

# WHITE CHAPPEL

White Chappell Road

The Dughill

Bowling

This Strait Line from the two Stones unto the other two Stones at the South Corner of the Land of the Bound between this Hamlet and the Parish of White Chappell

Erog

The Land of Hayes

Elderton Occ

Land of

THE ROYAL LONDON HOSPITAL  
Whitechapel Road  
London  
E1

London Borough of Tower Hamlets

An archaeological evaluation report

April 2005

MOLAS  
SECURE COLLECTION



MUSEUM OF LONDON

Archaeology Service

THE ROYAL LONDON HOSPITAL  
Whitechapel Road  
London  
E1

London Borough of Tower Hamlets

An archaeological evaluation report

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Project Manager  
Author  
Graphics

Nick Bateman  
Rosalind Aitken  
Kenneth Lymer

**Museum of London Archaeology Service**  
© Museum of London 2005  
Mortimer Wheeler House, 46 Eagle Wharf Road, London N1 7ED  
tel 020 7410 2200 fax 020 7410 2201  
email [molas@molas.org.uk](mailto:molas@molas.org.uk)  
web [www.molas.org.uk](http://www.molas.org.uk)

**Royal London Hospital  
Whitechapel Road  
London  
E1 1BB**

A report on the evaluation  
*Author Rosalind Aitken*

## Summary (non-technical)

*This report presents the results of an archaeological evaluation carried out by the Museum of London Archaeology Service on the site of the Royal London Hospital, Whitechapel Road, London E1. The report was commissioned from MoLAS by Skanska Innisfree and the London Joint Venture.*

*Following the recommendations of a previous Archaeological Impact Assessment (MoLAS, 2003) four evaluation pits were excavated on the site during this phase of archaeological works. It was not possible to excavate other evaluation pits because of difficulties with access.*

*The results of the field evaluation have helped to refine the initial assessment of the archaeological potential of the site, though limitations on the location, size and number of pits restrict this refinement. Late medieval soil horizons are present in areas of proposed redevelopment. The presence of five articulated burials in situ confirms the location of a post-medieval burial ground within the footprint of the northern block of the proposed development. Other deeply cut, post-medieval archaeological features (backfilled red-brick wells) survive and cut into the natural gravels.*

*The proposed redevelopment at the Royal London Hospital will entail the demolition of a number of existing buildings, refurbishment of much of the existing estate, and the construction of new buildings with basements, within the hospital complex. The impact of the new buildings, including the footprint of each pile, pile cap, any pre-piling obstruction removal, stair/lift pits, crane bases, tunnels and basements, is such that surviving archaeological deposits will be removed.*

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# 1 Introduction

## 1.1 Site background

The evaluation took place at the Royal London Hospital and associated buildings on Whitechapel Road. Whitechapel Road bounds the site to the north. To the east, the site is bounded by both Milward Street, to the south by Newark Street; and to the west by New Road (see Fig 1). The Ordnance Survey National Grid reference for the centre of the property is 534700 181705. Within this report the property is known as 'the site'.

The NW corner of the site intersects with an Archaeological Priority Zone as identified by the local authority. This Zone is a c 100m wide strip centred on a Roman road that runs to the north of the site (Fig 2). The site also falls within the London Hospital Conservation Area Conservation Area 40 (LBTH UDP) and there are a number of listed buildings and buildings of architectural interest within and adjacent to the site (MoLAS 2005).

Modern ground level immediately adjacent to the site ranges from 12.2m OD to 12.9m OD. The site code is RLP05.

A desk-top *Archaeological (impact) assessment* was previously prepared, which covers the whole area of the site (MoLAS, 2003). The *Assessment* 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.

Subsequently, two trial pits and three boreholes were monitored in 2004 in the Front Green area of the hospital, west of the Walk-in Centre building (MoLAS, 2004). They are numbered TP2004.1, TP2004.2 and BH2004.1–3 to distinguish them from both earlier and subsequent trial work observations.

A revised *Archaeological Impact Assessment* was issued in 2005 (MoLAS 2005). This took into account the revised design proposals plans submitted for planning consent by Skanska Innisfree.

An archaeological field evaluation was carried out in 2005 on a series of evaluation pits within the existing grounds of the Royal London Hospital. These are numbered EP1–8. The results of the observations of TP2004.1 and TP2004.2 in conjunction with boreholes BH2004.1–3 are presented here in the place EP1 (Fig 2). The results are summarised here but full details are available elsewhere (MoLAS 2004).

## 1.2 Planning and legislative framework

The legislative and planning framework in which the archaeological exercise took place was summarised in both the original *Archaeological impact assessment* (MoLAS 2003) and the subsequent revised version (MoLAS 2005) which formed the project design for the evaluation.

### 1.3 Planning background

This report has been prepared in support of an application for planning consent.

### 1.4 Origin and scope of the report

This report was commissioned by Skanska Innisfree and the London Joint Venture and produced by the Museum of London Archaeology Service (MoLAS). The report has been prepared within the terms of the relevant Standard specified by the Institute of Field Archaeologists (IFA, 2001).

Field evaluation, and the *Evaluation report* which comments on the results of that exercise, are defined in the most recent English Heritage guidelines (English Heritage, 1998) as intended to provide information about the archaeological resource in order to contribute to the:

- formulation of a strategy for the preservation or management of those remains; and/or
- 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
- formulation of a proposal for further archaeological investigations within a programme of research

### 1.5 Aims and objectives

All research is undertaken within the priorities established in the Museum of London's *A research framework for London Archaeology, 2002*

The following research aims and objectives were established in the *Method Statement* for the evaluation (Section 2.2):

The limited nature of the proposed works and the archaeological evaluation makes it unreasonable to establish many specific archaeological research objectives. The archaeological brief is essentially limited to establishing the levels and nature of surviving archaeological deposits, and to ensure that the digging of evaluation trenches does not involve unnecessary destruction of such deposits. Nevertheless, in addition, a few broad research questions can be outlined which are vital to further consideration of a archaeological resource mitigation strategy:

- Has the development area been subject to Roman quarrying and subsequent consolidation?
- Is there any evidence of the Roman road along the north side of the development area?
- Are any Roman burials present at the site? Even if not positively found, can one predict that they may survive elsewhere on the site?
- Is there evidence for any medieval land use in the site area?



- Is there any evidence for the presence of any post-medieval structural remains especially in relation to Civil War defences?
- Are there any indications of medieval or post-medieval burial grounds?

The results of observations obtained by monitoring the evaluation exercise will be used to gauge the extent and importance of archaeological survival.

## 2 Topographical and historical background

A detailed assessment of the topographical and archaeological background is available in the *Archaeological assessment (revised edition)* (MoLAS 2005).

### 2.1 Topography

The current ground level rises gently from east to west. The level at the east end of the site is *c* 12.20-12.50m OD, rising to up to 14.10m OD in the west. The level along Whitechapel Road is *c* 12.80m OD, and the south edge of the site bounded by Newark Street is *c* 12.60-12.90m OD. Previous archaeological work nearby suggests that the level of brickearth natural on the site is *c* 10.0-11.0m OD, and the level of underlying natural sand and gravel deposits is *c* 8.9-10.3m OD.

### 2.2 Prehistoric

Whilst the discovery of isolated redeposited finds cannot be entirely excluded, the site has very little potential for the discovery of *in-situ* archaeological prehistoric remains.

### 2.3 Roman

Roman practice was to locate cemeteries along major roads beyond the town walls. As the Roman road from London to Colchester lies to the northwest corner of the site it is possible that Roman burials may be found on site. A number of Roman burials or finds from Roman burials have been found alongside Whitechapel Road near Aldgate. Because of the nature of the underlying topography it is very difficult to make predictions on the levels of Roman archaeological deposits and they may have been truncated by post-medieval cellaring and modern basements.

### 2.4 Saxon

It is possible that archaeological remains of Late-Saxon date (9th-11th century) *might* remain on the site. The nearest Saxon settlement seems to be Stepney (Stepen's hythe or landing-place). The isolated find of a Saxon glass necklace was found on the site (SMR 080902). If present, cut features, eg sunken-floored buildings, pits, etc are most likely to survive.

### 2.5 Medieval

The site in the medieval period was in the Manor of Stepney, and appears to lie in open land between the village of Stepney and ribbon development alongside Whitechapel Road outside the City walls (VCH 1998). By the mid 16th century the site lay in an area of manorial waste in the medieval parishes of St Mary Whitechapel with the parish of St Dunstan, Stepney to the east.

There is no clear indication of the specific buildings that may have existed on the site during the medieval period. There could be undercrofts associated with overlying masonry buildings, deep pits or wells may also survive. Ground reduction for the

existing basement slabs/lightwells and post-medieval cellaring may have removed all or most of any medieval and post-medieval horizontal stratigraphy (eg floor levels, road surfaces, etc). Features cut into contemporary ground surface such as cellars, wall foundations, drains and pits may, however, survive below this truncation level.

Although any medieval remains will have local significance there is nothing to suggest that they may have either regional or national importance.

## 2.6 Post-medieval

Many archaeological investigations along Whitechapel Road have revealed the presence of quarry pits dug to extract the underlying natural sand and gravels. The quarrying appears to start at the Aldgate end of Whitechapel Road perhaps in the 13th century and precedes development eastwards along the Whitechapel Road. Seventeenth and nineteenth century quarry pits have been identified during nearby archaeological investigations, dug prior to the development of the area in the 18th century.

During the Civil War period, London was fortified to protect it from Royalist assault. Fortifications built in 1642-43 consisted of forts and batteries linked by a bank and ditch and these may pass along the west edge of the site. A raised fortification, known later as Whitechapel Mount, is recorded in the SMR as lying close to or under the NW corner of the development site. The area of the possible location of the Mount lies within the identified archaeological priority zone.

There are records of disused burial grounds located within the site during the post-medieval period. These include the 'Stepney Pest-field' – a plague burial ground – that may be located near St Phillip's Church, a burial ground associated with the hospital itself, thought to date to c 1759-1864 and located roughly in the area south of the hospital and north of what is now Stepney Way. A burial ground associated with the Wycliffe Chapel, dating from after 1831, lies to the south of the site close to Varden Street (MoLAS, 2003, MoLAS 2005).

## 3 The evaluation

### 3.1 Methodology

All archaeological excavation and monitoring during the evaluation was carried out in accordance with the preceding *Method Statement* (MoLAS, 2004), and the *MoLAS Archaeological Site Manual* (MoLAS, 1994).

Two trial pits and three boreholes (TP2004.1, TP2004.2 and BH204 1-3) were monitored as a watching brief during July 2004 (MoLAS 2004). The result have been summarised here and stand for proposed evaluation pit EP1. Four out of eight planned evaluation pits (numbered EP1-8) were excavated within the premises of the Royal London Hospital during February and March 2005. It was not possible to excavate the remaining pits as a result of problems with access.

The ground was broken out and cleared by contractors under MoLAS supervision. Trenches were excavated by hand to a depth of 1.20m, any further excavation was done by machine or hand, by the contractor (Avondale), and monitored by a member of staff from MoLAS.

The locations and height OD of the evaluation trenches were recorded by MoLAS Geomatics Officers and plotted onto the OS grid.

A written and drawn record of all archaeological deposits encountered was made in accordance with the principles set out in the MoLAS site recording manual (MoLAS, 1994).

The site has produced: 1 digital trench location plan; 23 context records; 4 section drawings at 1:20 and 5 plans at 1:20; and 25 black and white photographs. In addition 1 box of finds were recovered from the site.

The site finds and records for the watching brief carried out in 2004 can be found under the site code RLO03 in the MoL archive.

### 3.2 Results of the evaluation

See Fig 2 for the location of trial trenches, boreholes and evaluation pits.

#### *Evaluation Pit 1*

Evaluation Pit 1 was not excavated as part of the recent evaluation exercise. On the other hand, the watching brief observations carried out during July 2004 within the Front Green area of the hospital (MoLAS, 2004) largely satisfied the requirements for an evaluation trench in this area of site. The results are reproduced here. Reference should be made to the report (MoLAS 2004) for further detail and the circumstances of the fieldwork.

<i>Trial Pit 2004.1</i>	
Location	West central area of the Front Green
Dimensions	3.50m (N-S) by 0.5m (E-W)
Modern ground level	14.15m OD
Base of modern fill or topsoil	13.15m OD
Depth of archaeological deposits seen	2m
Level of base of deposits observed	10.95m OD

A loose dark grey ashy fill – typical of quarry fills – with domestic animal bone fragments, oyster shell and undecorated Tin-Glazed pottery consistent with a late 18th-century date was observed at the base of the machine excavated trial pit at 10.95m OD (3.2m below ground level). Sealing this was 0.10m thickness of gravel throughout the whole length of the trial pit. Up to 1m depth of recent fill (including plastics) was deposited on top of this up to the current ground surface.

<i>Trial Pit 2004.2</i>	
Location	North East area of the Front Green
Dimensions	2.70m (N-S) by 0.7m (E-W)

Modern ground level	13.97m OD
Base of modern fill or topsoil	13.77m OD
Depth of archaeological deposits seen	2.8m
Level of base of deposits observed	10.97m OD

A black ashy fill similar to that described above was observed at the bottom of the 3m-deep trial pit. A 0.30m thick brick rubble layer had overlain this, deposited as a construction level underneath a cellar floor. The cellar floor was 0.30m thick (at 11.77m OD). The walls were observed 0.50m below the ground surface and formed the north and east side of the trial pit. Up to 2m of brick rubble had been used to backfill this cellar. Topsoil 0.20m thick was then deposited over this, up to the current ground level.

<b><i>Borehole 2004.1</i></b>	
Location	North West area of the Front Green
Modern ground level	14.15m OD
Base of modern fill or topsoil	13.95m OD
Depth of archaeological deposits seen	5.25m
Level of base of deposits observed	8.44m OD

Within this borehole terrace gravels were found at 8.44m OD. At 8.69m OD (GL-5.45m) there was brown sandy clay (brickearth), the natural substrate. Below 10.65m OD was a dark grey ashy fill which became hard at 3.95m below the surface. A red brick and grey mortar rubble above this was recorded from 3.5m below the surface (10.65m OD). This may have represented a cellar floor and any subsequent construction deposits (the percussion rig would have easily broken through the floor). This was beneath 0.20m topsoil.

<b><i>Borehole 2004.2</i></b>	
Location	Middle of the Front Green
Modern ground level	14.18m OD
Base of modern fill or topsoil	13.98m OD
Depth of archaeological deposits seen	4.8m
Level of base of deposits observed	8.68m OD

Natural gravels were recorded at 8.68m OD. Above this lay 0.5m of natural brickearth (at 9.18m OD). Five metres of a black ashy silt fill was recorded directly below the topsoil and modern ground surface at 14.8m OD.

<b><i>Borehole 2004.3</i></b>	
Location	East-central area of the Front Green
Modern ground level	14.01m OD
Base of modern fill or topsoil	13.51m OD
Depth of archaeological deposits seen	4.5m
Level of base of deposits observed	8.51m OD

Natural gravels were found at 8.51m OD. A 0.5m thickness of natural brickearth lay above this. A black ashy silt fill was recorded to 5.0m below the surface (at 9.01m OD). This lay below 0.20m of brick rubble followed by 0.10m of concrete, then 0.20m of topsoil.

#### ***Evaluation Pit 2***

Evaluation Pit 2 was positioned in the basement of the Dental Institute and the School of Medicine and Dentistry college. An access issue prevented the excavation of this trench.

#### ***Evaluation Pit 3***

<b><i>EP3</i></b>	
Location	Within the Princess Alexandra Garden
Dimensions	2.50m by 3m
Modern ground level/top of slab	12.82m OD
Base of modern fill/slab	10.82m OD
Depth of archaeological deposits seen	2m
Level of base of deposits observed	9.92m OD
Natural observed	10.82m OD

This trench was located on the lawn area of the Princess Alexandra Garden. The base of this trench revealed two distinct types of natural deposits. On the western side brickearth remained, and on the eastern sands and gravels. The edge between the two was vertical and very sharp, possibly reflecting a geological event such as a frost-crack or an ice-wedge. The upper levels of the brickearth deposit changed gradually to darker sandy silts, and this was probably the remains (c 0.20m) of a late medieval soil horizon. At some point this was horizontally truncated, probably during landscaping works in the garden area. A later post-medieval deposit [9] was dumped over the area. A small quantity of disarticulated human remains was retrieved from this deposit (see the appended human bone assessment). Finds retrieved include a sherd of transfer-printed ware dating to after 1780. This post-medieval deposit was at a later date landscaped; topped with topsoil and turf making up the ground level to its current height (12.82m OD). (See Fig 3.)

#### ***Evaluation Pit 4***

Evaluation Pit 4 was not excavated. This evaluation pit was located in the thoroughfare between the Old Home and Queen Alexandra Home. After assessment by Skanska it was agreed that excavation of this trench was impractical in such a confined space on a heavily used access route.

#### ***Evaluation Pit 5***

<b><i>EP 5</i></b>	
Location	Millward Street Car Park
Dimensions	3m by 3.50
Modern ground level/top of slab	11.55m OD
Base of modern fill/slab	11.05m OD
Depth of archaeological deposits seen	1.50m
Level of base of deposits observed	8.95m OD

Natural observed	10.05m OD
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Evaluation Pit 5 was excavated down natural sands and gravels to a depth of 2.80m. A 0.30m thickness of sterile natural brickearth covered this. Above this a 0.50m thick silt deposit indicative of open ground had accumulated. Deposits associated with 18th and 19th century demolition and construction were used to backfill and level the area. These 19th century deposits included a layer of slate and lay directly below the tarmac of the car park (see Fig 4).

#### ***Evaluation Pit 6***

<b><i>EP 6</i></b>	
Location	Within the FM Hub waste disposal area
Dimensions	2.50m by 3m
Modern ground level/top of slab	12.84m OD
Base of modern fill/slab	12.04m OD
Depth of archaeological deposits seen	0.80m
Level of base of deposits observed	11.15 m OD
Natural observed	N/A

Natural deposits were not observed at the base of this trench. The earliest deposit was a dark brown, very compact fine silt deposit, with occasional smears of ceramic brick material and shell fragments. No finds were retrieved from this deposit but the type may be indicative of open, unploughed ground. Above this five human burials were interred into another deposit 0.40m thick. This deposit was light grey clayey silt and appeared to slope down to the north. The burials were not excavated so it is not completely clear at this stage whether these were in five individually cut graves or whether multiple graves were used. A space of c 1.30m separated each burial and they appeared to form a north-south running row in the eastern half of the trench (see Fig 5 and Fig 6). Cavities and iron nails surrounded the burials as did a high quantity of degraded wood.

A layer typical of garden soil sealed these burials. The contact between the two deposits was distinct and the burial soil may have been horizontally truncated during laying out of the garden (seen on plans of the hospital from 1832). Mixed in with this deposit was a large quantity of disarticulated human remains. Some were possibly disturbed from the burial soil below, but most remains showed signs of medical activities carried out on them such as surgical/dissection cuts and copper ties attached (refer to the human bone Assessment attached this document here as an appendix, for greater detail). Late 19th/early 20th century services and construction cuts had truncated this deposit.

#### ***Evaluation Pit 7***

<b><i>EP 7</i></b>	
Location	Within the lightwell to the back of the Eva Luckes Nurses Home
Dimensions	2.70m by 2.40m
Modern ground level/top of slab	10.37m OD
Base of modern fill/slab	10.07m OD
Depth of archaeological deposits seen	0.30m
Level of base of deposits observed	9.17m OD
Natural observed	10.07m OD

This evaluation pit was located in an external area (lightwell) approximately 2m below street level. The natural deposits lie directly below the tarmac in this area and consist of gravels and sands. Post-medieval cut features survived in this area namely two red brick wells. One of these survived at a depth of 9.17m OD and had been superseded by a square Victorian cesspit. Only one course of bricks remained of the other well, and was found directly below 0.30m of the tarmac surface. (See Fig 7.)

### ***Evaluation Pit 8***

Evaluation Pit 8 was not excavated. The trench was located in the middle of Stepney Way, a heavily trafficked road which provides an access route for both ambulances and regular vehicles to various parts of the hospital. In addition to this a number of services are known to run the length of the street. After assessment by Skanska it was agreed that these factors would prevent excavation of a trench in this location.

### **3.3 Assessment of the evaluation**

GLAAS guidelines (English Heritage, 1998) require an assessment of the success of the evaluation 'in order to illustrate what level of confidence can be placed on the information which will provide the basis of the mitigation strategy'.

The proposed development will consist of a programme of three phases of works involving the demolition of currently standing buildings and the construction of:

- A main new hospital building to rear and south-east of the existing main hospital building, which will accommodate most of the clinical accommodation and functions. This large building will comprise three linked blocks (a main tower block, the south tower block and a new Outpatients Block connected by the 'Winter Garden'). The main and south tower block will be joined by a link block over Stepney Way;
- A new staff car park at the corner of Newark Street and New Road to the south of the existing outpatients department.
- A new Nursery on the site of the existing Boiler House in the north/west part of the hospital estate.

The evaluation trenches were positioned within the footprint of each of these developments and/or temporary structures associated with their construction (See Fig 2).

The *Archaeological impact assessment* (MoLAS 2005) should be referred to for a detailed account of these phases and works.

The watching brief carried out in 2004 (MoLAS 2004) was considered an adequate substitute for **Evaluation Pit 1** and the results have been summarised above. The test pits and boreholes were positioned on the Front Green, in the north west of the hospital grounds where temporary accommodation is to be situated, near to the location of the proposed Nursery. Natural deposits were reached at a depth of 9m to 8.50m OD in all three of the boreholes. Trial trenches reached a depth of 10.95m OD and did not expose natural deposits.



**Evaluation Pit 2** The pit was not excavated during this phase of works and the presence (or otherwise) of archaeological remains in this area has not been established.

**Evaluation Pit 3** was located within the Princess Alexandra Garden, within the proposed footprint of a new main hospital building to rear of the existing Hospital. Natural deposits were reached in this evaluation pit at a depth of 2m at 10.82m OD. Post medieval 'landscaping' had horizontally truncated any earlier to this depth (with the exception of the possible medieval soil horizon). The geographical extent of this truncation is not clear, but it is likely to cover the area of the landscaped Garden.

**Evaluation Pit 4.** The Evaluation Pit was not excavated and information on the archaeological sequence in this area has not been determined.

**Evaluation Pit 5** was located on the eastern side of the Hospital grounds within the footprint of the northern block of the main new hospital building. Natural deposits in the form of brickearth and natural gravels were noted at the depth of 2.80m (10.05m OD) and 2.50m (10.35m OD) respectively.

**Evaluation Pit 6** was excavated to a depth of 1.70m before Health and Safety constraints prevented further excavation. Whilst there was clear evidence for post-medieval activity in the form of a burial ground and 19th century garden deposits it was not possible to establish the presence or otherwise of either Prehistoric, Roman or earlier medieval deposits.

**Evaluation pit 7** was positioned in order to inform upon the potential for the survival of archaeological remains within the footprint of the Southern Block of the new main hospital building. The pit was excavated within the lightwell of the Eva Luckes Nursing Home (known to be basemented) where the ground surface is at 10.07m OD, approximately 2.90m below the adjacent street level. At this height natural gravel remains directly below the tarmac surface. The remains of deeply cut post-medieval features survived at this depth.

The northern and southern blocks of the proposed main hospital building will be linked via a tunnel across Stepney Way (MoLAS 2005). **Evaluation Pit 8** was located to assess the type and quantity of archaeological remains in this area. The trench was not excavated and as such little is known about the archaeological deposits and features in this area.

### **3.3.1 Further Discussion**

The area to the south of the Royal London Hospital building, and north of Stepney Way has regularly been referred to as a burial ground in the past (Holmes, 1896, Clarke Kennedy, 1962). It is depicted as being enclosed by a wall and surrounded by a pathway on the 1840 plan of the hospital (see Fig 8; based on AP Mason's plan of 1832<sup>1</sup>). It is known to have been in official use up until the 1852 (when the 1852 Burial Act restricted burial practice) and unofficial use up to 1864 (Holmes 1896).

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<sup>1</sup> pers. comm. Jonathan Evans, see Acknowledgements

The evaluation pits that were excavated were *not* located within the known area of the walled London Burial Ground as depicted on the 1840 plan (see Fig 8), but two of the evaluation pits did contain human remains.

Evaluation Pit 3 is located in an area to the north of the walled burial ground, where a path lies (Fig 8). No articulated *in situ* remains were found in this trench, but the *disarticulated* human remains found here are probably from disturbed burials. Whilst the depth of the disturbance was noted to be 10.82m OD at the base of EP3, the cause and extent of this disturbance is unknown. It probably occurred in the 20th century, as the hospital suffered bomb damage during World War II. In addition to this, the area of the Princess Alexandra Garden was landscaped, and the area to the south of this disturbed during the construction of the Children's Unit during the 1980s<sup>2</sup>.

Where such truncation has not occurred, the area to the south of EP3 (burial area 1, Fig 9) may contain an unknown quantity of human remains. Previous non-archaeological excavations carried out within the hospital grounds have produced human remains in this area in the past. A report on these is included as an appendix to the *Archaeological Impact Assessment* (MoLAS 2005) and this should be referred to for further information regarding these works. Thirty to forty skeletons are recorded as being found during one of these operations. They were left, as found, below the concrete in the area of the electricity sub station which is located between the Princess Alexandra Garden and Stepney Way, as indicated in Fig 9 (Keefe in MoLAS 2005). This may be taken as an indication of the potential density of the burial ground's population, where it remains.

Evaluation Pit 6 is located directly east of the end of the East Wing, as built in 1840 (see Fig 8; the foundations were built and are present on AP Masons 1832<sup>3</sup>). The walled burial ground is shown to lie to the south of this Wing (as burial area 2, Fig 9). The disarticulated remains derived from context [10] in EP6 are likely to be contemporary with, but outside this walled burial ground. Pottery derived from this deposit dates the deposit as being as early as 1740–1780. AP Mason's map of 1832 depicts this area as 'tenter' ground. The remains are thought to be anatomical specimens used for teaching and disposed of in this area by the adjacent Post-Mortem room and Medical School, in the early 1800s.<sup>4</sup>

The *in situ* articulated remains found in EP 6, (the FM Hub area), are sealed by the 'garden' soil [10] that contains the anatomical specimens mentioned above, and would therefore appear to form part of an earlier different burial ground (burial area 2, Fig 9), possibly used for paupers' graves.<sup>5</sup> The date and extent of this ground is unclear. On the basis of the archaeological evidence it is currently thought to be associated with the early phase of the hospital, and to be earlier than the walled burial ground (burial area 1, Fig 9) depicted on the 1840 plan (Fig 8).

Previous non-archaeological investigations during 1986 and 1995 (see Keefe in MoLAS 2005) produced 37 articulated human remains in the area to the north of this site, suggesting that this burial ground continues northwards, as far as the Grocers Wing (which fronts onto Whitechapel Road, see Fig 9).

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<sup>2</sup> pers. comm. Jonathan Evans, see Acknowledgements

<sup>3</sup> pers. comm. Jonathan Evans, see Acknowledgements

<sup>4</sup> pers. comm. Jonathan Evans, see Acknowledgements

<sup>5</sup> pers. comm. Jonathan Evans, see Acknowledgements

If associated with the early hospital building the ground may have originally covered the area to the south of the then hospital buildings as far as Stepney Way (burial area 2, Fig 9). The northern boundary of the burial ground may have moved south as the hospital buildings and wing extensions were added. In a later stage the area used for burials was enclosed by the wall depicted on the plan of 1840 (Fig 8, and burial area 1, Fig 9). The density of human remains may be higher in the area to the south, north of Stepney Way (the overlap indicated on Fig 9). There are no indications as to how far east or west the burial ground extended.

No relationship between the burials in this area and the early hospital buildings was noted during the previous works. Evaluation Pit 6 was located to the east of the hospital buildings, a relationship with the building could therefore not be determined during this evaluation. The possibility that this may be the location of a pre-existing burial ground, possibly the 'Stepney pestfield' as mentioned in previous reports (MoLAS 2003, 2004, 2005), cannot be ruled out.

## 4 Archaeological potential

### 4.1 Realisation of original research aims

The following research aims as suggested in previous method statements and Assessments can now be answered.

- *Has the development area been subject to Roman quarrying and subsequent consolidation?*

There was no evidence to suggest the area has been subject to any Roman activity, either quarrying or subsequent consolidation. Rather than being a true reflection of the presence of Roman activity, this lack of evidence should be considered a result of horizontal truncations that occurred during construction works in the post-medieval/Modern periods.

- *Is there any evidence of the Roman road along the north side of the development area?*

There was no evidence pertaining to the Roman Road (see above)

- *Are any Roman burials present at the site? Even if not positively found, can one predict that they may survive elsewhere on the site?*

No Roman burials were found on site.

- *Is there evidence for any medieval land use in the site area?*

A possible medieval soil horizon was noted to be present towards the base of the test pit located in the Princess Alexandra Gardens.

- *Is there any evidence for the presence of any post-medieval structural remains especially in relation to Civil War defences?*

There was no evidence pertaining to civil war defensive structures. The excavation work on the Front Green (MoLAS 2004) produced evidence for the presence of at least two back-filled post-medieval cellars in this area. Limited evidence for quarrying was also found, possibly carried out after the mound in this area was flattened at the beginning of the 19th century.

- *Are there any indications of medieval or post-medieval burial grounds?*

Yes, see the appended human bone assessment. EP6 revealed the location of at least five in situ individual burials in a row. There was evidence for coffins (decayed wood and coffin nails) and the bodies were lain in an east-west alignment, with the skulls at the west end, typical of Christian burials. The burials are thought to be within a burial ground where organised, probably Christian, burial rites were performed. These burials are outside and are likely to pre-date the known burial ground to the south of the hospital (Fig 8). As no relationship with the earliest hospital building has been established at this time the possibility that this is the location of the 'Stepney pestfield' as mentioned in previous reports (MoLAS 2003, 2004, 2005) cannot be ruled out.

N.B. The burials in EP6 should be viewed as distinct from the disarticulated human remains present within the garden soil layer above (sealing) them (context [10] Fig 6). These remains frequently showed surgical cut marks, or showed evidence of copper wire fixtures. Maps as early as 1832 show this as a garden/tenter ground area and contemporary with the established, walled, burial ground to the south of the hospital (Fig 8). The area to the east of the East Wing of the hospital, as represented by the archaeological deposit [10], at this time would not have been a recognised burial ground. Rather this area seems to have been a convenient disposal spot for the skeletons/bodies used by the nearby medical school as teaching aids, dissection examples and other 'medical specimens'.

Though a small quantity of human remains were retrieved from EP3 in the Princess Alexandra Garden there were no other indications of a burial ground present.

#### **4.2 General discussion of potential**

The trial pits and boreholes recorded as a watching brief in the area of the Front Green indicated quarrying took place after a successful petition to flatten the Mount fort by the hospital authorities at the end of the 18th century. There is no trace of a former burial ground in the north west of the site (the Front Green) site prior to that date and no disturbed graves or disarticulated human bone was recovered. There was evidence of post-medieval cellars in the area. A rise in the ground level to a metre above that of the surrounding Whitechapel and New Roads indicates a topographic replacement of the Mount as an elevated feature and the same rise is reflected along the 19th-century Mount Terrace (MoLAS 2004).

A small quantity of human remains was retrieved from post-medieval deposit [9] in **Evaluation Pit 3**, in the Princess Alexandra Gardens. These remains showed no evidence that they originated from anatomical specimens and it seems most likely that these elements represent parts of disturbed burials (see the human bone assessment appended to this report). Pottery retrieved from the post-medieval deposit [9] suggest it to be at least 18th century in date, at which time previous maps indicate that this area was open ground (MoLAS 2005). Evidence of a burial ground in this location pre-dating this period may have been swept away during the landscaping of the garden area either in the 18th century or by other 20th century development activities. The latter include World War II damage, the construction of the Children's Ward and placement of an electricity substation.

(NB It is unknown whether the soil was cleared off site during any of these works or redistributed in other areas of the hospital grounds and the possibility exists that human remains from these deposits may be encountered during the reduction of developed areas.)

The walled London Hospital Burial Ground of 1840 may not have extended as far north as EP 3 (see Fig 8). Previous non-archaeological excavation work suggests that a large number of burials may remain in undeveloped areas (up to 30-40 skeletons in "the area of the emergency generator"; Keefe in MoLAS, 2005), within the limits of the walled Burial Ground.

Although no finds were retrieved from **Evaluation Pit 5** in the Millward Car park the deposits indicate open ground in the late medieval, but this has been sealed by later, post-medieval demolition deposits, possibly as late as the late 19th or 20th century.

**Evaluation Pit 6** shows the potential for survival of a large number of human remains in the FM Hub area east of the East Wing of the hospital. These remains were retrieved from two *distinctly different* sources however.

The earliest remains from Evaluation Pit 6 were articulated burials, interred into deposit [11], in a seemingly consistent, organised manner, in keeping with traditional Christian rites. They were not excavated and an assessment of their osteological potential is limited at this stage. Whilst non-archaeological works indicate that this 'burial ground' extends north as far as the hospital building directly north, its provenance and boundaries are presently unknown.

Above these burials, and *stratigraphically sealing* them lay deposit [10]. This deposit contained numerous disarticulated human remains, most of which bore evidence that they originated from anatomically prepared samples. A number of torso elements were found with copper alloy wires attached: a right rib, mid thoracic vertebra (with a drilled hole in the central body), left clavicle and right scapula appeared to originate from the same anatomically prepared skeleton. These remains appear to have been teaching specimens used by the 19th century, medical school located in this area. They are of archaeological and osteological value in themselves (see the appended human bone assessment) and are present in large quantities within this layer. Pottery dates this layer to 1780, and it is likely to have formed a garden or 'tenter' area from this time. The garden soil [10] is thought to extent eastwards from the East Wing of the Hospital up to East Mount Road.

**Evaluation Pit 7** has shown that the potential for survival of ancient ground surfaces (horizontal archaeological stratification) on the site is minimal in the area of the Eva Luckes Nurses' Home. Natural gravel is present at the light well and basement slab level. Only the lowest reaches of 18th century red brick wells remained and this might indicate that the ground in this area is below the foundation level of any associated buildings.

#### 4.3 Significance

Whilst the archaeological remains are undoubtedly of local significance there is nothing to suggest that they are of regional or national importance.

## 5 Assessment by EH criteria

The recommendations of the GLAAS 1998 guidelines on *Evaluation reports* suggest that there should be:

‘Assessment of results against original expectations (using criteria for assessing national importance of period, relative completeness, condition, rarity and group value) .....’ (Guidance Paper V, 4 7)

A set of guide lines was published by the Department of the Environment with criteria by which to measure the importance of individual monuments for possible Scheduling. These criteria are as follows: *Period; Rarity; Documentation; Survival/Condition; Fragility/Vulnerability; Diversity; and Potential*. The guide lines stresses that ‘these criteria should not...be regarded as definitive; rather they are indicators which contribute to a wider judgement based on the individual circumstances of a case’.<sup>6</sup>

In the following passages the potential archaeological survival described in the initial Assessment document and Section 3 above will be assessed against these criteria.

### *Criterion 1: period*

Taken as a whole, archaeology in the Application site is not characteristic of any particular period. The Evaluation indicates a multi period site that contains features from the medieval through to the post-medieval period.

### *Criterion 2: rarity*

There is nothing to suggest that any of the likely archaeological deposits are rare either in a national or regional context.

### *Criterion 3: documentation*

There are no surviving documentary records for remains in the area from the Roman period. Whilst there may be considerable contemporary documentation for the later medieval period from c 1300 on, the truncated and fragmentary nature of archaeological remains from this period will render much of this information unusable.

This is especially true in the case of evaluation pit EP7 as only the lower courses of post-medieval wells were discovered.

Plans indicating the extent of the cemetery by 1840 are not wholly consistent with the findings of burials either from this evaluation or from previous works carried and trial pits (Keefe in MoLAS 2005).

Plans of the Royal London Hospital building in its early phases do exist and are held at the Museums and Archive Centre in the Hospital.

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<sup>6</sup> Annex 4, DOE, Planning and Policy Guidance 16, (1990). For detailed definition of the criteria see that document. Reference has also been made to Darvill, Saunders & Startin, (1987); and McGill, (1995)

*Criterion 4: group value*

None of the likely archaeological deposits are associated with contemporary single Monuments external to the site.

*Criterion 5: survival/condition*

The above evaluation trenches have demonstrated that archaeological remains will be horizontally truncated to different levels. In some cases this involves truncation down to natural deposits so only the deepest cut features (usually wells) survive.

*Criterion 6: fragility*

The evaluation pits were all located within the footprint of the proposed development. Experience from other sites has shown that isolated and exposed blocks of stratigraphy can be vulnerable to damage during construction work.

*Criterion 7: diversity*

Clearly, taken as a whole, the archaeological deposits which are likely to be found in the site represent a diverse and heterogeneous group of archaeological remains of all types and periods. However, this diversity is in itself the product of a random process of vertical and horizontal truncation and separation. There is no reason to suggest that the diversity *per se* has any particular value which ought to be protected.

*Criterion 8: potential*

(The term Potential in this context appears to mean that though the nature of the site, usually below-ground resources, cannot be specified precisely, it is possible to document reasons predicting its existence and importance.)

No Roman remains were found during this evaluation but there may still be the potential for burials to occur within the brickearth known to be present on site at a depth of c 10.82m OD (at approximately 2m below the current pavement level).

It would appear that the area to the south of the Royal London Hospital was used as a burial ground from early on in the life of the Hospital. It is possible that areas south of the ground plan of the earliest known build of the hospital contain interments (see Fig 9). If this is the case, as the hospital buildings encroached southwards, the boundaries of the cemetery shifted southwards until as those defined on the 1840 plan (Fig 8). It may be possible in future works to see relationships between burials and building phases in the hospital grounds.

Where not subject to subsequent groundworks the area depicted as the walled Burial Ground on the plan of 1840 may contain a higher density of interments towards the south and east, as it may have been in use as a for a longer period of time (See area of overlap, Fig 9).

The number of burials remaining at the Royal London Hospital will depend greatly on the extent to which 19th and 20th century developments have impacted on the area.



## 6 Proposed development impact and recommendations

The redevelopment at the Royal London Hospital will entail the demolition of a number of existing buildings, refurbishment of much of the existing estate, and the construction of new buildings with basements within the hospital complex.

The impact of the scheme is that all surviving archaeological deposits and features will be removed within the footprint of each basement and each pile and/or pile cap. Any pre-piling obstruction removal, undertaken around pile and pile cap locations before the insertion of new foundations, also has the potential to disturb any archaeological deposits and features that may be present. All archaeological deposits and features within the footprint of the proposed stair/lift pits, crane bases and tunnels would be removed.

Existing and past building development has caused varying levels of truncation of archaeological deposits within each area of the proposed development. In areas, that are open and which appear to have seen no building development in the past, such as within areas of the FM hub area (as indicated by the results of the excavation of EP 6) it is possible that archaeological deposits would be encountered immediately beneath the ground level.

In areas where there are currently buildings without basements (to be demolished), or in the case of external areas such as the Front Green area, the Princess Alexandra Garden, or the Millward Street Car Park, archaeological deposits may have been truncated but there is a high potential for survival beneath the ground floor slabs or external topsoil/hardcore.

In areas of existing basements and their associated lightwells, archaeological deposits will have been severely truncated although it is possible that deep-cut features, such as pits wells and ditches, survive beneath the basement slab. This evaluation shows this to be the case in the area covered by the Eva Luckes Nurses Home.

The decision on the appropriate archaeological response to the deposits revealed within the four evaluation pits rests with the Local Planning Authority and their designated archaeological advisor. *All* human remains must be *properly excavated* in advance of any further ground reduction. Separate site-specific research questions should be formulated for any such future works (see appendix – the human bone assessment). The 1857 Burial Ground Act and the 1981 Amendment to that Act stipulate the conditions under which human remains should be removed. Any excavations should be carried out in accordance with these Acts and relevant Health and Safety guidelines should be adhered to.

## 7 Acknowledgements

The author would like to thank Graeme Kirk, Cliff Fisher from Skanska, Richard McKenzie and Avondale for their on-site assistance. Thanks also to Steve Eames from the Royal London Hospital Trust, and Malcolm Keefe Senior Chief Medical Technical Officer for reports on earlier excavations. Particular thanks are due to Jonathan Evans, Royal London Hospital Archive Officer for his time and help with providing information for this report. Additional thanks to David Divers of English Heritage, to Lynn Blackmore for the finds analyses and to Natasha Powers for the assessment of the human remains.

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## 9 NMR OASIS archaeological report form

### 9.1 OASIS ID: molas1-7515

#### Project details

Project name	Royal London Hospital
Short description of the project	Four Evaluation Pits in ground of the Royal London Hospital. No prehistoric, Roman activity evident. Possible open ground in the late medieval period. The presence of a post-medieval (18th century) burial ground to the east of the East Wing of the Hospital established. Numerous disarticulated human remains, early 19th century anatomical teaching specimens present in post-medieval deposit present in the same area.
Project dates	Start: 17-01-2005 End: 22-03-2005
Previous/future work	Yes / Yes
Any associated project reference codes	RLO03 - Sitecode
Type of project	Field evaluation
Site status	Area of Archaeological Importance (AAI)
Site status	Conservation Area
Current Land use	Community buildings (hospital)
Monument type	BURIAL GROUND Post Medieval
Monument type	GARDEN SOIL Post Medieval
Monument type	BRICK LINED WELL Uncertain
Significant Finds	HUMAN REMAINS Post Medieval
Methods	& 'Test Pits'

techniques

Development type Demolition and construction of hospital premises

Prompt Direction from Local Planning Authority - PPG16

Position in the planning process Pre-application

**Project location**

Country England

Site location GREATER LONDON TOWER HAMLETS STEPNEY Royal London Hospital

Postcode E1 1BB

Study area 5000.00 Square metres

National reference grid TQ 3470 1705 Point

Height OD Min: 10.05m Max: 10.82m

**Project creators**

Name of Organisation MoLAS

Project originator brief MoLAS project manager

Project originator design MoLAS

Project director/manager Nick Bateman

Project supervisor Rosalind Aitken

Sponsor or funding body Skanska Innisfree

**Project archives**

Physical Archive recipient LAARC

Physical Archive ID RLP05

Physical Contents 'Animal Bones','Ceramics','Human Bones','Metal'

Physical Archive No  
Exists?

Digital Archive LAARC  
recipient

Digital Archive ID RLP05

Digital Media 'Survey','Text'  
available

Digital Archive No  
Exists?

Paper Archive LAARC  
recipient

Paper Archive ID RLP05

Paper Archive No  
Exists?

**Project  
bibliography 1**

Publication type Grey literature (unpublished document/manuscript)

Title The Royal London Hospital, Whitechapel Road, London, E1, An  
Archaeological Evaluation Report

Author(s)/Editor(s) Rosalind Aitken

Date 2005

Issuer or publisher MoLAS

Place of issue or MoLAS  
publication

Entered by Rosalind Aitken (molas.archive@museumoflondon.org.uk)

Entered on 1 April 2005

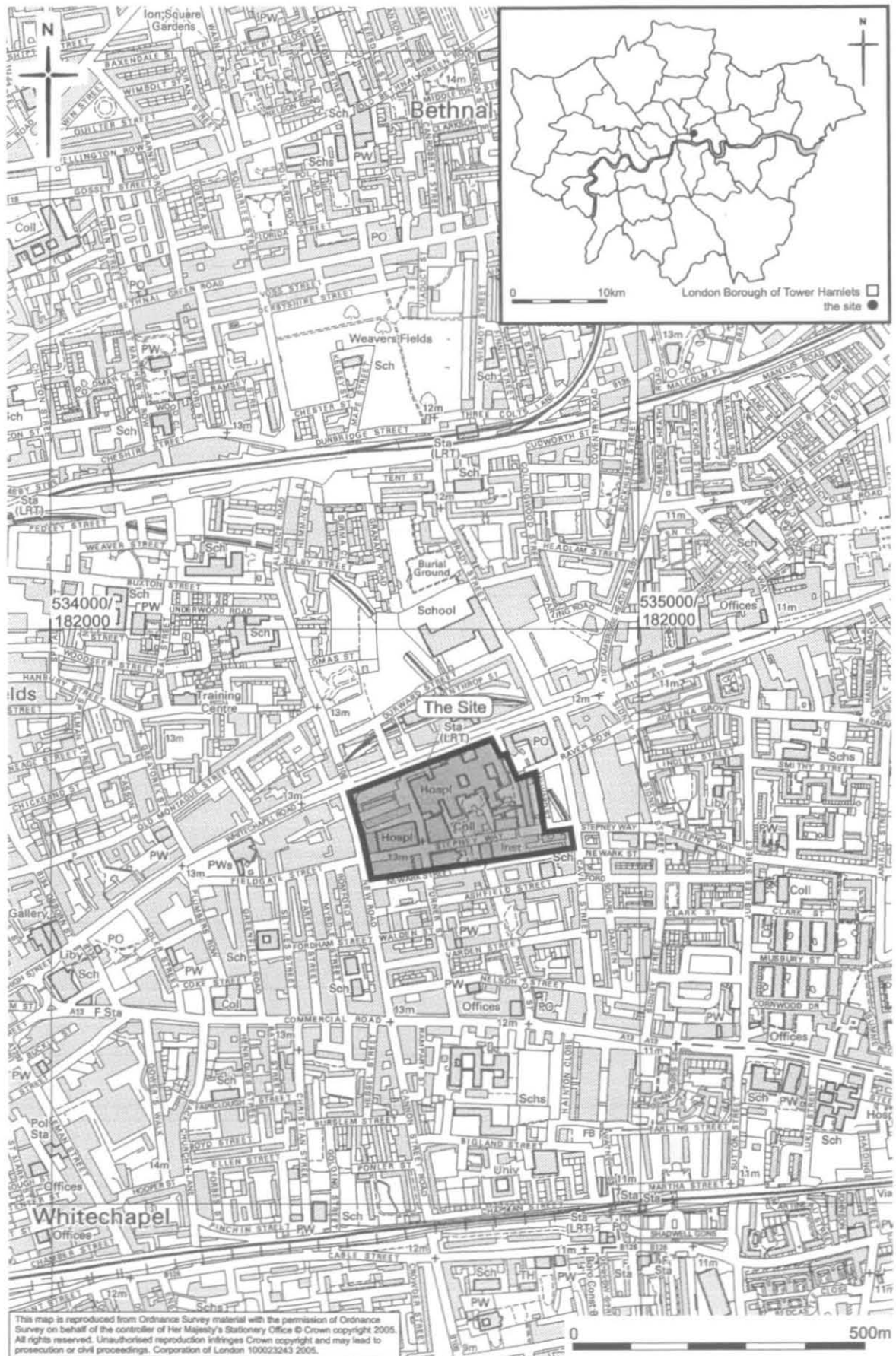


Fig 1 Site location





Fig 2 Location of evaluation pits



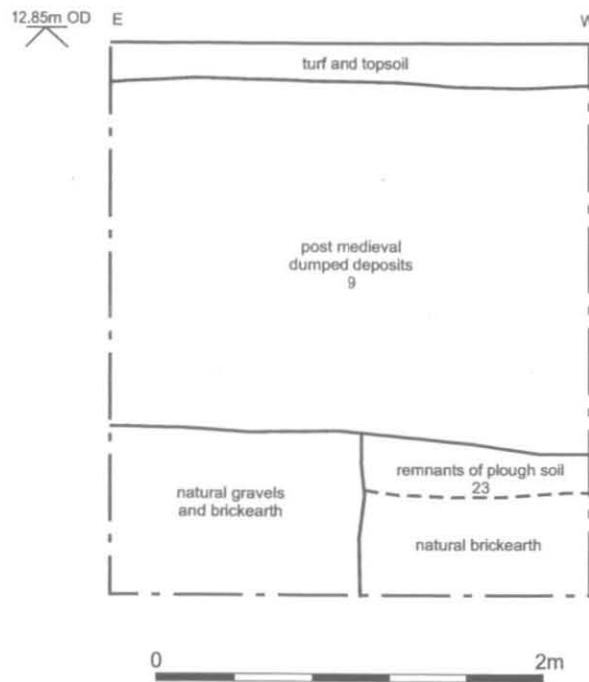


Fig 3 North facing section of EP3

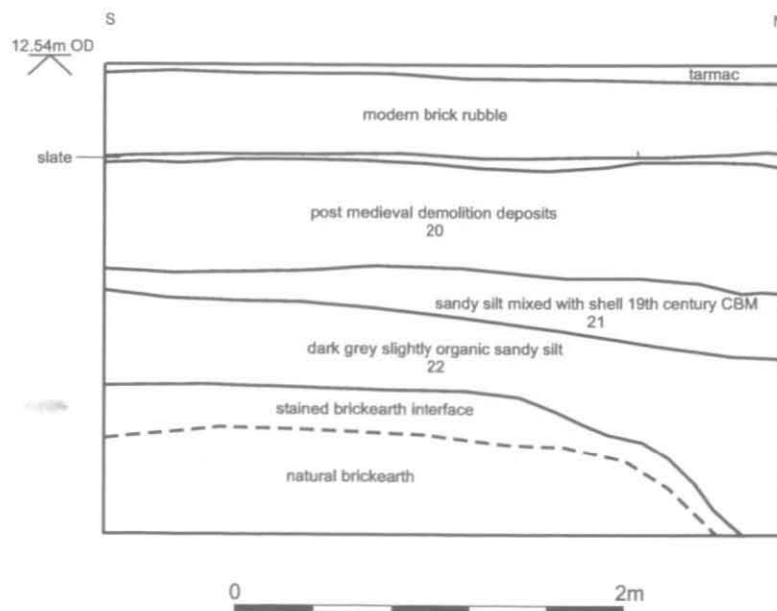


Fig 4 East facing section of EP5

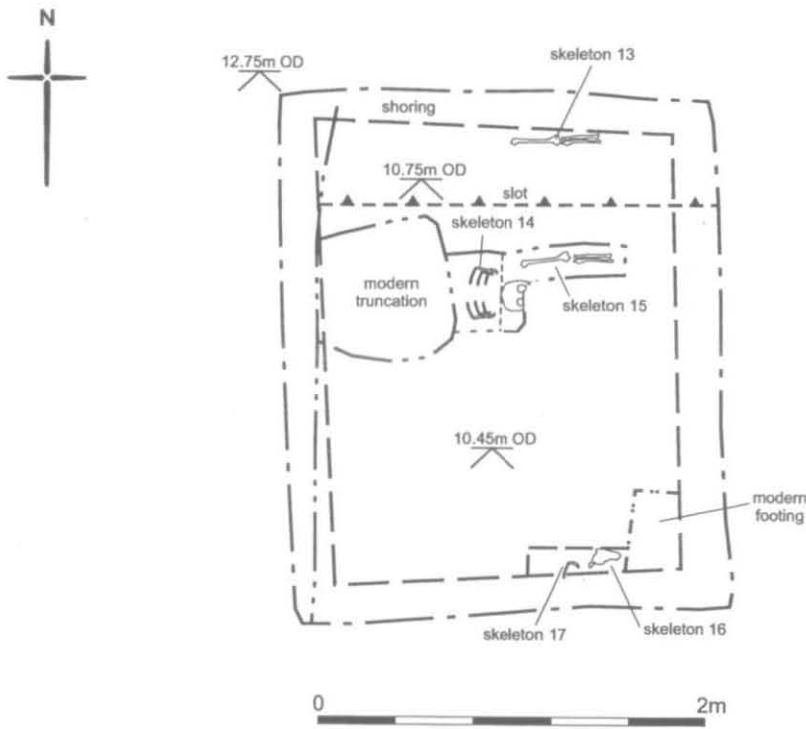


Fig 5 Plan of EP 6

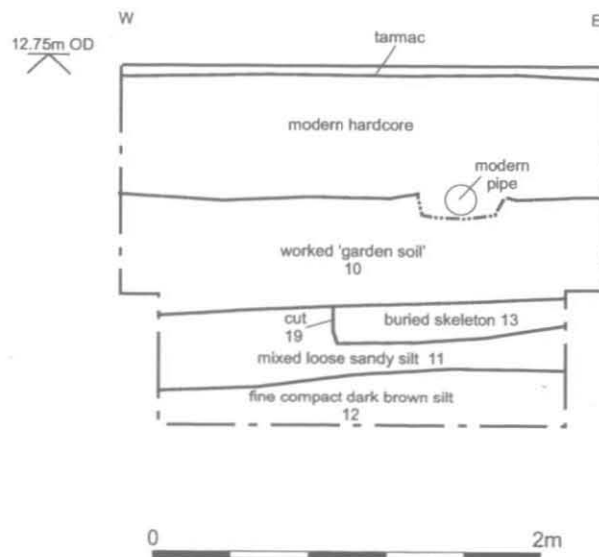


Fig 6 South facing section of EP6



Fig 7 Plan of EP7

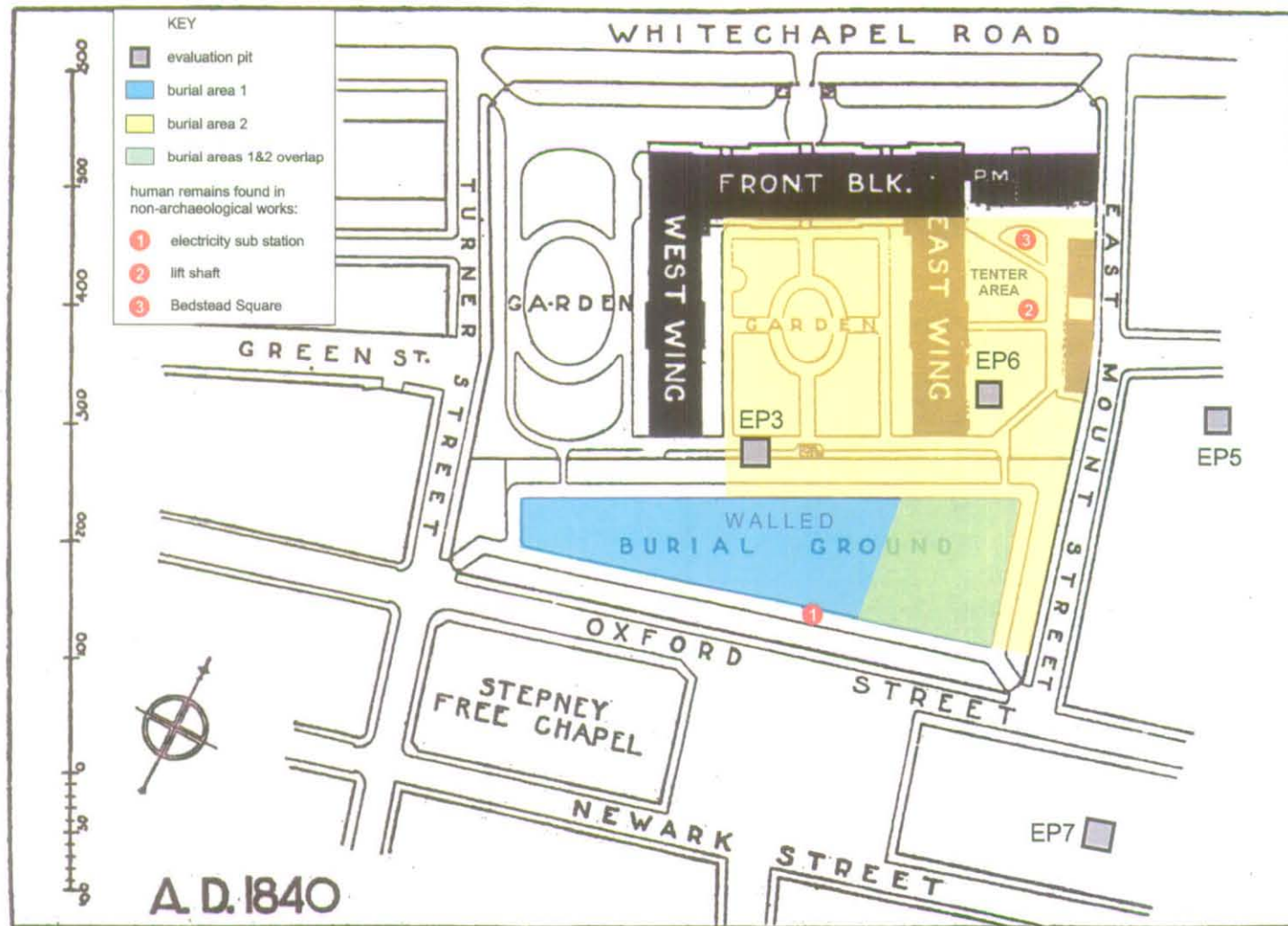


Fig 8 Plan of the Royal London Hospital c 1840, showing the Burial Ground and garden areas in relation to current and previous works



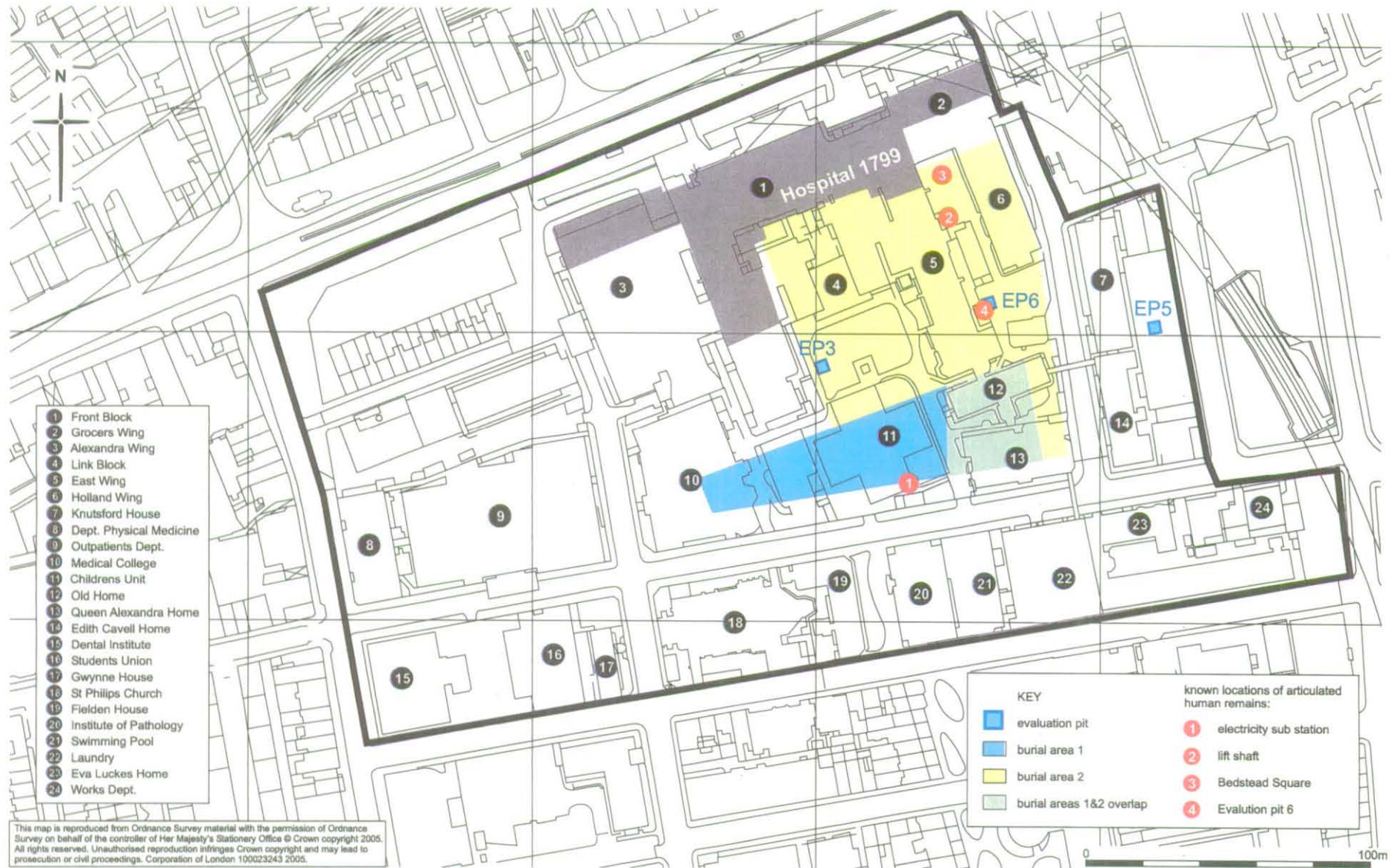


Fig 9 Plan of the Royal London Hospital showing the possible extent of in situ human remains

# Appendix 1

Evaluation of disarticulated human remains recovered from the Royal  
London Hospital

Natasha Powers

Site Code: RLP05

Date: 30/03/05

## The Human Bone Archive

### 9.1.1 The human bone

#### 9.1.1.1 Introduction

The human bone archive
2 Contexts ( <i>plus one bag of unstratified remains</i> )

*Table 1 General Summary*

Disarticulated human remains were recovered from post-medieval contexts within the grounds of the Royal London Hospital. Wiring and cut marks had been noted during lifting and the assemblage was examined in light of this. The human bone was scanned and a summary catalogue produced. Elements of particular interest were commented on further.

A number of articulated burials were also seen by the excavators in EP6 (contexts [13]-[17]) and were left in situ.

#### 9.1.1.2 Results

The human bone consisted of numerous, disarticulated skeletal elements full details of which can be seen in Table 2. Preservation was variable but on the whole good, though fragmentation had occurred. Based on the repeated elements, it is estimated that were parts of at least three adults, one juvenile and one neonate present in the assemblage as a whole. Many skeletal elements undoubtedly originated from the same individual and, based on size and cranial morphology, at least one robust male was present.

Context [9] (derived from EP3 in the Princess Alexandra Garden) contained only a few pieces of human adult bone. There were no indications that these remains originated from anatomical specimens and, though their disarticulated nature means that this cannot be ruled out entirely, it seems most likely that these elements represent parts of disturbed burials.

Context [10] was from EP6 in the FM Hub area and contained the greatest proportion of dissected remains, with just fewer than 50% of the elements present showing some form of 'surgical' intervention. A complete left parietal had several parallel blade cuts above the right temporal suture, highest to the anterior and running at an angle of *c.*45 degrees from vertical. A number of torso elements were found with copper alloy wires attached: a right rib, mid thoracic vertebra (with a drilled hole in the central body), left clavicle and right scapula appeared to originate from the same anatomically prepared skeleton. The scapula also had a hole drilled in the centre of the glenoid fossa. A lower thoracic vertebra was found with two vertical iron wires passing through the body, either side of a central drilled hole. In the inferior surface of the body a second, off centre, hole passed part of the way through the element, presumably representing an initial error in location. A large radial shaft had been cut horizontally at the

proximal end where a distinct step was visible. This element also appeared to have been snapped distally whilst still 'wet'. A second, smaller radial shaft had evidence of saw cuts and hesitation marks in the mid shaft, though the bone had not been cleanly cut, rather snapped after the tool had passed only half way through the shaft. Lastly, a portion of right mandible with and iron object adhering was recovered. This individual had extensive ante-mortem tooth loss and alveolar resorption, though the first molar remained. The mandible had been cut vertically through the socket for the first premolar, with the blade or saw entering from the front. Mandibular fragments from the right and anterior jaw of an adult male with ante mortem tooth loss, and an active periapical lesion were noted. A well-healed spiral fracture of the radial shaft and transverse mid-rib fracture were also present. Evidence of sinusitis was visible in a right maxilla, where all teeth had been lost post-mortem.

The unstratified remains [+], also from EP6, consisted of numerous skeletal elements, many of which had been subject to post-deposition damage and fragmentation. A left proximal humerus that had been cut across approximately 60mm along the shaft was noted. The cut was regular and level with striations suggesting use of a saw. A cervical vertebrae found in two parts was cut horizontally across the midline of the body with several blade marks extending into the inferior transverse processes on both sides. These cuts would have removed the head of the individual. A left rib was noted to have a small piece of copper alloy wire protruding from a hole immediately superior to the vertebral facet. A sacrum displaying sacralisation of L5 with lateral distortion and separate ankylosis of the articulating L4 and L3 was found to have fine knife cuts on the alae, indicating deep dissection. The fourth lumbar vertebra from a second adult had a central hole drilled through the body and two iron wires to either side. A poorly preserved left distal fibula cut with a saw c.90mm from the distal end had two small holes immediately above the articular surface. Copper staining on the lateral surface suggested this area had been wired to other bones, presumably in an anatomical preparation of a foot. Finally, fragments of frontal bone indicated a craniotomy with mid line vertical bisection and a right zygomatic had a vertical cut through the arch.