An Archaeological Watching Brief
at

Gloucestershire Royal Hospital
Gloucester
Gloucestershire

Prepared
at the request of

G.L Hearn Ltd
For
Gloucestershire Hospitals NHS Foundation Trust

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Site details

Site address:	Gloucestershire Royal Hospital, Gloucester.
OS NGR:	Hope House (383783 218682); Building WZ5 (383856 218682)
Site type:	Watching Brief
Clients:	GL Hearn Ltd (for Gloucestershire Hospitals NHS Foundation Trust)
GSMR No:	29761
Planning reference	07/00745/FUL
Date of fieldwork	27/11/2007 – 17/09/2008
Recipient museum:	Gloucester City Museum and Art Gallery
Archived finds:	Yes
Author:	Nick Witchell
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Summary
Gloucestershire County Council Archaeology Service (GCCAS) were commissioned by Ms Jen Tempest of GL Hearn Ltd on behalf of Gloucestershire Hospitals NHS Foundation Trust to undertake a programme of archaeological monitoring during the groundwork required for the construction of two new buildings, Hope House (OS NGR 383783 218682) and Building WZ5 (OS NGR 383856 218682) at Gloucestershire Royal Hospital, Gloucester.
On the advice of Jonathan Smith, Historic Environment Officer of Gloucester City Council, the scheme was subject to a programme of archaeological monitoring and recording under a condition attached to the planning permission (07/00745/FUL).
The archaeological monitoring recorded no significant archaeological features or deposits within the area impacted by the groundworks for the development.

1 Introduction

1.1 Gloucestershire County Council Archaeology Service (GCCAS) were commissioned by Ms Jen Tempest of GL Hearn Ltd on behalf of Gloucestershire Hospitals NHS Foundation Trust, to undertake a programme of archaeological monitoring during the groundwork associated with the construction of two new buildings referred to as Hope House and WZ5 at Gloucestershire Royal Hospital, Gloucester. Hope House is centred on Ordnance Survey National Grid Reference (OS NGR) 383783 218682 and Building WZ5 is centred on OS NGR 383856 218682.

1.2 The programme of archaeological monitoring was required as a condition attached to the planning
Permission (07/00745/FUL) and was carried out in line with the standard brief issued by Mr Jonathan Smith, the Historic Environment Manager of Gloucester City Council.
The archaeological recording on site was carried out in accordance with the Institute of Field Archaeologists (IFA) *'Standard and Guidance for an Archaeological Watching Brief'* (IFA 2001).

1.3 The Archaeological monitoring was carried out intermittently as required by the groundworks between 27th November 2007 and the 15th September 2008 and was carried out by Richard Macpherson Barratt (GCCAS Assistant Project Officer) and Nick Witchell (GCCAS Senior Archaeological Assistant).
Thanks are due to Ed Stratford (GCCAS Assistant Project Officer) and Briege Williams (GCCAS Senior Archaeological Assistant) who covered the monitoring for one day each and Ms Jo Vallender and Paul Nichols (GCCAS Senior Project Officers) who managed this project. Thanks are also due to the building contractors (Speller Metcalfe) for their co-operation throughout the project.

2 Site location (see Figure 1)

Gloucestershire Royal Hospital is situated to the north of Gloucester city centre, 200m to the northeast of Gloucester railway station. The monitored sites were situated within the western part of the hospital complex. The site is located on drift deposits of Cheltenham Sands and Gravels overlying Limestones and Mudstones of the Blue Lias and Charmouth Mudstones Formations (BGS 2007).

3 Archaeological, historical and cartographic background

Information regarding the historical and archaeological background of the study area and its immediate surroundings is taken from the project design (Macpherson Barrett 2007).

3.1 Prehistoric period

Little is known about the prehistoric period within the City of Gloucester, which may be partly due to deposits having been obscured or removed by later development. A Bronze Age flint tool (Gloucestershire Sites and Monuments Record, number 16625 (GSMR 16625)), was recorded from a site 60m to the north- east of Hope House, and could be an indication of early activity in the area.

3.2 Romano-British period

The City of Gloucester originated as the site of a Roman fort during the 60s AD (GSMR 480), which later developed into a civil settlement or *colonia* at the end of the 1st century AD. The defences enclosed a rectangular area of approximately 45 acres (18 Hectares), and stone walls and gates were constructed in the 2nd century AD. The north and east gates survived up until the 11th century AD.
The development areas would have been situated beyond the Roman north gate of the city, and to the south of a major Roman road that follows the line of London Road at this point (GSMR 7542). On a number of archaeological sites in the area, deposits have been recorded which show the presence of ribbon development along this road, including some substantial stone buildings (GSMR 14544 and

Gloucester Urban Archaeological Database number 868 (GUAD 868), *circa.*150m to the north).

The Roman road lies approximately 130m to the northwest of the development sites and there is evidence for development spreading back at least 30 to 40m south eastwards from the edge of the street during this period. The recording of a layer of possible Roman plough soil (GUAD 868), 150m to the north west of the proposed development areas also indicates the use of land for agricultural purposes.

3.3 Anglo Saxon period

During the late Anglo Saxon period in the 5th – 10th century AD, substantial suburbs developed to the north of the main settlement at Gloucester, and beyond the defences. The main suburb appears to have been along Hare Lane, a main road leading northwards out of the North Gate towards the Saxon royal palace at Kingsholm. Another suburb spread along lower Northgate Street, which becomes London Road, but development does not seem to have crossed the River Twyver (Heighway 1988).

3.4 Medieval period

During the 12th and 13th centuries there is some documentary evidence for roadside development in places along the London Road. The remains of medieval buildings have been recorded (GSMR 14602 and GSMR 16625), which were located along the main road and within 75m of the development areas.

3.5 Post-medieval period

During the 19th century development started to spread further along the London Road from the city centre, with a number of large houses and villas being built.

The Gloucester Union Workhouse was built on the southern side of Union Lane (now Great Western Road) in 1838, and further enlargements to the original buildings appear to have taken place within a few years. The workhouse continued to function until 1930 when the poor unions were closed and their duties handed over to the County Council. It was used as an institution for another decade or so before falling derelict and was demolished in 1961. The location of the Union Workhouse cemetery is not known. The sites of Hope house and building WZ5 lie within undeveloped land owned by the workhouse until the construction of the Infirmary (see section **3.6**).

3.6 Cartographic evidence

The Gloucester Poor Law Institution (Gloucester Union Workhouse) Infirmary is shown on the Third Edition Ordnance Survey map (OS 1923), having been constructed in c.1915, covering both the location of Hope House and Building WZ5. The two wings of the inverted E shaped Infirmary were within the footprint of Hope House and Building WZ5, with the main body of the structure between the two. The same building is labelled as the General Hospital on the 1936 map (OS 1936).

3.7 Previous archaeological work within the hospital site

The GUAD records a watching brief (GUAD 733), 220m to the east of Building WZ5, where residual Roman pottery was recovered.

4 Purpose of the monitoring

In the IFA document referred to at 1.2 above:

> *"The definition of an archaeological watching brief is a formal programme of observation and investigation conducted during any operation carried out for non archaeological reasons. This will be within a specified area or site on land, inter-tidal zone or underwater, where there is the possibility that archaeological deposits may be disturbed or destroyed. The programme will result in the preparation of a report and ordered archive."*
>
> *"The purpose of a watching brief is to allow, within the resources available, the preservation by record of archaeological deposits, the presence and nature of which could not be established (or established with sufficient accuracy) in advance of development or other potentially disruptive works" (IFA 2001).*

5 Methodology

5.1 All excavations were carried out using 360° excavators equipped with toothless buckets. Although separate contractors carried out the construction work of the two buildings, they were subject to similar construction methods. Demolition of the above ground structures of the infirmary buildings (*c.*1915) that stood on the two sites was carried out before the watching brief started.
The monitored ground works associated with both buildings (Figures 2-4) are as follows:

5.2 Hope House

5.2.1 The foundations of the infirmary building (*c.*1915) within the footprint of Hope House were located through trial trenching and removed (Figure 2).

5.2.2 Within the footprint of the building, the ground level was reduced and levelled by machine to 15.65m OD prior to Vibro-piling engineering of the foundation layout.

5.2.3 Foundation trenches for the building were excavated (Figure 3); they consisted of continuous trenching 0.60m wide along the outline of the building excavated to a standard depth of 0.75m below ground level (14.90m OD). A number of internal pad foundations measuring 1.5m by 1.5m were excavated to a depth of 1m below the ground level (14.65m OD).

5.2.4 External drainage trenches around the outside of Hope House were excavated. This work consisted of trenching 0.60m wide with associated manholes measuring 1m by 1m and all ground works were excavated to a maximum depth of 0.90m below ground level (14.75m OD) (Figure 4).

5.3 Building WZ5

5.3.1 The site ground level was reduced in places, prior to levelling of the site with hardcore to 16.90m OD and Vibro-piling engineering of the foundation layout.

5.3.2 A complex foundation layout was excavated (Figure 3) consisting of 1.3m square foundation pads
along the outline of the building, linked by a continuous foundation trench 0.60m wide. An area measuring 6.50m by 6.50m was excavated for the foundation base for a lift. All foundations were excavated to a depth of 1.15 m below ground level (15.75m OD).

5.3.3 A series of trenches was excavated for the installation of new drainage and sewage systems (Figure 4). Trenches for the storm drain system were 0.60m wide and excavated to up to 1.50m below ground level; trenches for associated manholes, which measured 2.20m by 1.50m, were excavated to a depth of 1.70m below ground level (15.20m OD).
Trenches for sewage pipes were 0.60m wide and were excavated to between 0.50m and .1.10m below ground level (16.40m – 15.80m OD).

5.4 Storm water drains

Trenches were excavated for new storm water drains connected to both WZ5 and Hope House and linked in to an existing system (Figure 4). The trenching was 0.90m wide and was excavated to depth of between 2m and 3m below ground level. Manholes were installed within the excavated trenching.

5.6 The site archive is presently stored at Shire Hall, Gloucester under a unique site code, GSMR 29761 issued by the County Sites and Monuments Record Officer. It is intended that it will eventually be deposited with Gloucester City Museum and Art Gallery for long-term storage.

5.7 A record of this watching brief programme will be added to the 'Online Access to Index of Archaeological Investigations' database (OASIS).

6 Results

6.1 The results of the archaeological monitoring are outlined below, with the deposits discussed in stratigraphic order starting with the earliest. All context numbers are shown in rounded brackets ().

6.2 Hope House

6.2.1 Removal of foundations

The foundations of the infirmary building were removed within the layout of the building footprint of Hope House, as plans were available of their location, this involved minimal disturbance. The excavation followed the line of the infirmary building foundations (Figure 2).

Once the foundations had been exposed, a 0.60m wide bucket was used to excavate the foundations to a depth of 1.20m below ground level (14.65m OD). The earliest encountered deposit was undisturbed natural sand and gravels (105), which was first encountered 1.00m below ground level.

Stratigraphically above the natural (105) was the cut for the foundation wall [103], encountered up to 1m below the ground level, within which was a yellow, sandy clay backfill (104) and the wall foundation (101) itself, which was 2 bricks thick, composed of machine made, red brick, laid on bed with concrete bonding. No significant archaeological deposits were revealed.

Plate 1
Exposing the foundations of the infirmary building prior to removal (looking south).

Plate 2
Removal of Infirmary foundations under archaeological supervision.

6.2.2 Ground level reduction

The area within the building footprint was levelled to a standard level of 15.65m OD and the earliest deposit encountered was a deposit of black silty clay (102) which contained occasional brick and tile fragments (Victorian in date) and occasional deposits of ash. This work removed up to 0.20m of topsoil and modern rubble deposits (100).

6.2.3 Hope House foundations

As is shown in Figure 4, a significant proportion of the foundations of Hope House were within areas already disturbed by the building of the infirmary (*c.* 1915). These areas were monitored during the removal of the foundations that were observed cutting into the natural geological deposits.

No significant archaeological deposits were observed during the excavation of the other foundations of Hope House.

The natural geological deposits of yellow sands and gravels (105) were typically revealed at a depth of between 0.70 and 0.90m below ground level; the natural (105) was sealed by a deposit of light brown sandy clay (106) up to 0.32m deep. Deposit (106) was sealed by deposit (102), mentioned in **6.2.2**, which was up to 0.28m deep. Overlying deposit (102) was a layer of recent hardcore levelling (107).

6.2.4 Drainage

Much of the external drainage work only impacted on modern hardcore levelling deposits. Where the trenching was deeper a similar stratigraphy to that recorded during the foundation work was observed.

6.3 Building WZ5

6.3.1 Levelling of site

The reduction of the site level removed modern deposits of tarmac (206) and modern demolition rubble (201).

Plate 3. Levelling of the site (looking east).

6.3.2 Excavation of foundations and lift shaft

The stratigraphy was broadly the same over the whole area excavated for the foundations of building WZ5. The natural sand and gravel (205) (the same deposit as (105)) was typically revealed between 0.80m and 1.05m below ground level.

The natural was sealed by deposit (204) light brown sandy clay up to 0.37m deep, which contained rare inclusions of charcoal. One small fragment of bone and a single piece of Roman amphora (storage vessel) were recovered from deposit (204); this subsoil deposit may be an earlier agricultural soil.

On the eastern side of the foundations, deposit (204) was sealed by deposit (203), dark brown silty sand up to 0.41m deep, containing frequent charcoal, fragments of brick and tile and infrequent post medieval pottery and clay pipe. This may represent land use as gardens or orchards during this period.

On the western side of the foundations, deposit (204) was sealed by a deposit of black silty sand (202) that contained infrequent lenses of slag within it. Deposit (202) also contained fragments of pottery and brick, probably 19th century in date.

Deposit (203) was truncated by wall foundation cut [206] (same as [103]), the footings of the infirmary wall. Sealing deposits (203) and (202) was a layer of modern demolition rubble (201), which dated to the demolition and levelling of the infirmary building. Modern levelling hardcore (200) sealed layer (201).

Plate 4. Excavated foundation pad WZ5 (looking west)

6.3.3 Drainage trenches

The stratigraphy observed during the excavation of the drainage trenches associated with building WZ5 was the same as mentioned above in section **6.3.2**. The earliest deposit encountered was the natural sand and gravel (205). No archaeological deposits were revealed.

6.4 Storm water drains

The installation of the storm drainage system took place over approximately 5 months. The methodology involved the excavation of 2-3m metre stretches of trench to a depth of up to 3m; this was then shuttered to allow access so that the contractors could install pipe work. The installation often involved long periods of little or no activity and the work programme frequently altered due to the large number of existing services that were encountered that often needed re routing or repairing.

The excavation was fully monitored from the start point at the north of the site (Figure 4) to the road crossing nearest to hope house. Almost the entire length of trench was excavated through ground disturbed by service trenches associated with the hospital buildings, most of which had been excavated deep into the natural geological deposits. As the continuing route of the drain was shown on plans to be close to or within the line of other existing services, and judging from the lack of undisturbed ground encountered, the view was taken to carry out intermittent visits to monitor the remainder of the work. No significant archaeological deposits were observed.
Due to the lack of notification about groundwork in progress from Hope House building contractors Moss Construction Ltd, some of the remainder of the drain run was not monitored.

7 Conclusions

The archaeological watching brief during the construction of Hope House and building WZ5 extended over a period of more than ten months, during this time, thirty-one visits were made monitoring the groundwork associated with the developments.

It is evident from the monitoring that the Gloucester Poor Law Institution Infirmary building had disturbed a significant area within the development areas due to the depth of its foundations, although this affected the Hope House development to a much greater extent than the development area of building WZ5. Only deep archaeological deposits could have survived beneath the area impacted by the foundations of the infirmary building, which have been observed during this watching brief as being up to 1m in depth. This may also be inferred to be the case for the sections of the building that are still standing and in use.

The depth of engineering piling and the foundations for both buildings (Hope House and building WZ5) means that there is a very low chance that any archaeological remains would survive within the footprints of either building.

The storm water drain channel showed that the area to the north of Hope House, between the 19th century buildings (those demolished on the Hope House site and those still standing on the north side of the road) had been heavily disturbed by service trenches associated with the hospital buildings. The likelihood of archaeological remains surviving in the areas affected by such services is low.

The monitoring recorded no archaeological features; a single piece of pottery from a Roman Amphora storage vessel was recovered from subsoil deposit (203), which was observed to have extended over both areas affected by development. This shows that there was some activity in this area during the Roman period, being on the outskirts of the settlement area, this was probably related to agriculture.

8 References

British Geological Survey	2006	British Geological Survey data held on County Council GIS.
English Heritage	1991	*Management of Archaeological Projects.* London.
Institute of Field Archaeologists	2001	*Standard and Guidance for Archaeological Watching Briefs.* London.
Macpherson Barrett, R	2007	Archaeological monitoring during construction of Hope House and Building WZ5, Gloucestershire Royal Hospital, Gloucester. Written Scheme of Investigation. Unpublished report (GCCAS)
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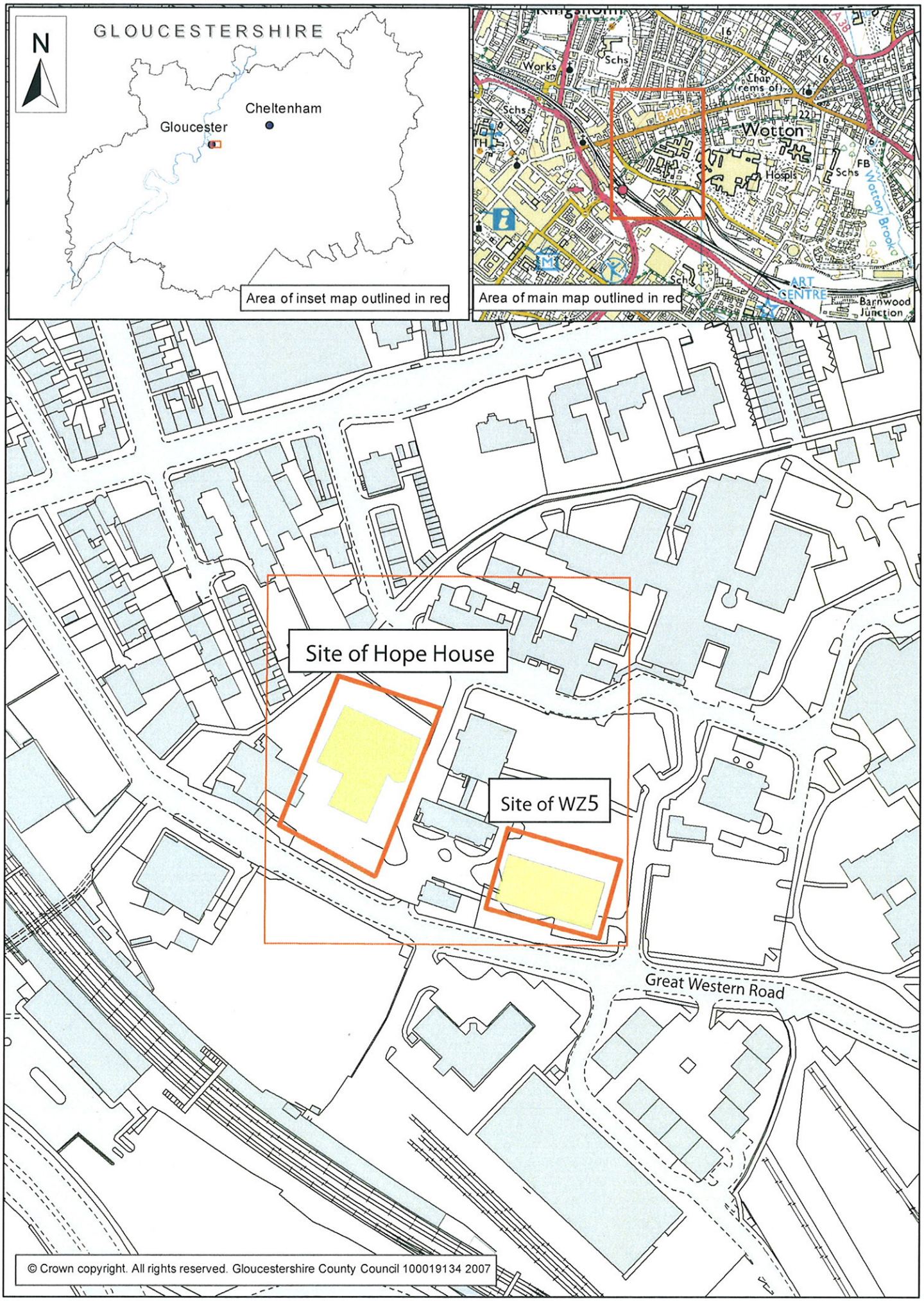
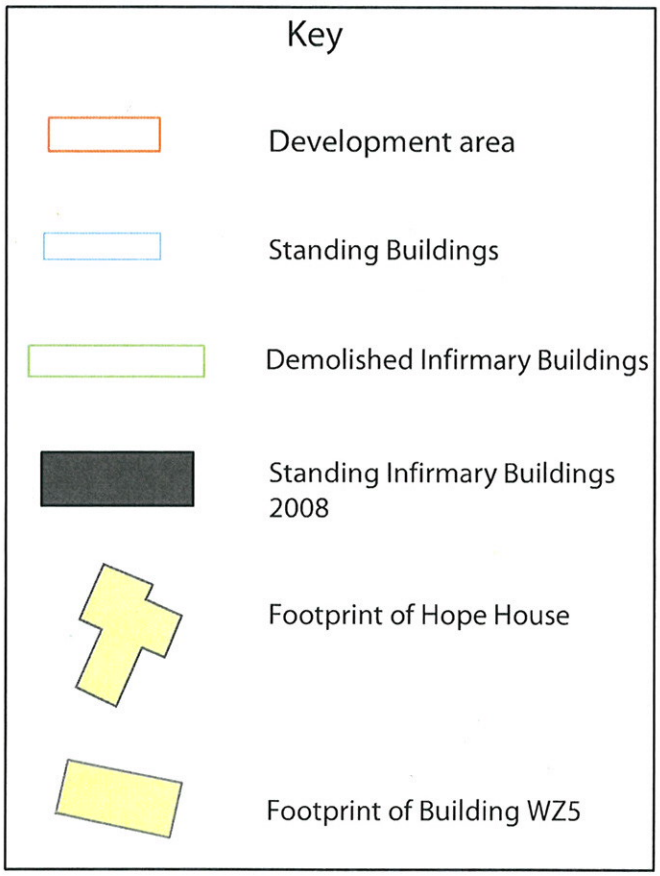
Ordnance Survey	1884	Ordnance Survey County Series Map, 1st Edition. Landmark Digital Data held on County Council GIS.
Ordnance Survey	1902	Ordnance Survey County Series Map, 2nd Edition. Landmark Digital Data held on County Council GIS.
Ordnance Survey	1922	Ordnance Survey County Series Map, 3rd Edition. Landmark Digital Data held on County Council GIS.
Smith, J	2007	Brief for a Controlled Archaeological Watching Brief Gloucester City Council



0 20 40 60 80 100Metres

Figure 1: Site location plan (Scale 1 : 2000)



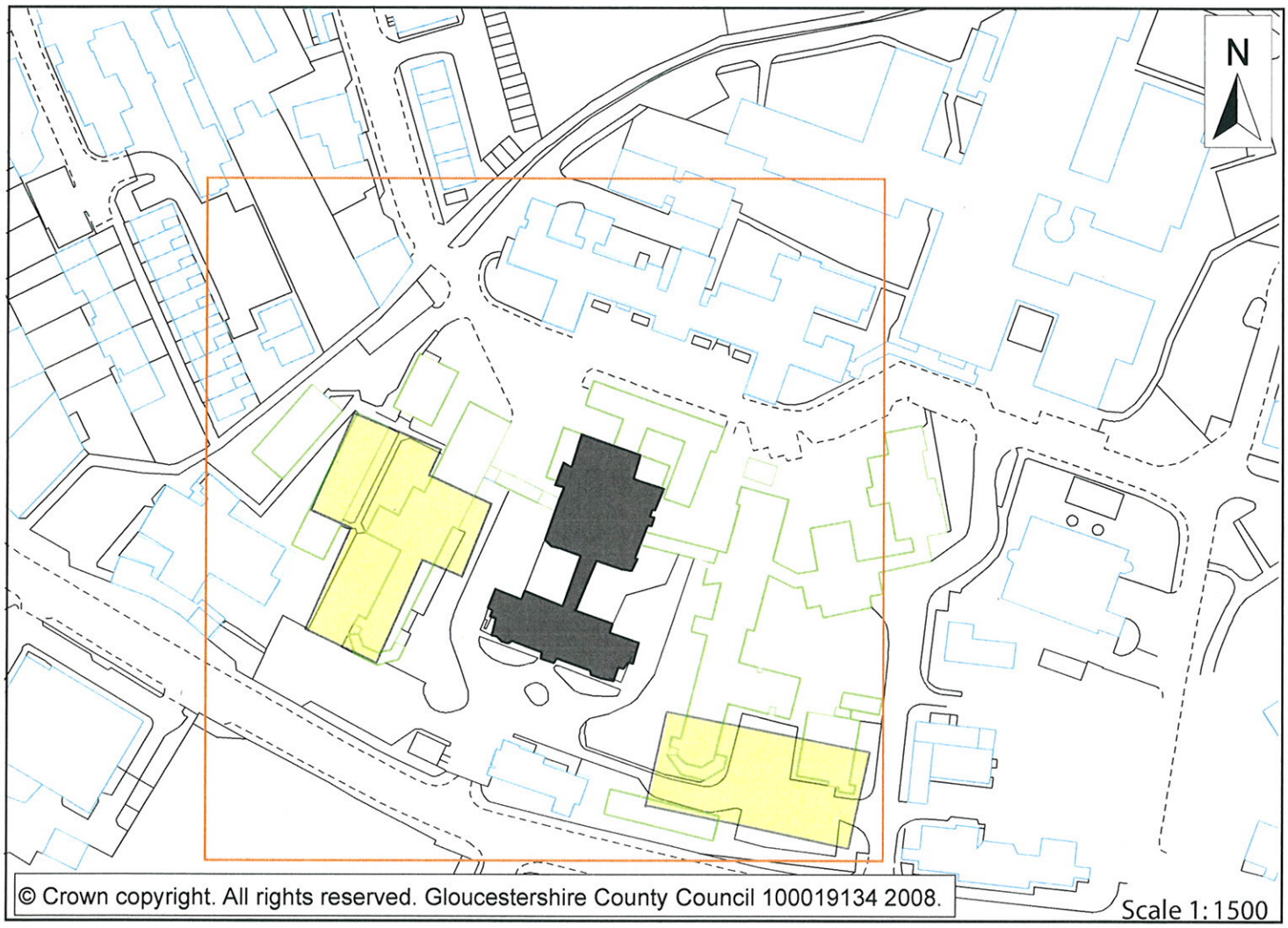


Figure 2 - Extent of Infirmary Buildings (c. 1915)

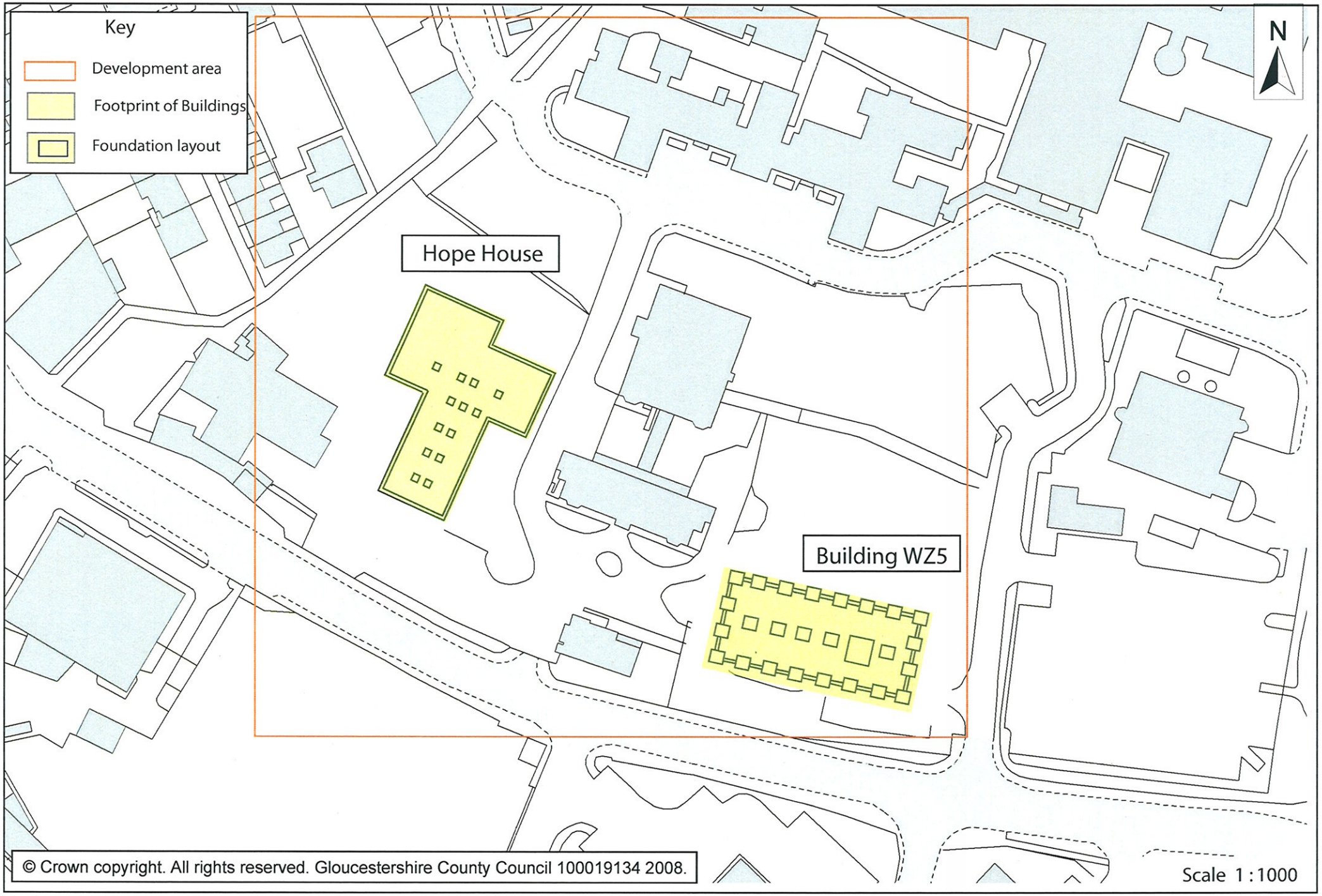


Figure 3 : Extent of Foundation Trenching

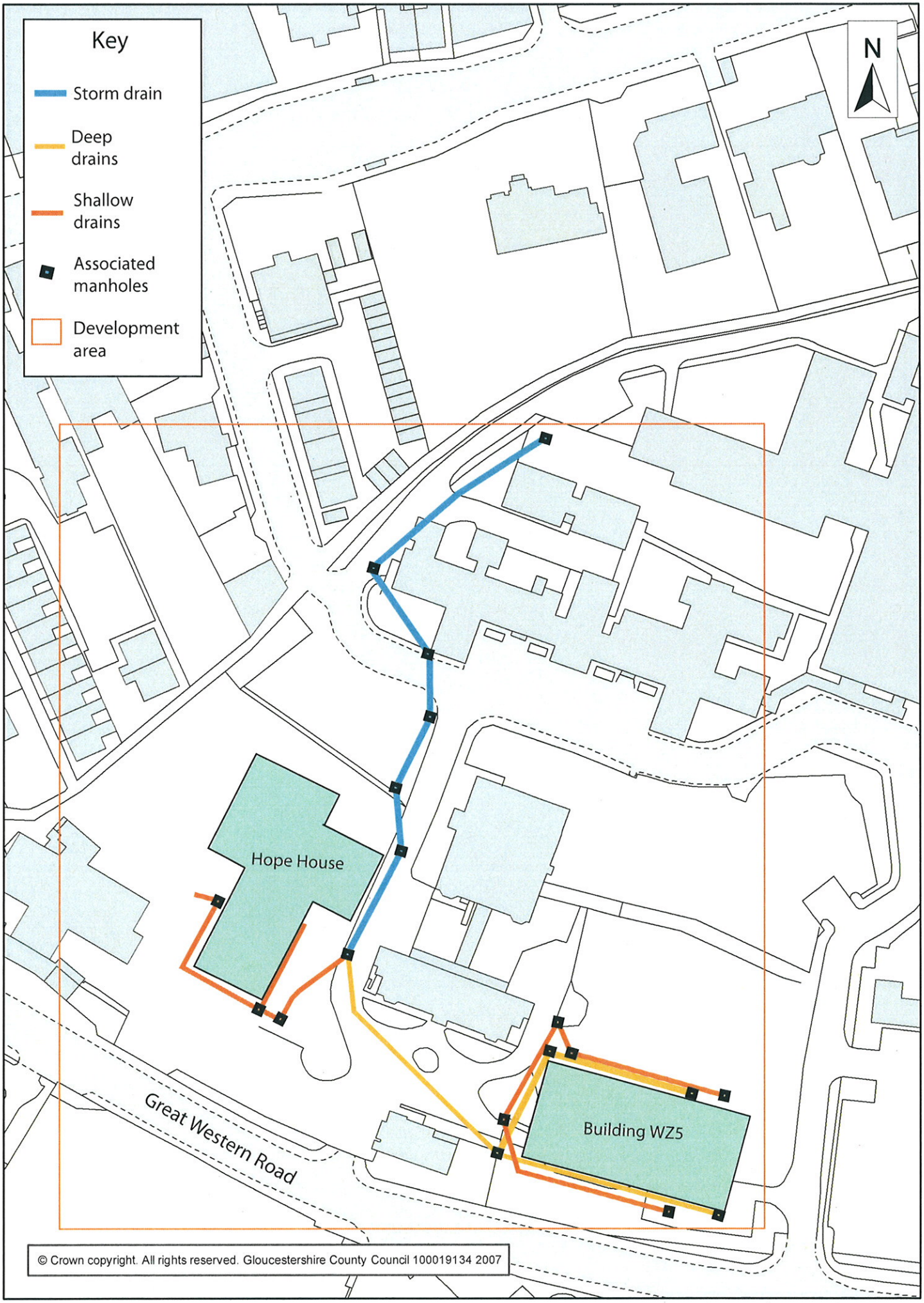


Figure 4 : Monitored Drainage Scale 1:1000