

The Cambridge Judge Business School, Trumpington Street, Cambridge

Archaeological Monitoring



Matt Wood and Richard Newman



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School,
Trumpington Street, Cambridge
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With a contribution by Benjamin Neil and graphics by Andy Hall

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University of Cambridge
Division of Archaeology
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**Report No. 1350
ECB 4684**

Summary

Archaeological monitoring was conducted at the Cambridge Judge Business School, Trumpington Street, Cambridge, during groundworks undertaken in advance of the construction of a new extension. No in situ deposits or features were identified, but disarticulated human remains were encountered. This material is likely to have been disturbed from a cemetery associated with Addenbrooke's Hospital, which occupied the site from 1766 to the mid-20th century; the hospital is known to have established a burial ground in 1772. Previous discoveries of human remains made in close proximity to the present site were probably derived from the same source.

INTRODUCTION

The Cambridge Archaeological Unit (CAU) undertook archaeological monitoring at the Cambridge Judge Business School, Trumpington Street, Cambridge, between the 19th of October 2015 and the 25th of February 2016. The School is located in the southern part of Cambridge and is bounded to the north by buildings fronting Fitzwilliam Street, to the west by Trumpington Street, to the east by Tennis Court Road and to the south by standing residential and commercial buildings (Figure 1). The area of investigation itself, centred on TL 4511 5790, lay to the rear of the principal buildings and extended over an area of 1480 square metres. This was previously the location of two former Nurses Hostels – Bridget's Hostel to the south, and Nightingale Hostel to the north – which were initially constructed in the 1890s as additional nurses' accommodation for the former Addenbrooke's Hospital.

The project followed the specification issued by the CAU (Dickens 2015) and approved by Kasia Gdaniec, Development Control Archaeologist at Cambridgeshire Historic Environment Team (CHET). It was commissioned by the University of Cambridge in advance of the construction of an extension to the Cambridge Judge Business School. The site code for the project was **JBS 15** and the event number **ECB 4684**.

Methodologically, modern deposits including layers of overburden, concrete/brick rubble and 19th-century backfill were broken out and removed by the principal contractor using a 360° mechanical excavator, the work under archaeological supervision. All archaeological deposits that were thus revealed were then recorded using the CAU-modified version of the MoLAS system (Spence 1994); base plans were drawn at a scale of 1:50, whilst sections were drawn at a scale of 1:20. All work was carried out with strict adherence to Health and Safety legislation, and within the recommendations of FAME (Allen & Holt 2010).

Topographically, the area surrounding the Cambridge Judge Business School is characterised by a combination of urban settlement (terraced homes to the north and south), primary roads (Trumpington Street and Tennis Court Road) and open green spaces to the west (portions of Downing College). Geologically, it is situated upon Second Terrace sand and gravel overlying Gault Formation mudstone (British Geological Survey, Sheet 188). The present surface height lay at 11.05m AOD, whilst the natural sand and gravels beneath were encountered at 9.56m AOD. Across most of the monitored area, the depth was reduced to 9.30m AOD or below during the course of the works.

Historical and archaeological background

The historical and archaeological background of the environs immediately surrounding the site has been covered in depth in a previous desktop assessment (Brittain 2013), an earlier historical review (Stokes 1908) and evaluation assessment (Newman 2013), whilst the wider background of Cambridge itself is reviewed in several published sources (e.g. Cam 1959; Addyman & Biddle 1965; Lobel 1975; Bryan 1999; Taylor 1999). This information is not therefore reiterated in full here. Nevertheless, it is necessary to briefly outline the background of the town in order to place the site securely within its wider context.

No evidence of prehistoric, Roman or Saxon activity has been identified in close proximity to the site. It appears that occupation was first established along Trumpington Street during the 11th century; at the same time that other suburbs around Cambridge were also developing (Cessford & Dickens *in prep*). Medieval remains – including both structural elements and cut features – have previously been encountered beside the Fitzwilliam Museum (Whittaker 2002), at 76 Trumpington Street (Dickens 1995) and beneath the Hotel du Vin (Webb 2006). Historically, the area came to be dominated by two wealthy families. On the western side of Trumpington Street, the Le Rus family possessed a large masonry house along with an associated chapel; these were later alienated to the Friars of the Sack in 1258 (Stokes 1908, 14-43; Ellis & Salzman 1948b, 290-1; Haigh 1988, 13). On the eastern side of the road, in close proximity to the present site, a similar arrangement was owned by the St. Edmund family; their house and chapel were subsequently alienated to the Gilbertine Order in 1290 (Stokes 1908, 44-63; Ellis & Salzman 1948a, 254-6; Haigh 1988, 14-15).

During the 14th century a small hermitage, dedicated to St. Anne, and a hospital dedicated to St. Anthony and St. Eloy were also established in the area (Cam 1959, 133; Ellis & Salzman 1948c). A further important component of the medieval Trumpington Gate suburb comprised two colleges associated with the town's newly established university. The first, Peterhouse, was established in 1284, whilst the second, Pembroke, was founded in 1347 (see further Willis & Clark 1886 Volume I, 1-76 & 121-56). Both colleges have previously been subject to small-scale archaeological investigation (Hall & Lovatt 1989; Hall 1999; Hall 2002). Subsequently, during the Post-Medieval period, the site became the location of Addenbrooke's Hospital, which first opened in 1766 (see further Rook *et al.* 1991). This foundation, which was intended to serve the poor of Cambridge, originally comprised a detached two-storey Georgian building fronted by a large formal garden (see front cover image).

The preceding residential properties that had lined this part of Trumpington Street were cleared to make way for the hospital's construction. Indeed, Addenbooke's Hospital was to dominate the site until the late 20th century, when it transferred to new purpose-built accommodation located on the southern outskirts of the city. In between, it was to expand markedly. The first substantial alteration occurred in 1823-4 when lateral wings and a portico were appended to the structure. Further reconstruction was then carried out during the 1830s and 1860s to accommodate the medical and rehabilitation provision of the day – notably, advances in ventilation, lighting and sanitation – along with decorative features including a new façade. Subsequently, land to the east of the hospital was acquired in 1861 from Corpus Christi College for the construction of buildings to accommodate patients and nurses; these were completed in 1865. Additional buildings, including those for sick nurses that were recently demolished, were completed in the 1890s. Following the hospital's eventual relocation, the Cambridge Judge Business School was established at the site; although extensively remodelled, the School retains the original building's façade.

RESULTS

Monitoring took place at the site following the demolition of two structures – originally constructed during the 1890s as nurses' accommodation blocks, and latterly used as hostels – that were situated at the rear of the main complex. The area was then reduced by an average of 1.5m to 2m (to around 9.30m AOD). As both earlier buildings had been cellared (Figure 2) disturbance was extensive and a significant proportion of the area was found to have been infilled with rubble and demolition debris. Outside the structures' immediate footprint, further disturbance associated with the buildings' initial construction during the late 19th century and subsequent activity largely related to services, were encountered. A disarticulated human skull with associated vertebrae and a fragment of 18th century pottery were recovered (see figure 2 for locations) during the course of this work, but no stratified deposits or *in situ* archaeological features were encountered.

MATERIAL CULTURE AND HUMAN REMAINS

A very small assemblage of material was recovered during the course of the watching brief. This includes a fragment of animal bone, a pottery sherd and a small quantity of disarticulated human remains.

Ceramics (*Richard Newman*)

A single sherd of 18th-century pottery, weighing 25g, was recovered. This consisted of a rim sherd derived from a small Staffordshire-type white salt-glazed stoneware plate. This ware was produced from the late 17th century until the 1770s, with its *floruit* of commercial popularity between 1740 and 1760 (Edwards and Hampson 2005). It is therefore possible that the sherd's deposition was associated with the early years of Addenbrooke's Hospital; it may even have been incorporated into the backfill of one of the graves in the cemetery.

Human remains (*Benjamin Neil*)

A fragmented skull of a single individual was recovered during monitoring undertaken at the Cambridge Judge Business School site.

Methodology

Sex estimation was accomplished by identifying the dimorphic dimensions of the skull using methods outlined by Buikstra *et al.*, (1994) and White *et al.*, (2011). The individual was assigned according to the following term:

Term	Read as	Meaning
(Male)	Probably male	Analyst does not have full confidence in the determination, but feels the remains are probably the stated sex

Age at death estimation was based on the degree of cranial suture closure following methods outlined by Meindl and Lovejoy (1985) and complimented by patterns of molar attrition (Brothwell, 1981). Age brackets are assigned according to the following:

Neonate	Infant	Juvenile	Sub-adult	Adult	Young adult	Middle adult	Mature adult
<6months	0-4 years	5-12 years	13-18 years	18+ years	19-25 years	26-44 years	45+ years

Fragments were temporarily refitted to maximise the number of obtainable data points relating to dimorphic parameters; ribbons of 3M crepe paper, backed with easy release pressure-sensitive rubber adhesive were used. The overall completeness of a skeleton was calculated according to the percentage of elements present. A complete skeleton comprises of: Skull = 20% Torso = 40% Arms= 20% Legs = 20%

Results

Individual 01 (male), middle adult. Approximately 15% complete

Most of the calvarium is represented to include the frontal, parietal and a superior portion of the occipital in sutural articulation; a further two large fragments of occipital bone refit with this element as well as a fragment of sphenoid bone. The most anterior aspect of the frontal bone was damaged, fragmenting the supraorbital ridges. Both left and right zygomatic bones survive in a fragmented state, as does a portion of left maxilla to include LM₁ and LM₂. Both temporal bones are present and refit with the parietal bones: the right side being near complete, the left missing the superior half of the squama. The right side of the mandible survives to include the coronoid process, mandibular condyle and body, which includes RM₁ and RM₂. Fragments of vertebrae survive to include the right side of the atlas and the left side of axis. The bone has been taphonomically altered to include localised exfoliation and longitudinal cracking of the lamina. Purple and black stains are observed on the endocranial surface of the skull. Scattered, fine pitting is observed around the calvarium as well as fine labyrinthine bone over the supraorbital margins. It is noted that the occipital bone was fractured whilst in a green state, likely a result of disturbance soon after the individual's interment. Possible copper staining is observed over the frontal squama of the frontal bone and over the coronoid process of the mandible.

Statement of potential

It can be tenuously suggested that this individual was in articulation, supported by the recovery of the atlas and axis vertebrae with the skull; however, disturbance shortly after inhumation is evidenced by green bone fracturing around the inferior aspect of the occipital bone, which may allude to high burial ground activity. In general, cemetery and churchyard soils have greater potential for yielding significant quantities of disturbed and disarticulated human remains, being a result of overcrowding and reworking of the ground (English Heritage 2005).

DISCUSSION

Several previous discoveries of human remains have been made in close proximity to the investigated area (Figure 3). These can be divided into two distinct groups.

The first group is clustered to the west of the present site, between the main building and Trumpington Street. Here, a minimum of five articulated burials have been identified (Figure 3). The earliest discovery was made during the construction of Addenbrooke's Hospital in the mid-18th century, when human remains were encountered "when digging about the foundation and gardens"

(Stokes 1908, 62). A further discovery of an articulated inhumation was then made in 1996, during the excavation of a service trench (Malim 1996; Figure 3). Finally, four further articulated interments were encountered in close proximity during a trench-based evaluation conducted at the site in 2013 (Newman 2013; Figure 3). All of these burials are medieval in date and are most probably associated with either the proprietary chapel of St. Edmund's, which was previously located here, or the Gilbertine monastery that alienated the chapel in 1290 (Stokes 1908, 44-63; Ellis & Salzman 1948a, 254-6; Haigh 1988, 14-15). The current project did not impact upon this area.

The second group is located further to the east, in very close proximity to the present investigation. It comprises two separate discoveries. The first occurred during the construction of additional nurses' accommodation in the late 19th century; the remains of a minimum of 19 individuals were encountered during this work (Kempson 1897; Figure 3). Although few details of the discovery were recorded, the group included several women and it was suggested that the remains were relatively recent in origin. The second find occurred in 1994, when service repair works conducted in the same area encountered five further interments (Welsh 1994; Figure 3). Associated coffin fittings and clay tobacco pipe fragments – allied with the substantial depth of the burials – indicate that these interments were almost certainly 18th or early 19th century in date. Consequently, it appears that the burials in this second area significantly post-dated the aforementioned medieval cemetery to the west. What then was their origin?

Of particular significance in this regard is an order dating from 1772 stating that all patients dying in Addenbrooke's Hospital should be buried in the institution's grounds (Rook *et al.* 1991, 49-50). Many hospitals maintained an associated cemetery during this period, and depending upon the size of the institution these burial grounds could be relatively substantial. Recent excavations conducted at the Royal London Hospital, for example, where the cemetery was in use c. 1825-41, encountered 259 interments (Fowler & Powers 2014). Many of these individuals had been dissected; in addition, the remains of numerous vivisected animals (including exotic species) were also encountered. At the Radcliffe Infirmary in Oxford, meanwhile, which opened in 1770, c. 370 burials were encountered; the use and development of the hospital buildings was also studied (Jeffries *et al.* 2015).

Taking into account the various earlier discoveries, as well as wider national parallels it is very likely that the disarticulated human remains encountered during this watching brief, along with those reported in 1897 and 1994, originated from the cemetery of Addenbrooke's Hospital. Based upon the

locations of the previous work, allied with the absence of *in situ* burials during both the present investigation and 2013 evaluation, it appears that the northern edge of the burial ground probably extended only a short distance beneath the southern end of Bridget's Hostel. The remainder of the cemetery probably continued to the south – where five burials were previously encountered in 1994 (Welsh 1994) – for an unknown distance. Consequently, it is possible that a number of interments remain *in situ* in this latter area.

Based upon parallels from other contemporary hospital sites, the current minimum of 25 individuals encountered at the former Addenbrooke's Hospital may represent <10% of the original cemetery population. Indeed, the evidence of rapid disturbance after burial discussed by Neil, above, indicates that this cemetery is likely to have been relatively intensively used. If not disturbed by previous (unrecorded) activity, therefore, the likelihood of additional remains being encountered during any future works undertaken to the south of the investigated area appears high.

Although ultimately little in the way of archaeological remains were encountered during the monitoring work, the inference to be drawn from the observation indicates a revised location for the 19th century hospital cemetery is an important finding of itself.

Acknowledgements

This project was commissioned by the University of Cambridge in advance of the construction of an extension to the Cambridge Judge Business School. It was managed for the CAU by Alison Dickens and the fieldwork was conducted by Matt Wood. Ben Neill analysed the human remains, while the graphics for this report were prepared by Andy Hall. We are grateful to Robert Gurnham of Sweett Group and Daniel Changer and Phillip Moore of SDC for their friendly and helpful assistance.

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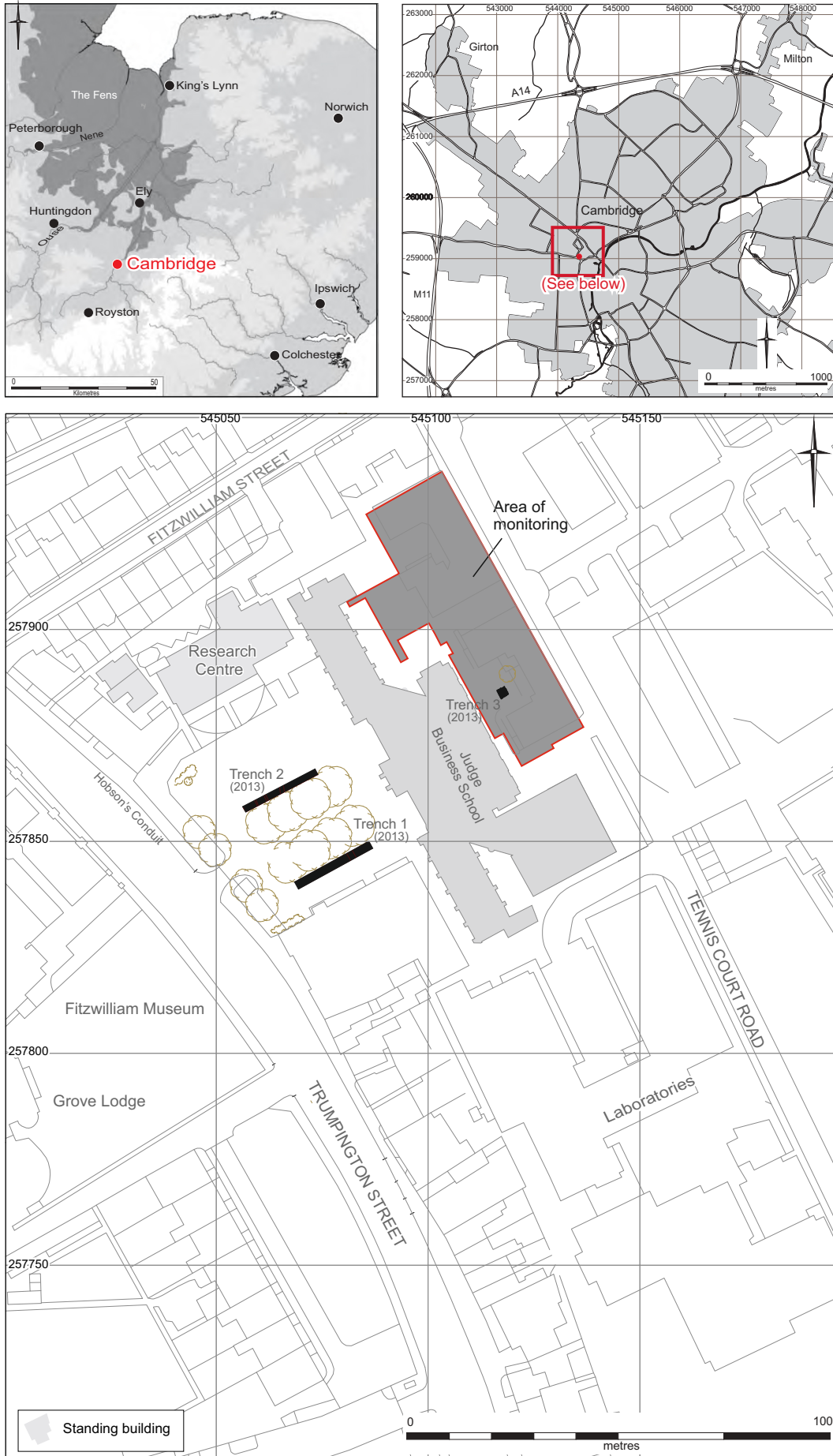


Figure 1. Site location

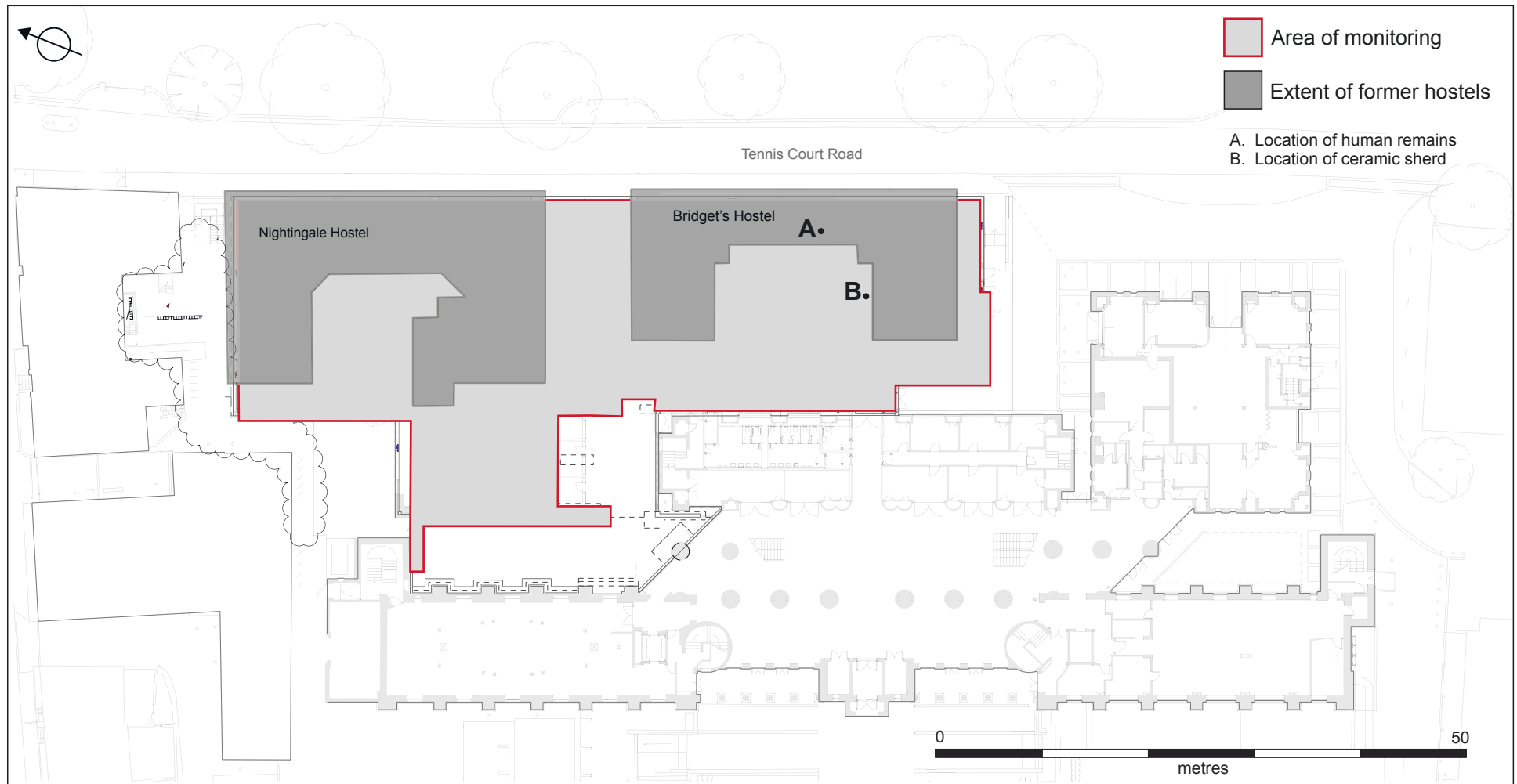


Figure 2. Area of investigation, showing location of recovered material

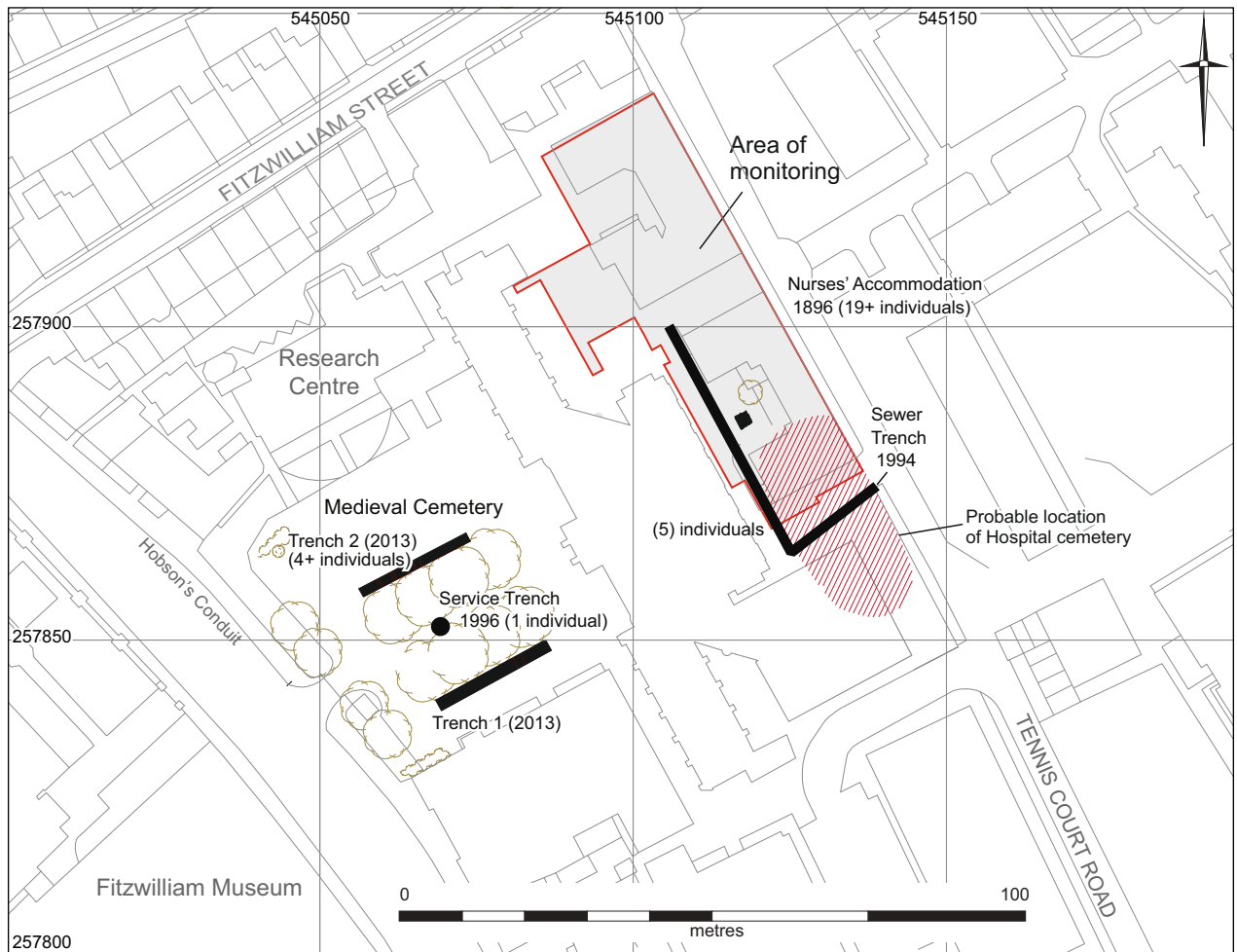


Figure 3. Location of previous discoveries of human remains, and probable position of Hospital cemetery

OASIS FORM

OASIS ID: cambridg3-261134	
Project details	
Project name	Cambridge Judge Business School, Cambridge
Short description of the project	Archaeological monitoring was conducted at the Cambridge Judge Business School, Trumpington Street, Cambridge, during groundworks undertaken in advance of the construction of a new extension. No in situ deposits or features were identified, but disarticulated human remains were encountered. This material is likely to have been disturbed from a cemetery associated with Addenbrooke's Hospital, which occupied the site from 1766 to the mid-20th century; the hospital is known to have established a burial ground in 1772. Previous discoveries of human remains made in close proximity to the present site were probably derived from the same source.
Project dates	Start: 19-10-2015 End: 25-02-2016
Previous/future work	Yes / Not known
Any associated project reference codes	ECB4684 - HER event no.
Any associated project reference codes	JBS15 - Sitecode
Type of project	Recording project
Site status	None
Current Land use	Other 2 - In use as a building
Monument type	N/A None
Significant Finds	HUMAN REMAINS Post Medieval
Investigation type	"Watching Brief"
Prompt	Direction from Local Planning Authority - PPS
Project location	
Country	England
Site location	CAMBRIDGESHIRE CAMBRIDGE CAMBRIDGE Judge Business School
Postcode	CB2 1AG
Study area	1480 Square metres
Site coordinates	TL 4511 5790 52.19977794823 0.123539826312 52 11 59 N 000 07 24 E Point
Height OD / Depth	Min: 9.5m Max: 9.56m
Project creators	
Name of Organisation	Cambridge Archaeological Unit
Project brief originator	Local Planning Authority (with/without advice from County/District Archaeologist)
Project design originator	Alison Dickens
Project director/manager	Alison Dickens

Project supervisor	Matthew Wood
Type of sponsor/funding body	Developer
Name of sponsor/funding body	University of Cambridge
Project archives	
Physical Archive recipient	Cambridgeshire County Archaeology Store
Physical Archive ID	JBS15
Physical Contents	"Ceramics","Human Bones"
Digital Archive recipient	Cambridgeshire County Archaeology Store
Digital Archive ID	JBS15
Digital Contents	"Human Bones"
Digital Media available	"Text"
Paper Archive recipient	Cambridgeshire County Archaeology Store
Paper Archive ID	JBS15
Paper Contents	"Ceramics","Human Bones"
Paper Media available	"Context sheet","Plan"
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