlled excavation across the unbasemented area, and a watching brief on the reduction of the basemented area.

6.1.3 The decision on the appropriate archaeological mitigation to the deposits revealed rests with GLAAS/ the Local Planning Authority.

7 Acknowledgements

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7.1.3 The site supervisor and project manager would also like to thank the MOLA site staff and to the labourers, workmen and machine drivers employed by Ark Build PLC who helped with the logistics of completing the evaluation.

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9 OASIS archaeological report form

OASIS ID: molas1-353923

Project details

Project name	Cleveland Street Workhouse
Short description of the project	The earliest deposits encountered were a series of large late-18th century quarry pits measuring around 4m in depth. These were backfilled with organic material. A series of late 18th-century wheel ruts were found leading to the front of the workhouse which were probably made during the construction of the workhouse between 1775-78. To the rear of the workhouse was the cemetery which produced 55 burials within three trenches. These comprise 50 adults and 5 sub-adults which date to between 1778 and 1853. Further burials were recorded along the north and south areas of the cemetery.
Project dates	Start: 04-02-2019 End: 28-05-2019
Previous/future work	Yes / Yes
Any associated project reference codes	CVL18 - Sitecode
Type of project	Field evaluation
Site status	Local Authority Designated Archaeological Area
Current Land use	Vacant Land 1 - Vacant land previously developed
Monument type	WORKHOUSE Post Medieval
Significant Finds	SKELETONS Post Medieval
Methods & techniques	"Targeted Trenches","Test Pits"
Development type	Urban commercial (e.g. offices, shops, banks, etc.)
Prompt	Direction from Local Planning Authority - PPG16
Position in the planning process	After full determination (eg. As a condition)

Project location

Country	England
Site location	GREATER LONDON CAMDEN CAMDEN Cleveland Street Workhouse
Postcode	W1T 4JT
Study area	3328 Square metres
Site coordinates	TQ 529260 181810 50.942186918026 0.176991197403 50 56 31 N 000 10 37 E Point

Height OD / Depth	Min: 26.04m Max: 26.04m

Project creators

Name of Organisation	MOLA
Project brief originator	MOLA project manager
Project design originator	MOLA
Project director/manager	Claire Cogar
Project supervisor	David Saxby
Name of sponsor/funding body	Llewelyn Davies

Project archives

Physical Archive recipient	LAARC
Physical Contents	"Animal Bones","Ceramics","Environmental","Human Bones","Leather","Metal"
Digital Archive recipient	LAARC
Digital Contents	"Animal Bones","Ceramics","Environmental","Glass","Human Bones","Leather","Metal","Stratigraphic","Survey"
Digital Media available	"Database","GIS","Geophysics","Images raster / digital photography","Survey","Text"
Paper Archive recipient	LAARC
Paper Contents	"Animal Bones","Ceramics","Environmental","Glass","Human Bones","Leather","Metal","Stratigraphic","Survey"
Paper Media available	"Context sheet","Correspondence","Diary","Drawing","Manuscript","Map","Matrices","Miscellaneous Material","Notebook - Excavation',' Research',' General Notes","Photograph","Plan","Report","Section","Survey ","Unpublished Text"

Entered by	David Saxby (dsaxby@mola.org.uk)
Entered on	4 June 2019

10 Appendix 1

10.1 Bulk finds

Sitecode	Context	Material
CVL18	1	BOTTLE GLASS (POST-MEDIEVAL)
CVL18	1	GLASS PHIAL (POST-MEDIEVAL)
CVL18	1	NAIL
CVL18	1	POST MEDIEVAL CBM
CVL18	1	POST MEDIEVAL POTTERY
CVL18	2	ANIMAL AND NON-HUMAN BONE
CVL18	2	BOTTLE GLASS (POST-MEDIEVAL)
CVL18	2	POST MEDIEVAL POTTERY
CVL18	4	ANIMAL AND NON-HUMAN BONE
CVL18	4	BOTTLE GLASS (POST-MEDIEVAL)
CVL18	4	NAIL
CVL18	4	POST MEDIEVAL POTTERY
CVL18	5	ANIMAL AND NON-HUMAN BONE
CVL18	5	BOTTLE GLASS (POST-MEDIEVAL)
CVL18	5	CLAY PIPE
CVL18	5	POST MEDIEVAL CBM
CVL18	5	POST MEDIEVAL POTTERY
CVL18	10	NAIL
CVL18	12	ANIMAL AND NON-HUMAN BONE
CVL18	13	ANIMAL AND NON-HUMAN BONE
CVL18	13	NAIL
CVL18	13	POST MEDIEVAL POTTERY
CVL18	16	ANIMAL AND NON-HUMAN BONE
CVL18	16	NAIL
CVL18	16	POST MEDIEVAL POTTERY
CVL18	47	NAIL
CVL18	47	POST MEDIEVAL POTTERY
CVL18	47	WINDOW GLASS (POST-MEDIEVAL)
CVL18	53	BOTTLE GLASS (POST-MEDIEVAL)
CVL18	53	CLAY PIPE
CVL18	53	POST MEDIEVAL POTTERY
CVL18	61	ANIMAL AND NON-HUMAN BONE
CVL18	61	BOTTLE GLASS (POST-MEDIEVAL)
CVL18	61	CLAY PIPE
CVL18	61	GLASS PHIAL (POST-MEDIEVAL)
CVL18	61	NAIL
CVL18	61	POST MEDIEVAL POTTERY
CVL18	69	POST MEDIEVAL POTTERY

CVL18	77	ANIMAL AND NON-HUMAN BONE
CVL18	77	BOTTLE GLASS (POST-MEDIEVAL)
CVL18	77	POST MEDIEVAL CBM
CVL18	77	POST MEDIEVAL POTTERY
CVL18	84	CLAY PIPE
CVL18	84	POST MEDIEVAL POTTERY
CVL18	93	POST MEDIEVAL CBM
CVL18	96	ANIMAL AND NON-HUMAN BONE
CVL18	96	CLAY PIPE
CVL18	96	GLASS PHIAL (POST-MEDIEVAL)
CVL18	96	POST MEDIEVAL POTTERY
CVL18	100	POST MEDIEVAL POTTERY
CVL18	101	POST MEDIEVAL CBM
CVL18	101	POST MEDIEVAL POTTERY
CVL18	124	ANIMAL AND NON-HUMAN BONE
CVL18	125	ANIMAL AND NON-HUMAN BONE
CVL18	125	BOTTLE GLASS (POST-MEDIEVAL)
CVL18	125	POST MEDIEVAL POTTERY
CVL18	126	ANIMAL AND NON-HUMAN BONE
CVL18	126	BOTTLE GLASS (POST-MEDIEVAL)
CVL18	126	POST MEDIEVAL POTTERY
CVL18	127	POST MEDIEVAL POTTERY
CVL18	138	ANIMAL AND NON-HUMAN BONE
CVL18	138	NAIL
CVL18	138	POST MEDIEVAL POTTERY
CVL18	141	POST MEDIEVAL POTTERY
CVL18	149	ANIMAL AND NON-HUMAN BONE
CVL18	149	POST MEDIEVAL POTTERY
CVL18	149	WORKED FLINT
CVL18	167	ANIMAL AND NON-HUMAN BONE
CVL18	167	POST MEDIEVAL POTTERY
CVL18	168	ANIMAL AND NON-HUMAN BONE
CVL18	168	POST MEDIEVAL POTTERY
CVL18	173	POST MEDIEVAL POTTERY
CVL18	181	ANIMAL AND NON-HUMAN BONE
CVL18	181	CLAY PIPE
CVL18	181	GLASS PHIAL (POST-MEDIEVAL)
CVL18	181	POST MEDIEVAL CBM
CVL18	181	POST MEDIEVAL POTTERY
CVL18	182	NAIL
CVL18	182	POST MEDIEVAL POTTERY
CVL18	183	ANIMAL AND NON-HUMAN BONE
CVL18	183	POST MEDIEVAL POTTERY
CVL18	184	BOTTLE GLASS (POST-MEDIEVAL)
CVL18	184	NAIL

CVL18	184	POST MEDIEVAL CBM
CVL18	184	POST MEDIEVAL POTTERY
CVL18	184	WINDOW GLASS (POST-MEDIEVAL)
CVL18	192	ANIMAL AND NON-HUMAN BONE
CVL18	192	POST MEDIEVAL POTTERY
CVL18	195	POST MEDIEVAL POTTERY

10.2 Reg finds

Sitecode	Context	Acc_no	Material
CVL18	181	85	BONE
CVL18	12	84	BONE
CVL18	47	83	BONE
CVL18	1	115	CERA
CVL18	1	116	CERA
CVL18	1	117	CERA
CVL18	2	93	CERA
CVL18	2	114	CERA
CVL18	2	122	CERA
CVL18	5	111	CERA
CVL18	18	97	CERA
CVL18	47	99	CERA
CVL18	53	94	CERA
CVL18	53	95	CERA
CVL18	53	96	CERA
CVL18	53	112	CERA
CVL18	53	113	CERA
CVL18	61	118	CERA
CVL18	61	119	CERA
CVL18	61	120	CERA
CVL18	61	121	CERA
CVL18	96	107	CERA
CVL18	96	108	CERA
CVL18	125	98	CERA
CVL18	138	109	CERA
CVL18	138	110	CERA
CVL18	149	100	CERA
CVL18	149	123	CERA
CVL18	181	101	CERA
CVL18	181	102	CERA
CVL18	181	103	CERA
CVL18	181	104	CERA

CVL18	181	132	CERA
CVL18	184	105	CERA
CVL18	184	106	CERA
CVL18	2	76	CERA
CVL18	4	72	CERA
CVL18	173	73	CERA
CVL18	184	74	CERA
CVL18	184	75	CERA
CVL18	2	78	CERA
CVL18	2	79	CERA
CVL18	181	77	CERA
CVL18	13	50	COMP
CVL18	2	8	COPP
CVL18	4	1	COPP
CVL18	19	2	COPP
CVL18	52	3	COPP
CVL18	100	4	COPP
CVL18	173	5	COPP
CVL18	173	6	COPP
CVL18	173	7	COPP
CVL18	149	18	COPP
CVL18	149	19	COPP
CVL18	149	20	COPP
CVL18	149	21	COPP
CVL18	149	22	COPP
CVL18	149	23	COPP
CVL18	181	125	COPP
CVL18	181	126	COPP
CVL18	181	127	COPP
CVL18	181	128	COPP
CVL18	181	129	COPP
CVL18	181	130	COPP
CVL18	15	12	COPP
CVL18	181	17	COPP
CVL18	5	9	COPP
CVL18	5	10	COPP
CVL18	61	11	COPP
CVL18	77	24	COPP

CVL18	77	26	COPP
CVL18	149	15	COPP
CVL18	149	16	COPP
CVL18	168	25	COPP
CVL18	173	13	COPP
CVL18	173	14	COPP
CVL18	181	131	COPP
CVL18	149	80	GLAS
CVL18	149	81	GLAS
CVL18	41	51	IRON
CVL18	41	52	IRON
CVL18	125	63	IRON
CVL18	125	57	IRON
CVL18	181	44	IRON
CVL18	181	54	IRON
CVL18	183	66	IRON
CVL18	1	39	IRON
CVL18	1	40	IRON
CVL18	1	49	IRON
CVL18	4	35	IRON
CVL18	4	38	IRON
CVL18	5	34	IRON
CVL18	10	53	IRON
CVL18	13	45	IRON
CVL18	41	32	IRON
CVL18	61	37	IRON
CVL18	108	68	IRON
CVL18	116	60	IRON
CVL18	118	48	IRON
CVL18	124	64	IRON
CVL18	125	59	IRON
CVL18	125	124	IRON
CVL18	138	61	IRON
CVL18	149	41	IRON
CVL18	149	42	IRON
CVL18	149	43	IRON
CVL18	181	30	IRON
CVL18	181	31	IRON
CVL18	181	33	IRON

CVL18	181	36	IRON
CVL18	181	46	IRON
CVL18	181	47	IRON
CVL18	181	55	IRON
CVL18	181	56	IRON
CVL18	183	65	IRON
CVL18	183	67	IRON
CVL18	184	58	IRON
CVL18	184	62	IRON
CVL18	184	69	IRON
CVL18	184	70	IRON
CVL18	192	71	IRON
CVL18	47	82	IVOR
CVL18	181	29	LEAD
CVL18	181	27	LEAD
CVL18	173	28	LEAD
CVL18	1	91	STON
CVL18	1	92	STON
CVL18	4	87	STON
CVL18	61	88	STON
CVL18	168	89	STON
CVL18	173	90	STON
CVL18	184	86	STON

Fig 1 Site location

CAMD1277EVR19#02

Fig 2 Areas of evaluation

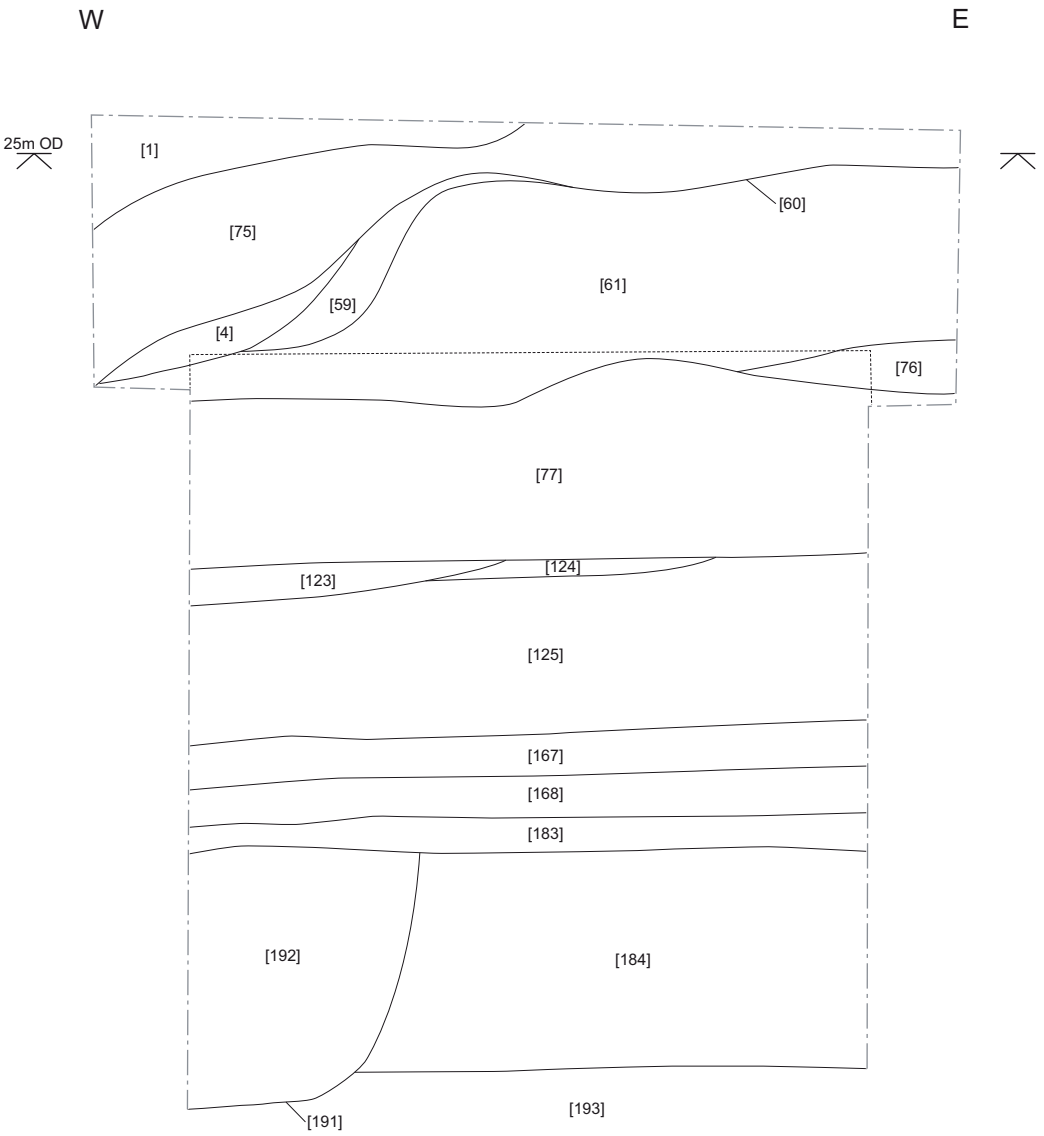

Fig 3 South facing section of Trench 1

Fig 4 Photograph of the top of the quarry pit in Trench 1, looking south

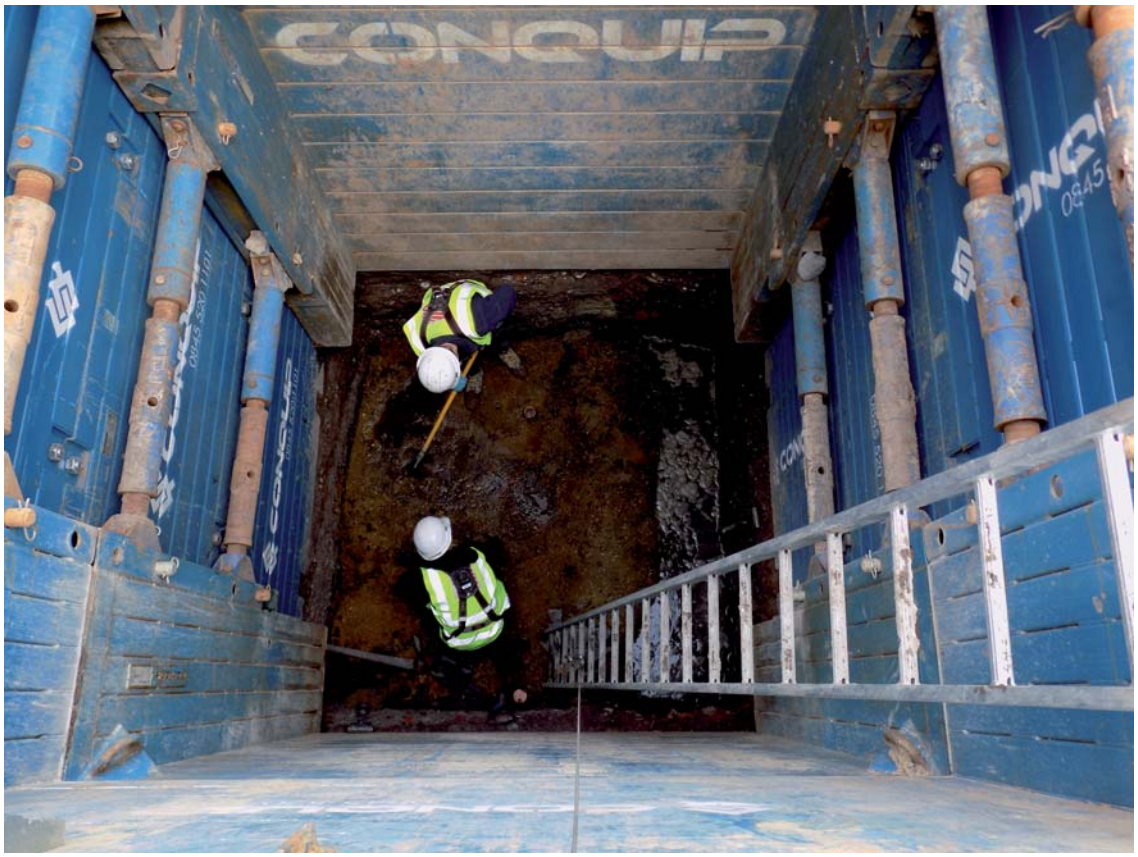

Fig 5 Photograph of the base of the quarry pit in Trench 1 within the trench box, looking north

Fig 6 Photograph of Trench 2, looking west

Fig 7 Photograph of the burials in Trench 3, looking east

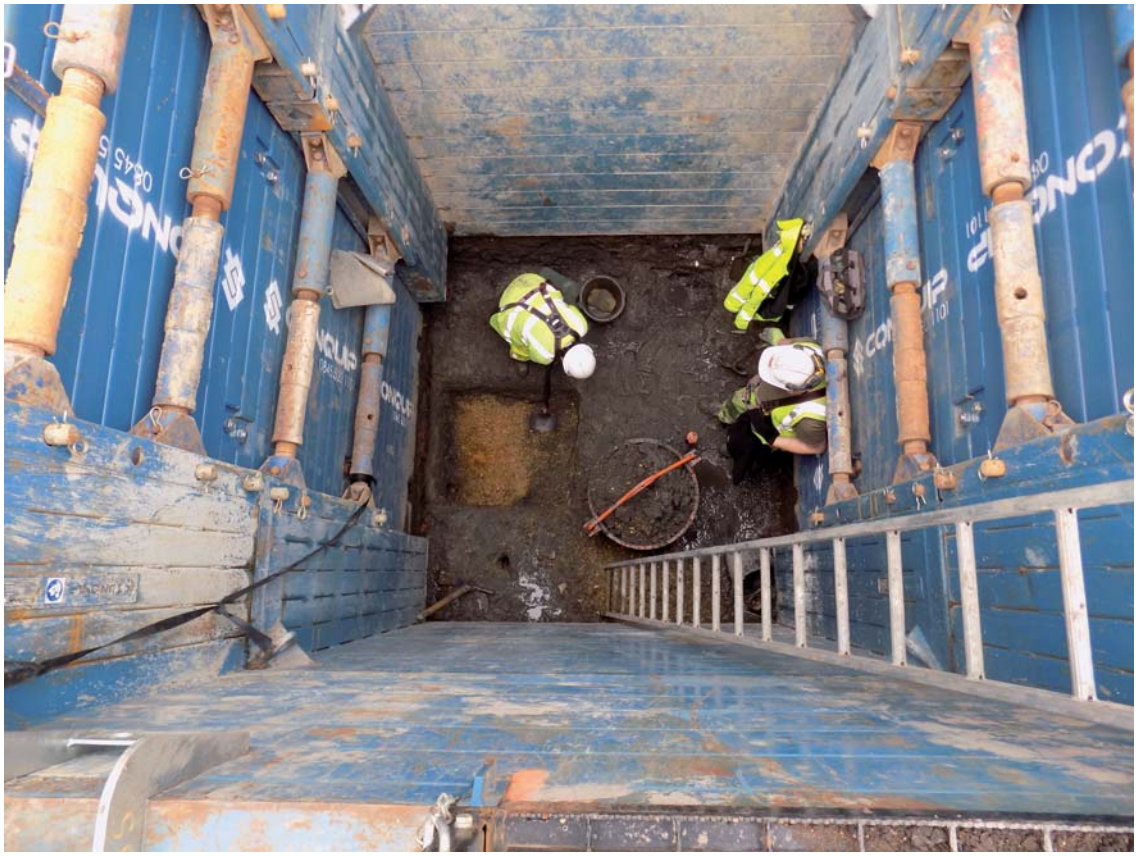

Fig 8 Photograph of the organic deposits at the base of the quarry pit in Trench 3, looking east

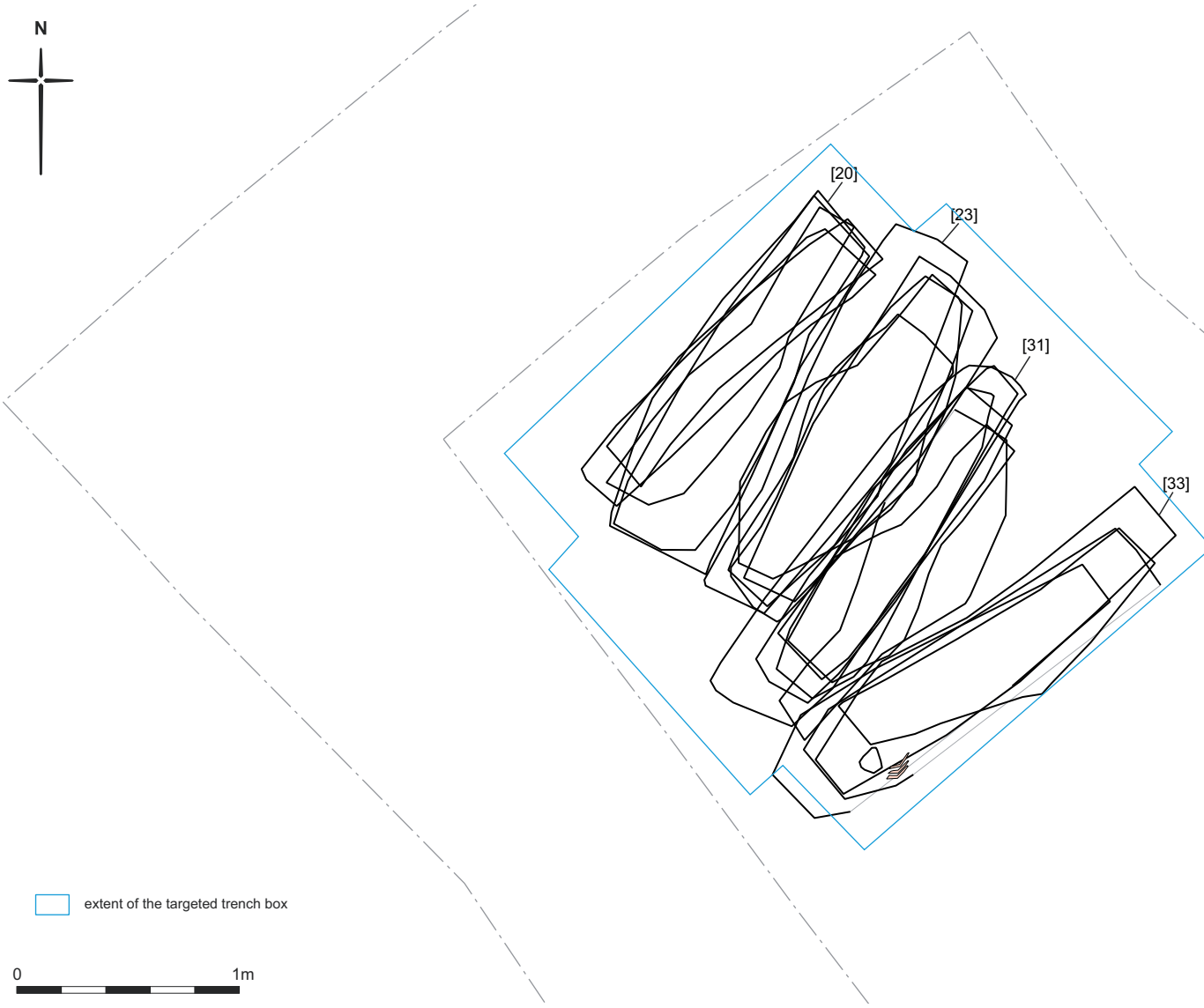

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Fig 9 Plan of grave cuts in Trench 3

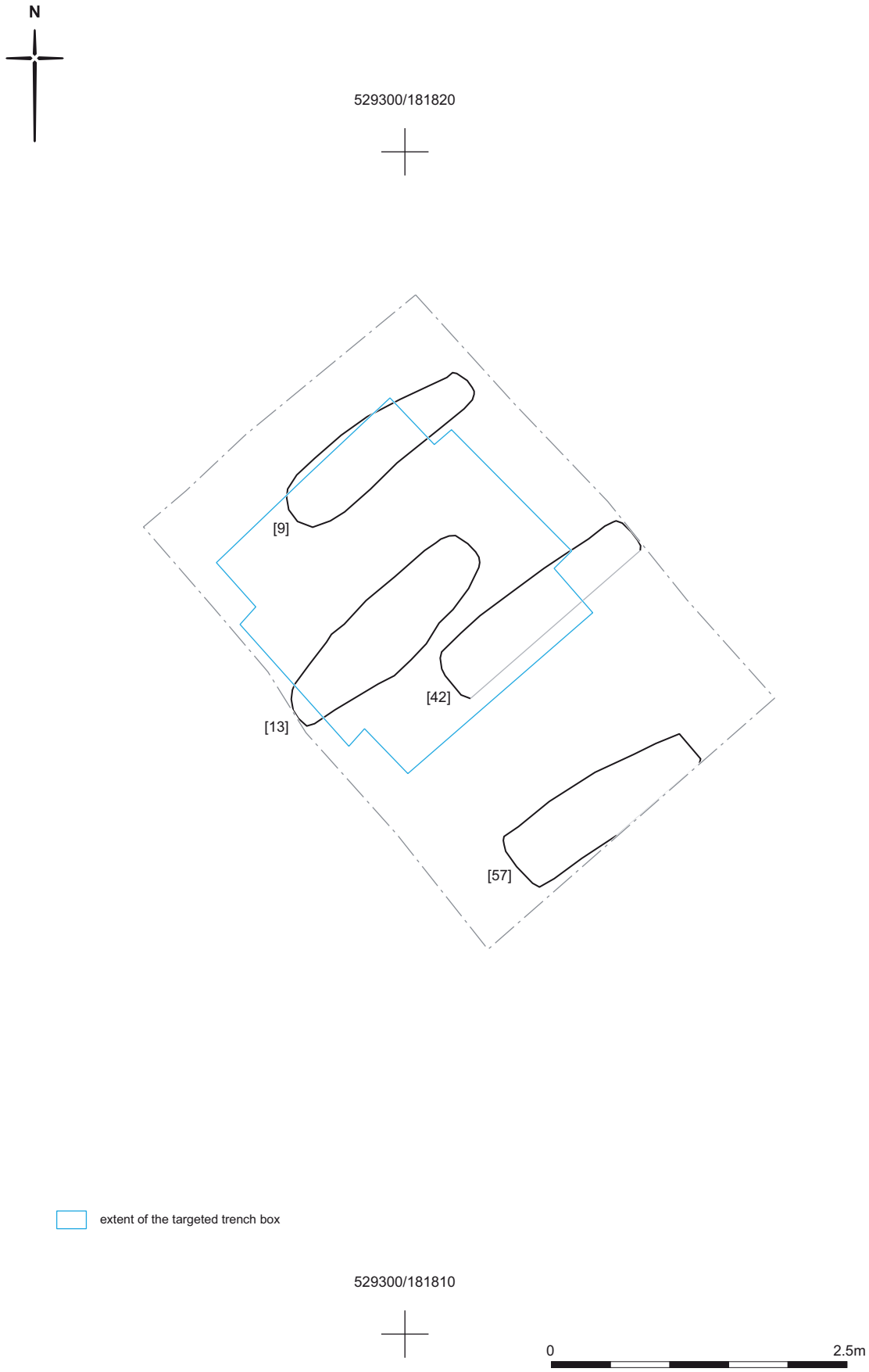

Fig 10 Plan showing grave cuts in Trench 5

Fig 11 Photograph of the excavation of the burials in Trench 5, looking north

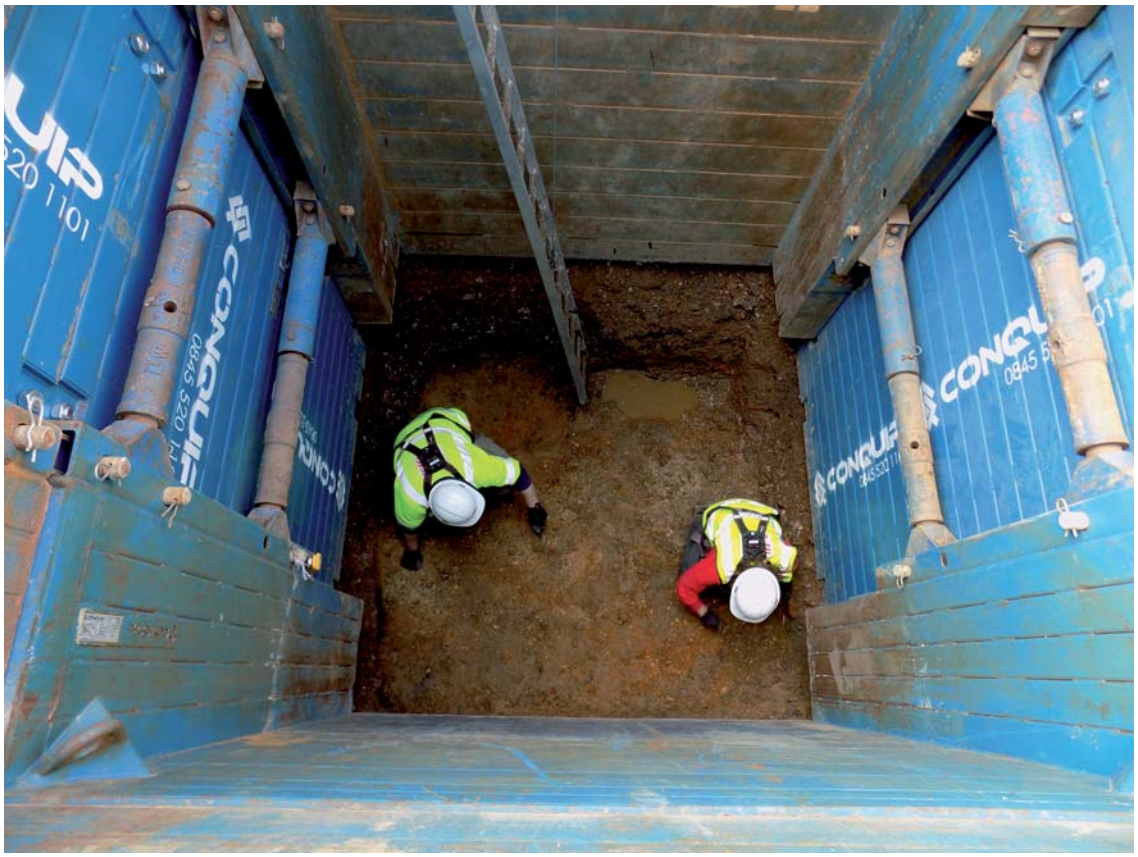

Fig 12 Photograph of the base of the quarry pit and natural sand and gravel in Trench 5, looking north

Fig 14 Photograph of the burials in Trench 6, looking north-east

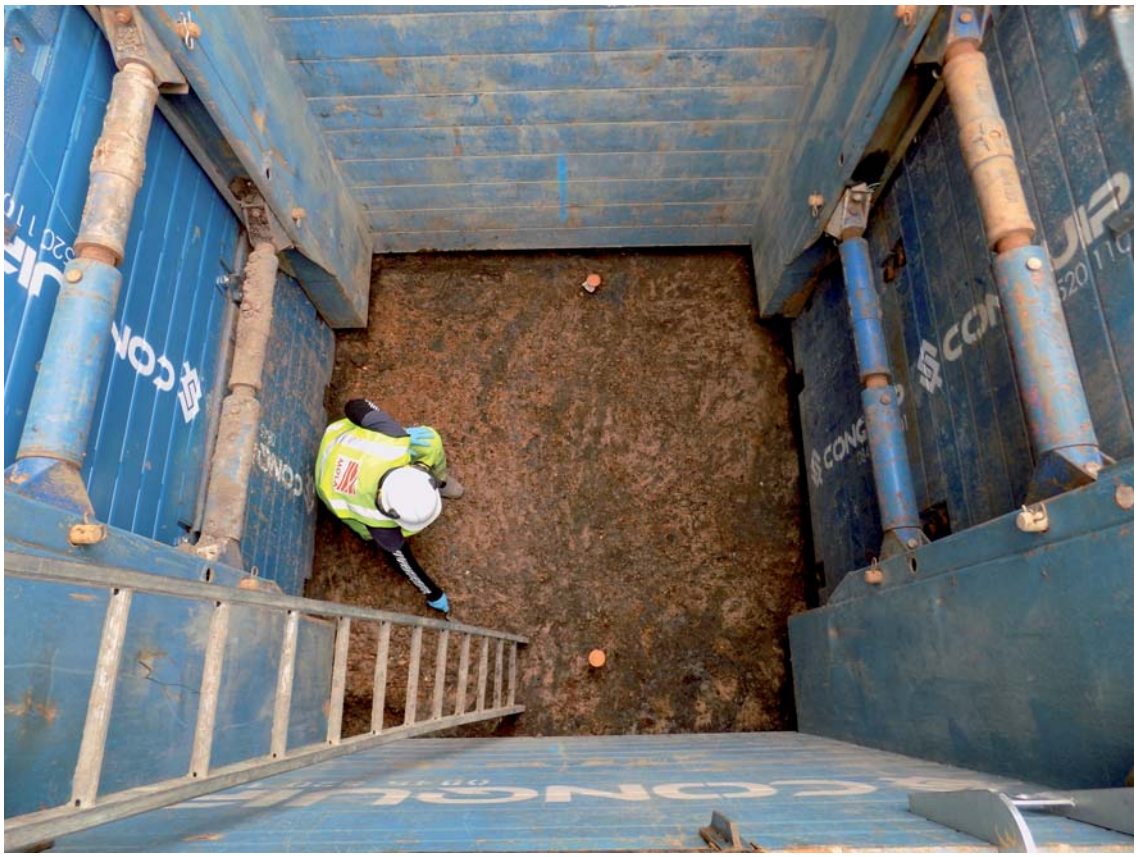

Fig 15 Photograph of the crushed brick surface and wheel ruts (bottom right and top) within Trench 7, looking south

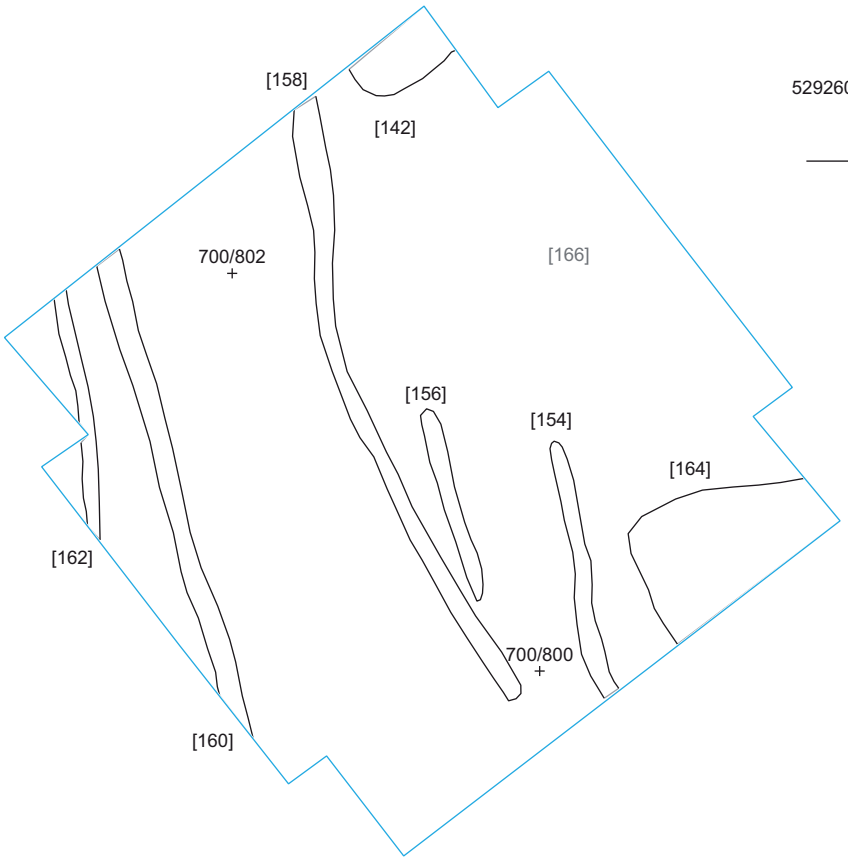

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Fig 17 Approximate location of SI investigations

Fig 18 Photograph of the south cemetery wall and graves, looking west

Fig 19 Photograph of burial [216] located along the south cemetery wall, looking south

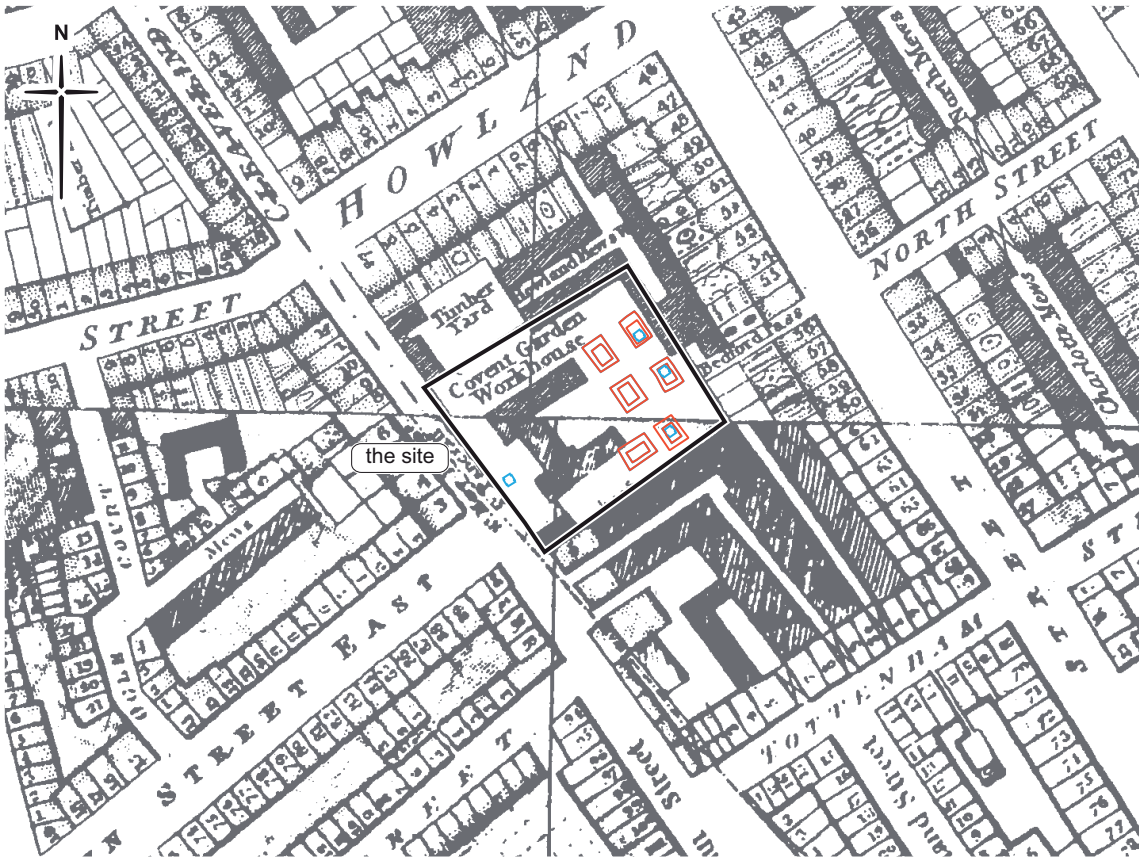

Fig 20 Trench plan overlain on Horwood's 1799 map

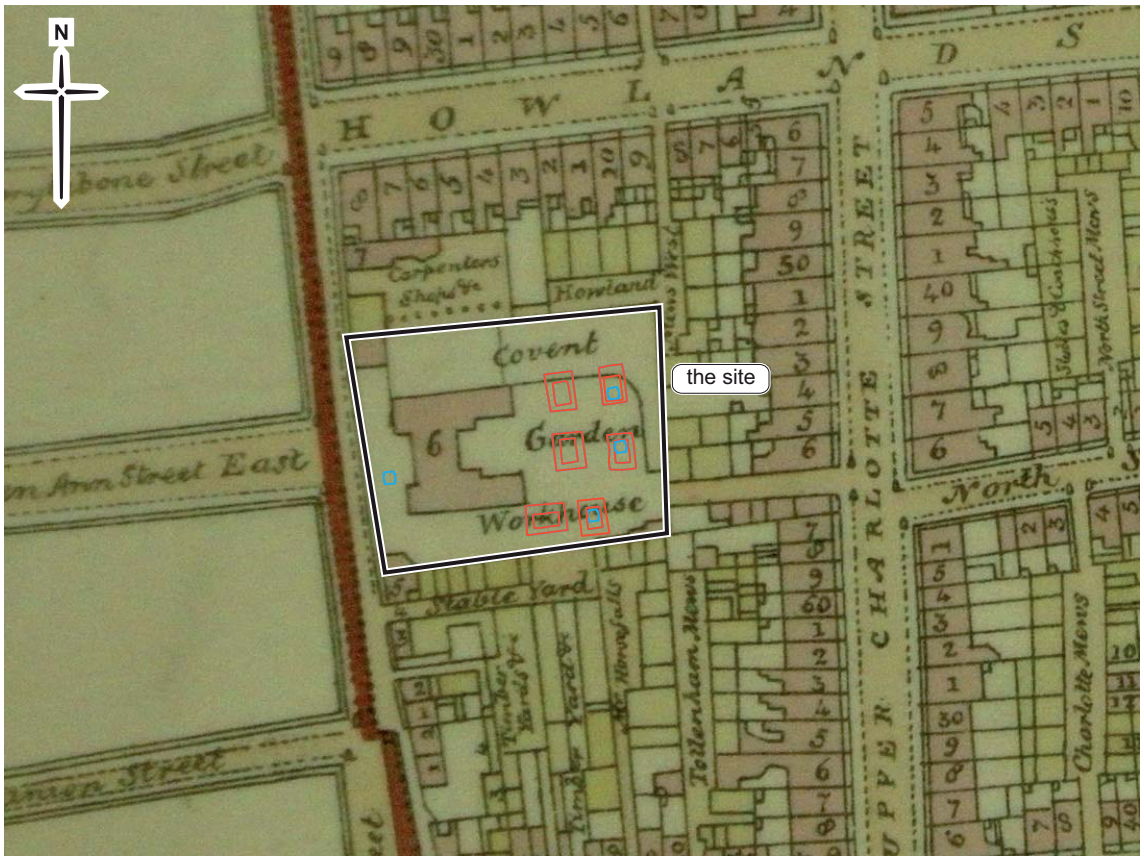

Fig 21 Trench plan overlain on Tompson's map of the parish of St Pancras, 1801 (Camden Local Studies Archive)

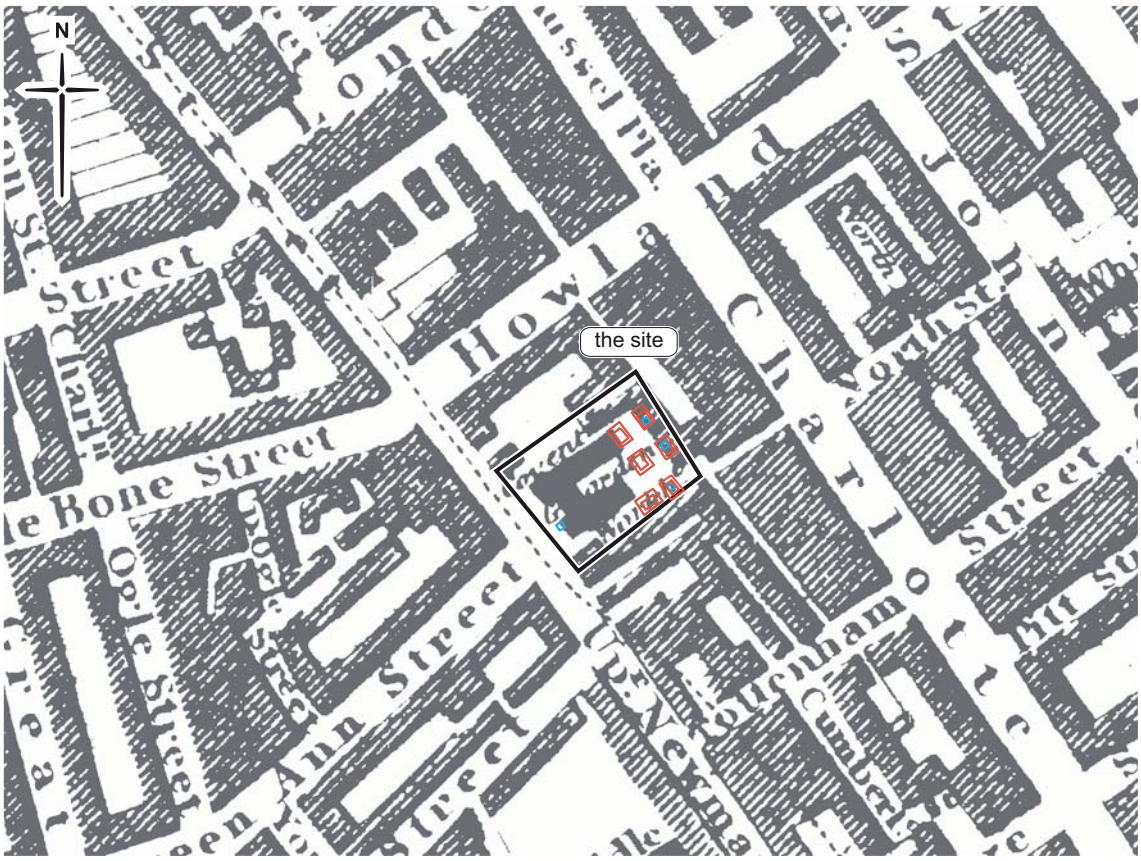

Fig 22 Trench plan overlain on Greenwood's map of 1824–26

Fig 23 Trench plan overlain on Stanford's 1862 map

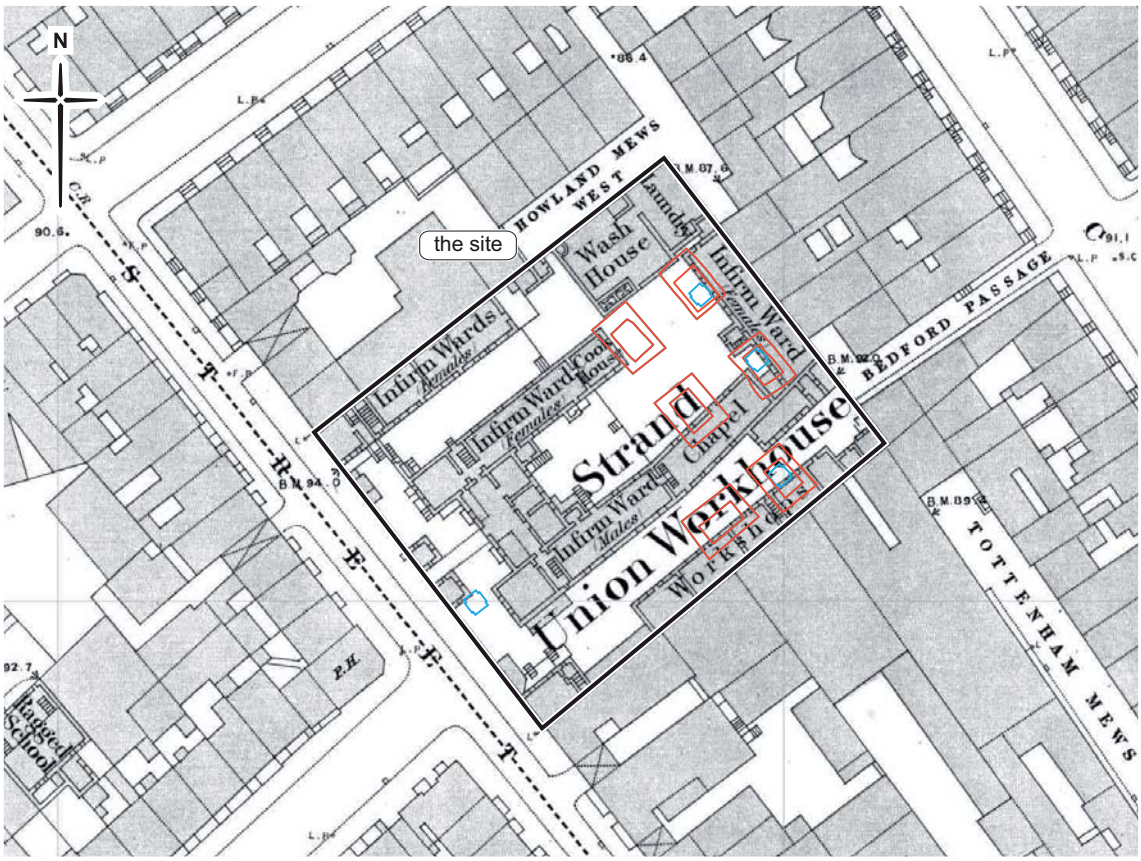

Fig 24 Trench plan overlain on Ordnance Survey 1st edition 5ft: mile map of 1872 (not to scale)

11Appendix 2

1.1 Tabulated results of watching brief on geotechinical test pits and bo

Dates of fieldwork 16-04-2018 - 10-05-2018

N.B. All levels taken from plans provided in WSI so are approximate.

Trial pit / borehole number	Location (note if different from plan)	Modern ground level/top of slab (mOD)	Base of modern slab + fill	Depth of archaeological stratigraphy above natural	Level of base of lowest features or deposits observed (mOD)	Top of surviving natural observed at (mOD)	Level of base of trench (mOD)
HP01							
HP02	NE corner	26.76	26.51	0.75m	25.76	N/A	25.76
HP03	NE corner	26.76	N/A	N/A	25.76	N/A	25.76
HP04	NE corner	26.76	N/A	N/A	25.76	N/A	25.76
HP05							
HP06	Southern boundary	26.76	26.36	Min 0.90m	25.66	N/A	25.66
HP07	Southern boundary	26.76					

HP08	Southern boundary	26.76	25.96	0.30m	25.76	N/A	25.76
HP09	Southern boundary	26.76	25.96	0.30m	25.76	N/A	25.76
HP09a	Southern boundary	26.25	N/A	1.15m	25.10	?25.33 (inconclusive)	25.10
HP10	Northern boundary	25.7	25.5	0.70m	24.9	N/A	24.9
HP11	Northern boundary	25.7	25.15	N/A	24.15	N/A	24.15
HP12	Northern basement	25.7	25.1	N/A	N/A	25.1 (gravel)	24.7
HP13							
HP14							
HP15	Toilet cubicle	25.7	25.2	N/A	N/A	N/A	24.7
HP16							
HP17							
HP18	W central, lower	25	24	N/A	N/A	N/A	24

	basement						
HP19	Central area, lower basement	25	24N.A	N/A	N/A	N/A	24
Trial pit / borehole number	**Location (note if different from plan)**	**Modern ground level/top of slab (mOD)**	**Base of modern slab + fill**	**Depth of archaeological stratigraphy above natural**	**Level of base of lowest features or deposits observed (mOD)**	**Top of surviving natural observed at (mOD)**	**Level of base of trench (mOD)**
HP20	Central area, lower basement	25	24	N/A	N/A	N/A	24
HP21	Central area, lowest basement	24.2	23.2	N/A	N/A	N/A	23.2
HP22	W side, lower basement	25	24.4	0.40m	23.9	N/A	23.9
HP23	W side, lower basement	25	24	N/A	N/A	N/A	24
HP24	W side, lower basement	25	24	N/A	N/A	N/A	24

HP25	S side, lower basement	25	24	N/A	N/A	N/A	24
HP26	S side, lower basement	25	24	N/A	N/A	24.2 (gravels	24
HP27	S side, lower basement	25	24	N/A	N/A	24.2 (gravels	24
HP28	S side, lower basement	25	24	N/A	N/A	24.2 (gravels	24
HP29	w-side lower basement	24.2	23.83	0.73m	23.10	N/A	23.10
HPX	S side, lower basement. Northeast of HP27.	25	24	N/A	N/A	24.2 (gravels)	24
HPY	S side, lower basement. Northeast of HP27.	25	24	N/A	N/A	24.2 (gravels)	24
Utilities trench	Utilities trench South of north gate post 3m E-W	C 27.3	27.30-26.45	N/A	Section of probable18th-c perimeter wall aligned with North gate post, E/W	N/A	26.45

	4.2m N-S				aligned c 19th brick foundation and concrete footing		