Report 2180b

nps archaeology

Archaeological Evaluation at Site of Proposed Community Hall, adjacent to the Medieval Cloisters, The Great Hospital, Bishopgate, Norwich

ENF126528

Prepared for
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Frontispiece. David Moro working on wall [42] in Trench 5, looking south towards St Helen's church

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Location:	The Great Hospital, Bishopgate, Norwich, Norfolk
District:	Norwich
Planning Ref.	06/01005/F
Grid Ref.:	TG 23773 09105
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OASIS Ref.	135032
Client:	Great Hospital
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Summary

An archaeological evaluation was undertaken by NPS Archaeology on the site of a proposed redevelopment of parts of The Great Hospital, Bishopgate in Norwich. The Great Hospital is a medieval foundation thought to have been established in 1249.

Five trenches were examined during the evaluation. Trenches 1 and 2 were located in the north-east of the site, Trenches 3 and 4 centrally below a block of demolished cottages and Trench 5 adjacent to the east wing of the cloister. A watching brief was also undertaken during demolition of the former Laundry building. In addition, and reported on separately, was Historic Building Record of elements of the structure affected by the development scheme.

Due to contamination and ground disturbance of modern date, Trenches 1 and 2 were extremely limited in scope and revealed no significant archaeological remains. Similarly, work on Trenches 3 and 4, each measuring c.*4m by 4m in plan, was curtailed by the presence of contaminated ground; the excavation of both trenches was limited to a depth of* c.*1m. Trench 3 contained what appeared to be a possible early post-medieval wall. Trench 4, to the west, contained a large pit (with dumps of mortar) and a possible garden soil. No remains earlier than post-medieval date were revealed in these trenches.*

Trench 5 was located below a former Laundry built against the east wall of the cloister. In this trench significant archaeological remains including make up deposits and walls of probable medieval date were revealed. The earliest remains identified were river terrace gravels and organic muds through which possible timber revetments had been introduced and over which chalk and mortar had been laid down to provide a construction level for buildings of the medieval hospital complex. Constructed on top of these deposits were walls of likely medieval date. The largest of these walls was aligned north-south and interpreted as the east wall of a range building attached along the east side of the cloister. One suggested use of this range was as the chapter house. A possible floor within this building appeared to survive at the north end of the trench. Other masonry at the south of the trench is thought to have belonged to a chapel, originally attached to the north wall of the church but since demolished.

In addition to the masonry recorded in Trench 5, the survival of informative waterlogged organic remains surviving below medieval construction levels was established by the evaluation.

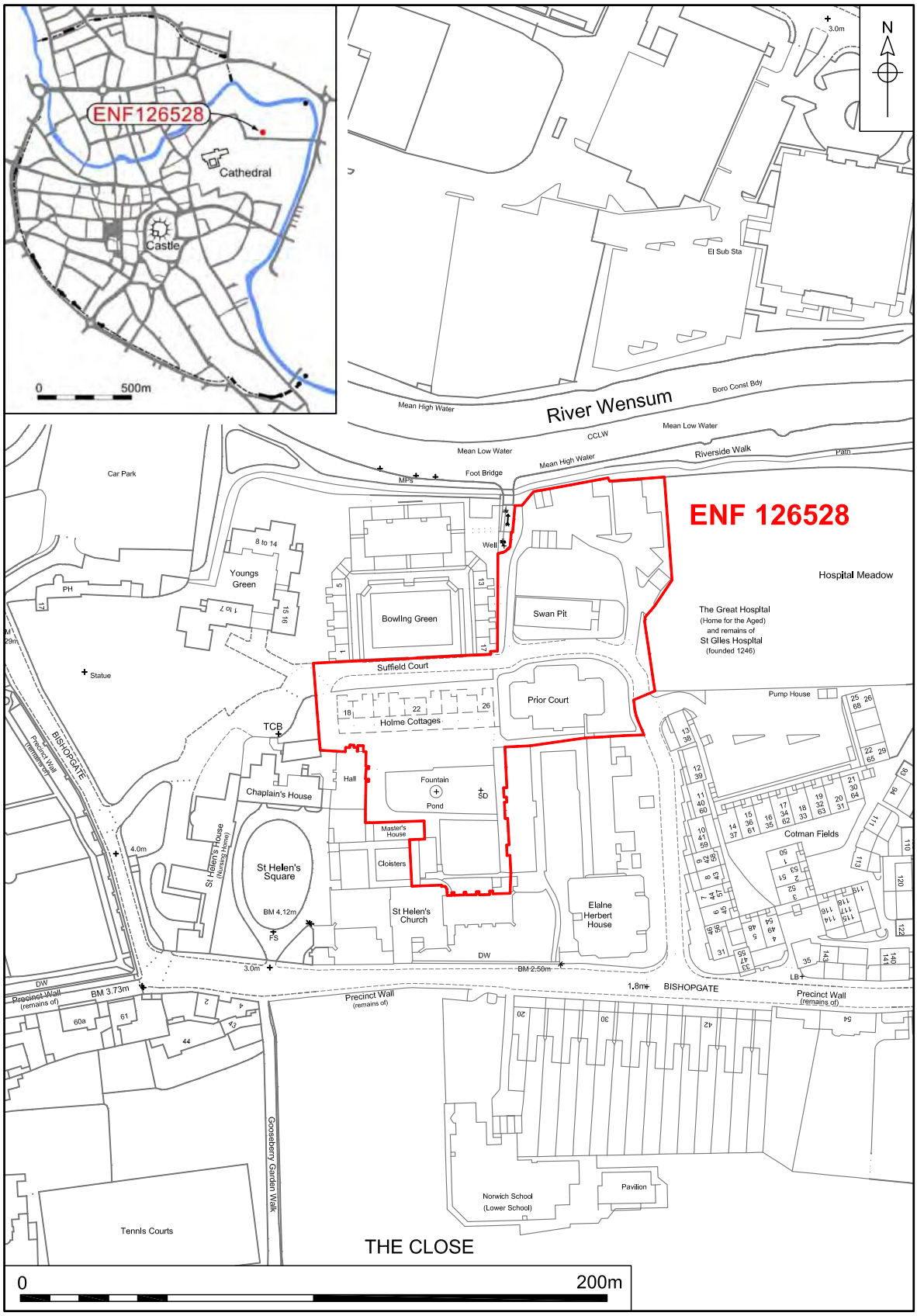

Figure 1. Site location. Scale 1:2000

1.0 INTRODUCTION

Figure 1

This work was undertaken to fulfil a planning condition set by Norwich City Council and a Brief issued by Norfolk Landscape Archaeology (Ref: 06/01005/F). The work was conducted in accordance with a Project Design and Method Statement prepared by NPS Archaeology (Ref.NAU/NP/BAU2180). This work was commissioned by Cowper Griffith Architects and funded by The Great Hospital.

This programme of work was designed to assist in defining the character and extent of any archaeological remains within the proposed redevelopment area, initially following the guidelines set out in *Planning Policy Statement 5: Planning for the Historic Environment* (Department for Communities and Local Government 2010) and superseded by *National Planning Policy Framework* (Department for Communities and Local Government 2012).

The results will enable decisions to be made by the Local Planning Authority about the treatment of any archaeological remains found.

The site archive is currently held by NPS Archaeology and on completion of the project will be deposited with the Norfolk Museums and Archaeology Service (NMAS), following the relevant policies on archiving standards.

2.0 GEOLOGY AND TOPOGRAPHY

The Great Hospital is located in the north-west of Norwich within a meander of the River Wensum. The site lies approximately 160m south of the river at heights of *c*.2-4m OD. Trenches 1 and 2 were located near the Priors Court and Trenches 3 and 4 were located in an area formerly occupied by the Holm Cottages. Trench 5 lay below the site of the former laundry block built against the east wing of the church cloister.

The underlying geology of Norwich consists of Upper Chalk overlain by glacial sands and gravels (British Geological Survey 1985 and 1991). In the valley of the River Wensum alluvial deposits are also present, sometimes interleaved with deposits of anthropogenic origin.

Site survey was undertaken with a temporary benchmark established using an origin of 4.50m OD located on the north-west corner of the Derlyngton Tower.

3.0 ARCHAEOLOGICAL AND HISTORICAL BACKGROUND

The Great Hospital was founded in 1249 by Bishop Walter de Suffield as a refuge for the sick and poor although it has since undergone extensive rebuilding and much of what survives dates from the 14th and 15th centuries. The church of St Helen forms the main focus of the religious complex with the claustral range located to the north projecting from the northern aisle of the nave which forms its southern wall. A cloister is believed to have existed on the site at least by the early 15th century but the current structure has been dated to around 1450, placing it within the tenure of Prior Molet and Bishop Lyhart. The cloister in common with other religious houses lay at the heart of the complex, being set apart from the external world where the monks could find an atmosphere conducive to quiet meditation and study. It also acted as a covered walkway linking the various

structures that surrounded it such as the refectory, dormitory and kitchens. Typically the chapter house sat to the east of the cloister and it is likely that the surviving blocked doorways along the eastern wall opened into such a building. The cloisters at The Great Hospital represent the smallest surviving monastic cloister in Britain.

4.0 METHODOLOGY

Figure 2

The objective of the evaluation was to determine as far as reasonably possible the presence or absence, location, nature, extent, date, quality, condition and significance of any surviving archaeological deposits within the development area.

The Brief required a total of five evaluation trenches to be located in the development footprint (Fig. 2). Machine excavation of all the trenches was carried out with a tracked hydraulic 360˚ excavator equipped with a toothless ditching bucket and operated under constant archaeological supervision.

Spoil, exposed surfaces and features were scanned with a metal-detector. All metal-detected and hand-collected finds, other than those which were obviously modern, were retained for inspection.

No environmental samples were taken.

All archaeological features and deposits were recorded using NPS Archaeology pro forma. Trench locations, plans and sections were recorded at appropriate scales. Monochrome photographs were taken of all relevant features and deposits where appropriate.

Following discussion between the client and Dr Ken Hamilton of NHES, Trench 5 was extended both to the north and south in order define the extent of masonry revealed in the initial work.

In Trenches 1 to 4 the presence of modern services and contaminated ground limited the scope of works. Trenches 3 and 4 were thus limited to excavated depths of *c.*1.00m as a result. Health and safety considerations meant that staff were required to wear protective overalls, gloves and masks during the excavation and recording of these trenches. Finds from Trenches 3 and 4 were examined in the field but not processed or reported on further because of contamination.

A watching brief during the demolition of the Laundry block and removal of render from the east elevation of the cloister was also carried out.

Site conditions were good, with the work taking place in fine weather.

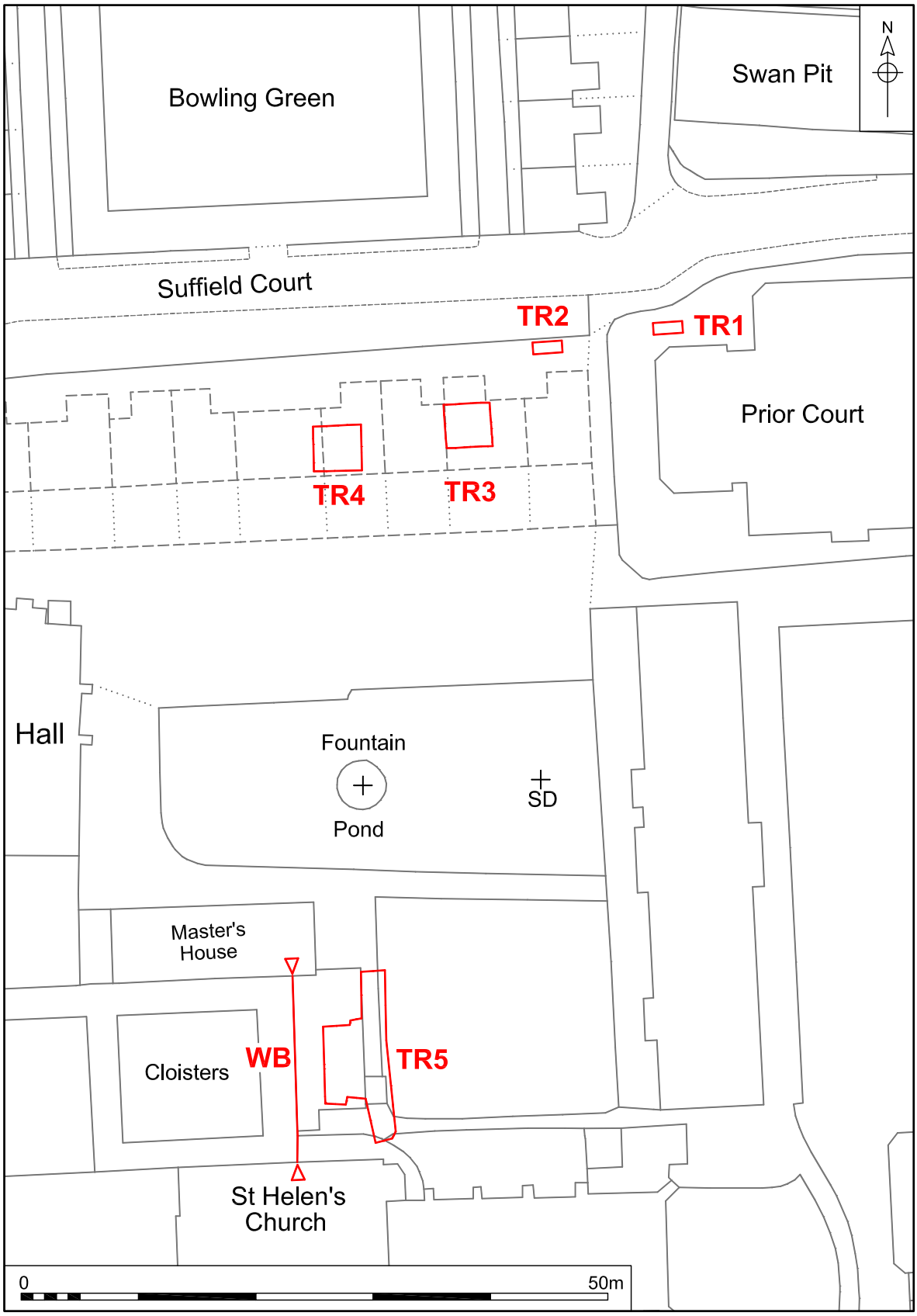

Figure 2. Location of trenches. Scale 1:500

5.0 RESULTS

5.1 Trench 1

Figure 2 (location); Plate 1

Trench 1 measured 2.5m by 1 m and was excavated to a depth of 1.20m at the eastern end. The trench appears to have been excavated on a terrace or raised landscape.

Plate 1. Evaluation Trench 1, looking south

The excavated overburden measured between 0.40m and 0.50m and consisted of mixed brick rubble, chalk and mid brown silty sand [01]. Below [01], was homogenous blackish silty sand [02] which measured at least 0.70m. These deposits had a combined depth of 1.20m; no further excavation took place after 1.20m was reached. However, a hand-held auger test demonstrated the deposit [02] continued for a further 0.20m with an overall depth of 0.90m. Below, [02] was a thin layer of chalk [03] measuring about 0.10m. Beneath [03], was a very similar deposit as [02] which also consisted of homogenous black silty sand [04]. This deposit continued down for 1.30m before natural sand and gravel was encountered. These deposits have a combined depth of approximately 3m from the current ground level at *c.*2.50m OD.

5.2 Trench 2

Figure 2 (location); Plate 2

Trench 2, with similar dimensions to Trench 1, was abandoned following its initial machining because of the number of live modern services present within it.

Plate 2. Evaluation Trench 2, looking south

5.3 Trench 3

Figures 2 (location) and 3; Plate 3

Limit of excavation in trench 1.54m OD

Plate 3. Evaluation Trench 3, looking west, 1.0m scale

The earliest archaeological deposit recorded in Trench 3 was a layer of crushed chalk with some silt [16] that was 5cm in depth. Interpreted as a possible floor, it

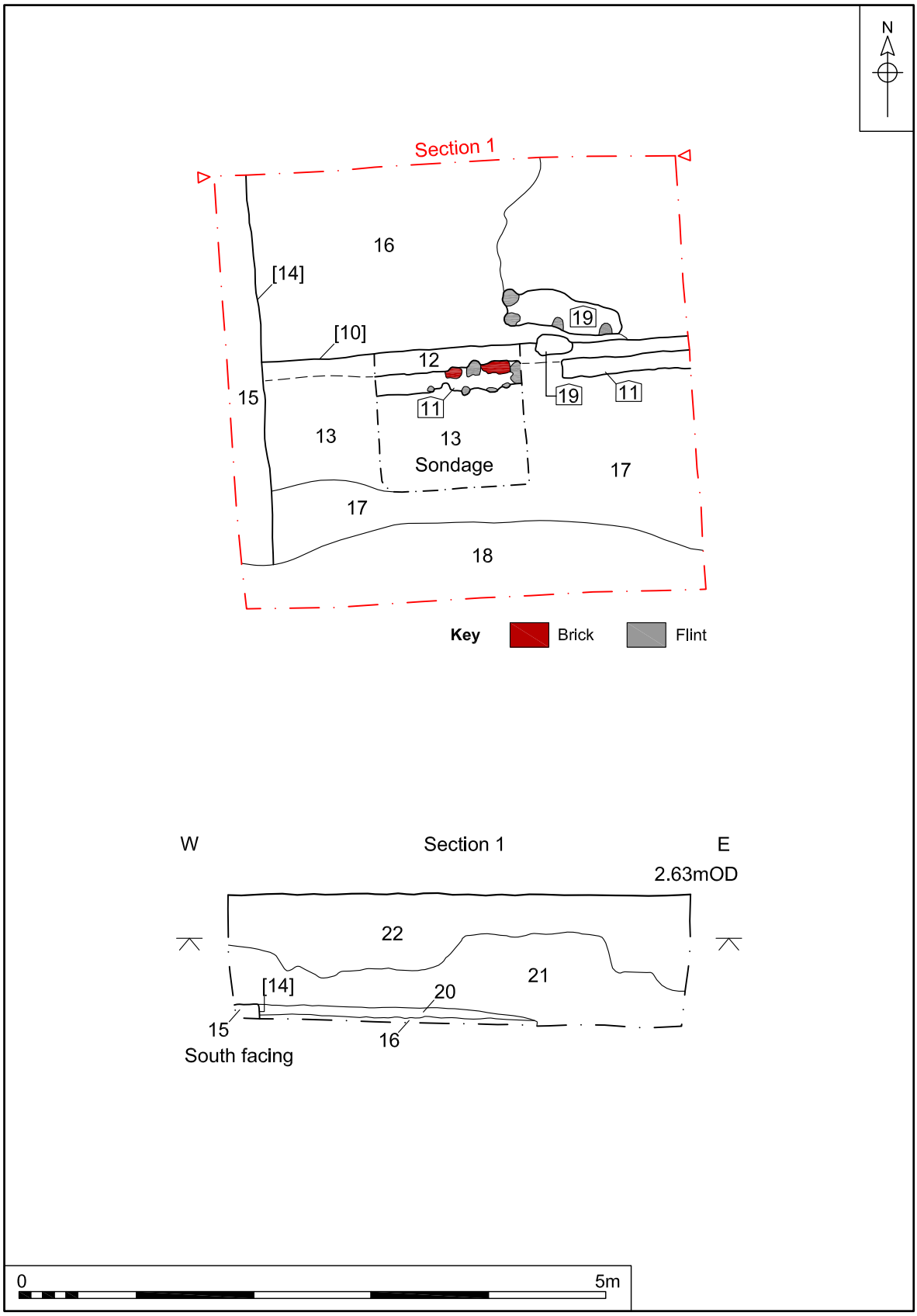

Figure 3. Trench 3, plan and section. Scale 1:50

was present in the north-west base of the trench. In the south-west of the trench was a layer [13] of what appeared to be demolition debris, this containing fragments of tile, brick and crushed mortar. It measured at least 0.20m in depth, the full extent of this deposit was not revealed but it appeared to lay to the south of wall [11]. Overlying [16] was a thin layer of a mid brown silt sand [20] seen in section with a depth of 0.08m. It contained occasional flints and sparse flecks of mortar and chalk.

Seemingly defining the boundary between debris [13] and floor [16] was east-west aligned wall [11] that was exposed within a sondage excavated in the trench. At only 0.20m in width, this wall is considered small in scale, in addition to which it appeared to be of poor build quality and was of probable early post-medieval date. Built of flint with a small quantity of red brick and bonded by a lime mortar, the proportions of this wall suggested it was unlikely to have belonged to a substantial structure. The construction cut [10] for this wall also contained a fill [12] of orange sand. A sherd of glazed pottery of probable medieval date was recovered from this fill (the sherd was not retained due to its contaminated state – see also pottery from Trench 4). Overlying this construction cut was a masonry pad [19] built from flint bonded with a lime mortar. Aligned broadly east-west and with a length of 1.0m and width of 0.40m, this structural? feature might have been associated with wall [11].

Along the western edge of Trench 3 a north-south aligned cut [14] was seen in plan, though not excavated. It appeared to extend beyond the limits of the trench to both the north and south. Its fill [15] was a dark brown silt sand which contained occasional brick fragments.

Overlying these deposits were layers ([17] [18] [21]) of similar dark brown silt sands that are interpreted as an accumulation of garden soils and layers possibly deposited by the severe flooding of 1912. Up to 0.80m in depth, these lay below a layer of clearly modern material [22] that contained brick rubble thought to be associated with the construction/demolition of Holm Cottages.

5.4 Trench 4

Figures 2 (location) and 4; Plate 4

Limit of excavation in Trench 1.53m OD

The earliest archaeological deposit revealed in Trench 4 was a dark brown silt sand [37] (not illustrated) that was only seen in a small sondage.

Overlying silt sand [37] was a compacted spread of a pale yellow lime mortar that was up to 0.25m in depth, its depth and appearance thought to indicate this as the residue of mortar mixing rather than a surface in its own right. Overlying this mortar were two layers, [24] consisting of pale yellow brown sands and [26], a mixed, crushed mortar with clay and chalk. These layers are considered to be the bedding for a floor [23=25]) of crushed chalk with a depth of 0.10m present in the south-west of the trench.

Cutting the chalk floor was a large pit [28] that was extant across more than half of the base of the evaluation trench. Because of contamination the excavation of this feature was limited to a depth of 0.25m, the fill [29] of this pit being a dark brown silt sand that contained occasional fragments of brick. A small number of finds

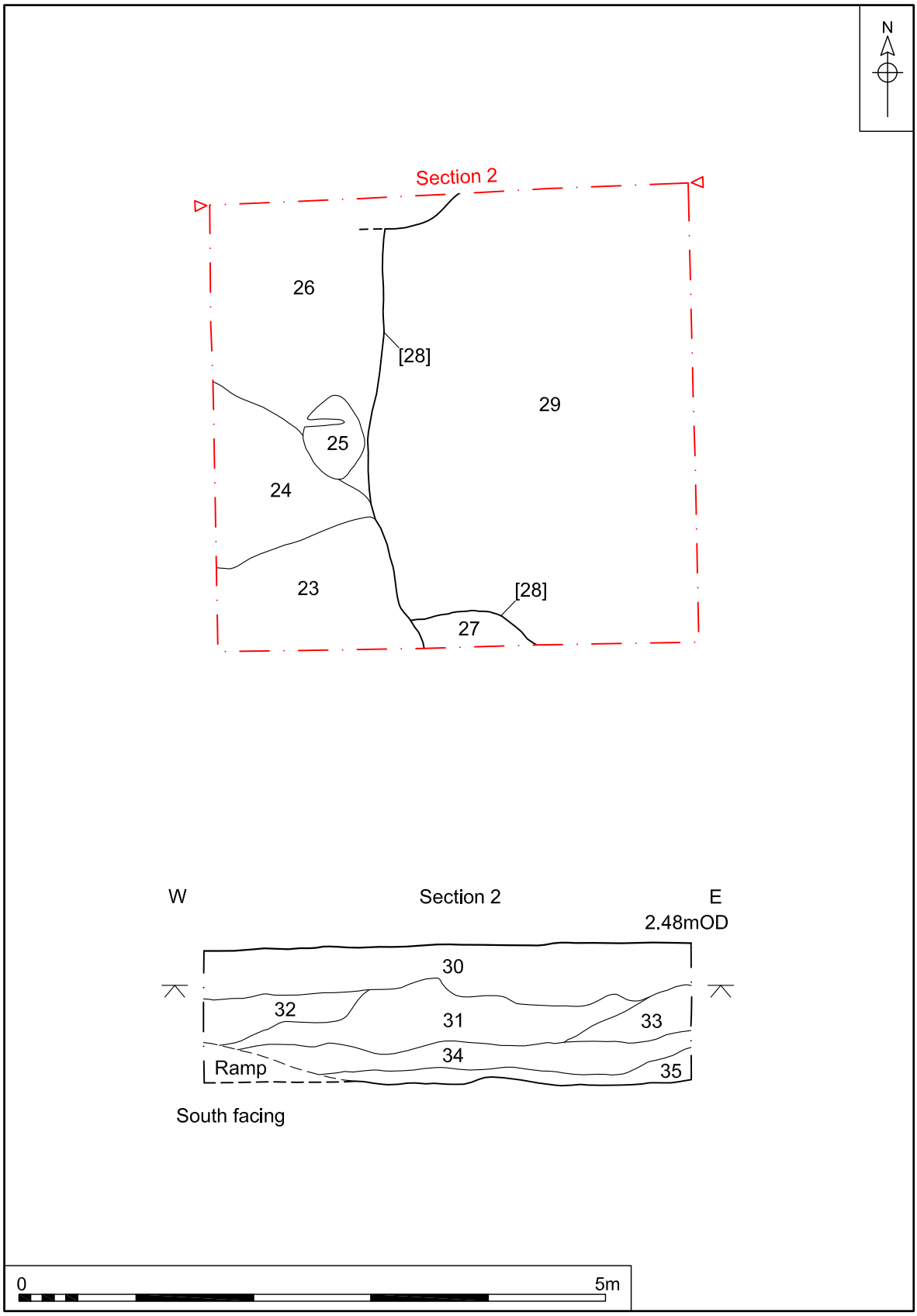

Figure 4. Trench 4, plan and section. Scale 1:50

Plate 4. Evaluation Trench 4, looking east, 2.0m scale

were recovered from this context, including the base of a small vessel with a green glazed fabric likely to be Grimston ware. These finds were not collected because of their contaminated nature. Overlying floor [23=25] was layer [36] that was 0.24m in depth and contained a frequent amount of chalk fragments, possibly indicating it was derived from sorted demolition rubble. Floor [23=25] was also overlain by two deposits [35] [36] of similar chalk-rich tips or dumps that were seen in section only.

Overlying these deposits was a layer described as a garden soil, a smooth mid brown sand silt [34] that contained few inclusions and which was visible as an even, horizontal layer in section. Above this soil were layers [31] and [33] and pit [38] all of modern date that were sealed below layer [30], also of modern date which appeared to result from the demolition of Holm Cottages.

5.5 Trench 5

Figures 2 (location), 5, 6 and 7; Plates 5, 6 and 7

Geological deposits present at 0.78m OD

Ground water present at 0.95m OD

Walls truncated to height of 2.20m-2.30m OD

Walkway level in south-east corner of cloister 2.27m OD

Trench 5 was located in the footprint of a demolished laundry block directly bonded to the east wall of the cloister. Trench 5 originally measured *c.*5.5m by 6.3m in plan, but was later extended along its eastern side, to the north by *c.*4.30m by 2.10m, and to the south by *c.*3.80m by 2.10m.

Plate 5. Evaluation Trench 5, looking south, showing make-up deposits in sondage. 2.0x1.0m scale

The earliest archaeological remains recorded by the evaluation were revealed within a sondage excavated at the north end of the trench. At the base of this sondage were sands and gravels [60] of the river terrace present at a height of *c.*0.42m OD. Overlying these was a layer of organic mud *c.*0.20m in depth (see Section 7, Environmental Evidence, in this report for a description of this deposit).

The upper horizon of this deposit [59] also appeared to coincide with the height of ground water at *c.*0.60m OD. Seeming to cut this organic mud was a timber post and a line of smaller stakes that were aligned approximately east-west. These timbers were only briefly observed and could not be examined in detail as they were quickly inundated by ground water (S. Hickling pers comm). The organic mud is interpreted as riverine or similar sealed by consolidation material laid down prior to construction of the Great Hospital complex. Overlying the organic mud were several tips of chalk and chalk mixed with mortar waste ([57], [58]) that measured up to 0.45m in depth. One of these deposits [57] seemed to consist entirely of a clean, crushed chalk laid down as a raft. Overlying this was a layer of silt [56] and a thin band of silt mixed with fine charcoal [55] that might identify flood events following the laying down of the chalk make up.

This group of compacted chalk and mortar deposits seem to identify activity associated with construction of the Great Hospital, though whether this related to the primary construction of the church in 1249 or the later construction of the cloister and associated buildings could not be demonstrated. Overlying and possibly built off this consolidation material were a number of walls thought to be survivals of a chapel and range building. Though the stratigraphic sequence for construction of these elements in relationship to each other could not be established, some inferences as to their relative dating can be reasonably attempted based on their construction forms and from what is known of documentary records.

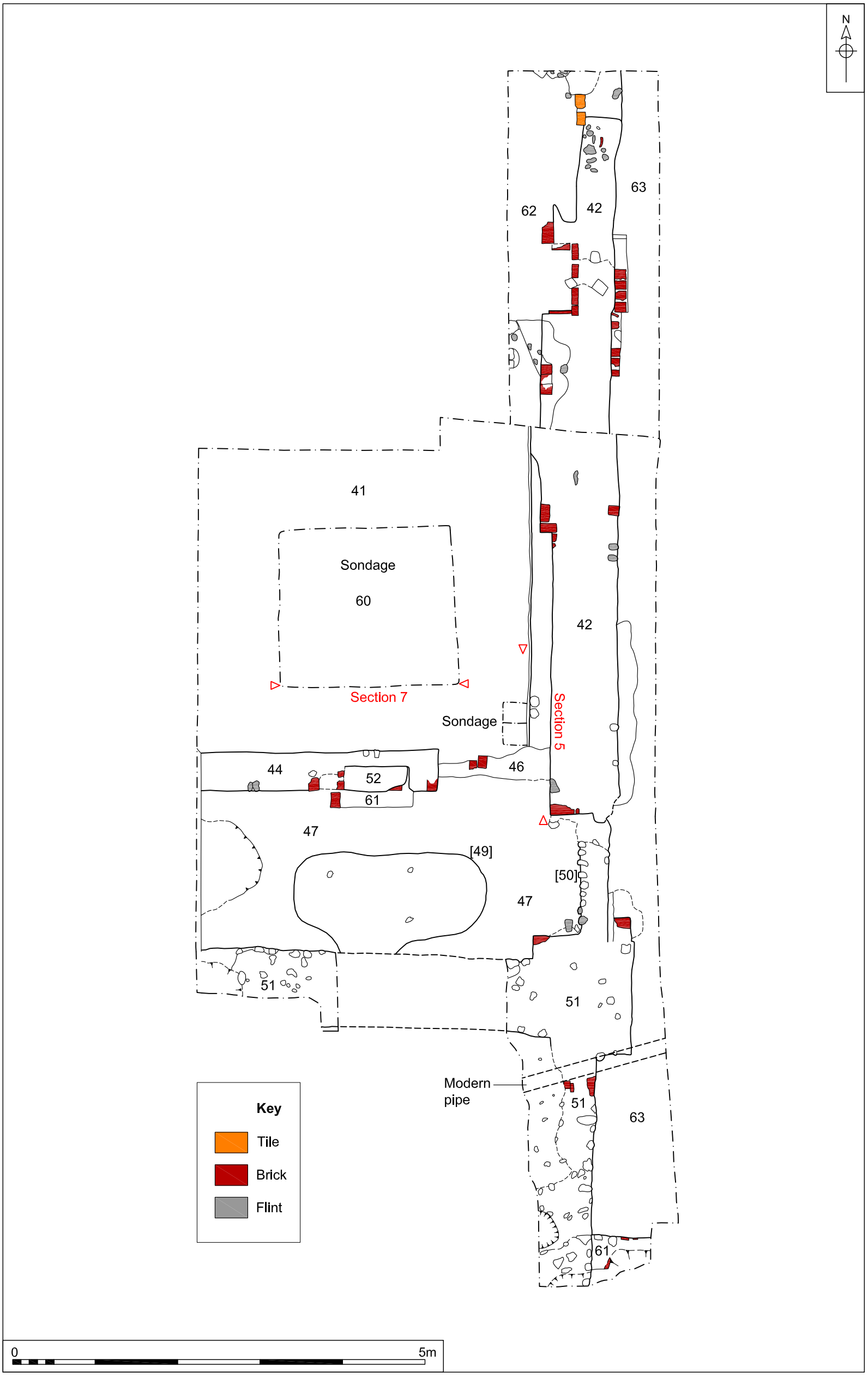

Figure 5. Trench 5, plan. Scale 1:50

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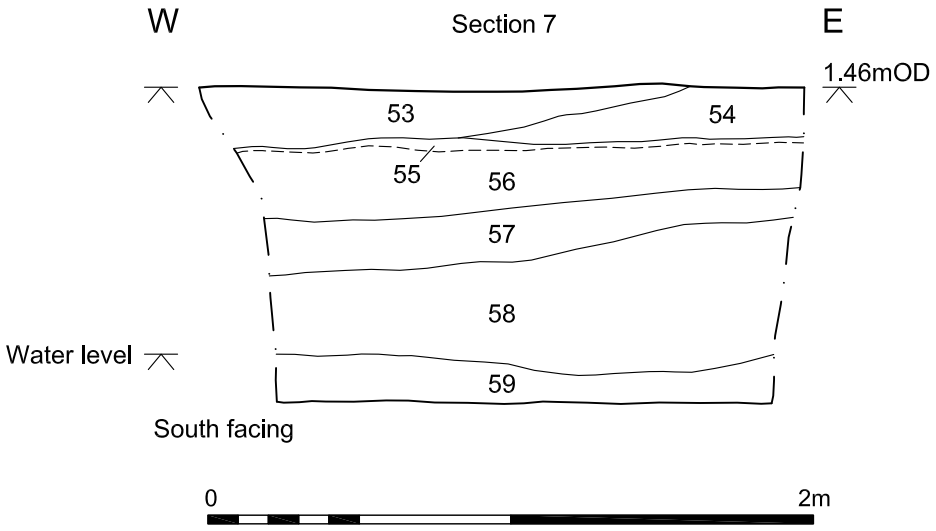


Figure 6. Trench 5, section through make-up deposits in sondage. Scale 1:25

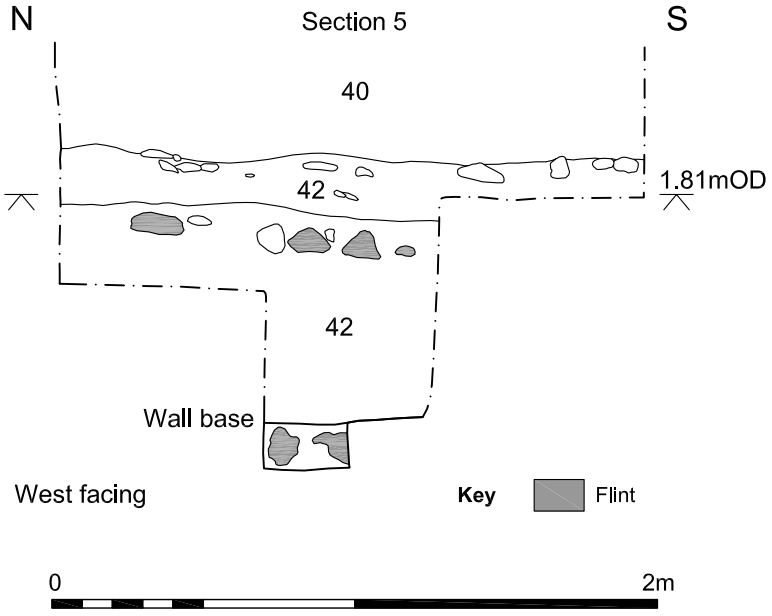


Figure 7. Trench 5, section. Scale 1:25

Plate 6. Extended area of Trench 5, looking south at walls of range building with walls of chapel? beyond, 1.0m scale

Considered to be the earliest masonry recorded in Trench 5, wall [51] is interpreted as the likely remains of a chapel (specifically the Lady Chapel) which originally stood at to the north of St Helen's church. Revealed in plan, wall [51] consisted of two elements, with one wall aligned north-south and the other running east-west beyond the site limit, presumably towards the cloister. Where best defined in plan, wall [51] measured 0.83m in width. A large block of masonry, broadly square in plan formed a corner for the two walls. Primarily built of flint cobble, brick was noted within the construction of this corner, with one complete brick also incorporated into the face of the north-south wall alignment and two smaller fragments also present in the core of the wall close to this. The north-south element of this wall appeared to line up with a scar in the north wall of the church, though the width of this scar was considerably wider at *c*.1.30m. A possible buttress [61] was present at the south end of the exposed part of the wall, being built from flint with some brick. The lime mortar within this possible buttress was noticeably yellower in colour that the white lime mortar of [51].

Substantial wall [42] was aligned approximately north-south, closely but not quite following the same line as the eastern part of wall [51]. Measuring 1.06m at its maximum width (at the lowest revealed part of this wall) it seemed to have served as both foundation and wall. Part of this lowest build was revealed by the excavation of a small sondage that indicated the west elevation of this wall had been partially rendered to what seemed to be its base, below which there appeared to be no bonded foundation but only large flints. The construction of this wall appeared to just cut into chalk raft [57]. A total surviving depth of 0.90m of this wall was present. The upper part of wall [42] appeared to reduce in width from this foundation or base on the western elevation, giving a thickness of between 0.83m to 0.93m for the width of wall projecting above this height. A possible niche at least

partly lined with brick was present in the west elevation and in the area revealed by the extension of the trench to the north structure built of bricks laid on edge filled with ash appeared to be a small fireplace built into the wall.

Plate 7. Wall [42], looking south with floor [62], 1.0m scale

While clearly defined in plan within the main area of the excavation, the northern extent of this wall was less well defined, and it was not possible to determine if it terminated at the limit of evaluation trench. At this northern end was a spread of ashy material [62] possibly emanating from the fireplace described above. This ash was removed over a small area where it appeared to have overlain a possible brick built surface.

Smaller wall [44] aligned east to west was located at what appeared to be the southern limit of wall [42]. Wall [44] was built of brick and flint cobble, with several courses of brickwork seen in the south elevation of its eastern terminus. Measuring 0.48m in width and with an exposed depth of 0.38m, it was bonded with a pale yellow coloured lime mortar, notably different in colour (more yellow) to that used for both walls [42] and [51]. Close to the eastern end of this wall on its southern elevation was an inset area measuring 1.08m by 0.30m of brick, these laid horizontally across this inset. It did not appear to have been heated or have deposits of ash overlying and it is not clear what purpose this structure served. The south-east corner of this structure was formed from a stone block with a chamfered corner. A pad of lime mortar [61] with a single brick set within it lay

A B C D E

STN101

FLINT WALL TOPPED WITH MODERN BRICKWORK

BRICK WALL TOPPED WITH MODERN BRICKWORK.

1 2 3 4 5 6

SLABS

ROUGH GROUND

ALCOVE

STEP +0.04

STEP +0.21

STEP +0.20

1.93 +

1.91 +

1.89

1.91

1.87 +

+ 2.77

+ 2.40

+ 2.62

+ 2.90

+ 2.53

+ 2.52

+ 2.44

VICTORIAN CAN BE REMOVED

P03

2.51

BRICK WALL

TOW + 2.56

TOW + 2.37

TOW + 2.46

TOW + 1.79

TOW + 2.32

TOW + 1.78

2.43

2.22

2.24

1.91

1.64

1.70

1.42

1.39

1.38

2.31

2.30

2.29

1.40

1.41

1.45

WALL COVERED BY RUBBLE AT TIME OF SURVEY

P07

P08

P11

AREA OF EXCAVATION

TOP 2.09

TOP 2.0

TOW 1.89 +

TOW 1.85 +

TOW 1.84 +

TOW 1.83 +

TOW 1.93 +

2.38

2.40

1.81

1.80

1.63

1.64

1.74

1.77

1.73

1.71

1.39

1.41

1.35

1.87

1.88

1.95

1.99

2.49

2.60

2.56

P12

MODERN RENDER ON FLINTWORK

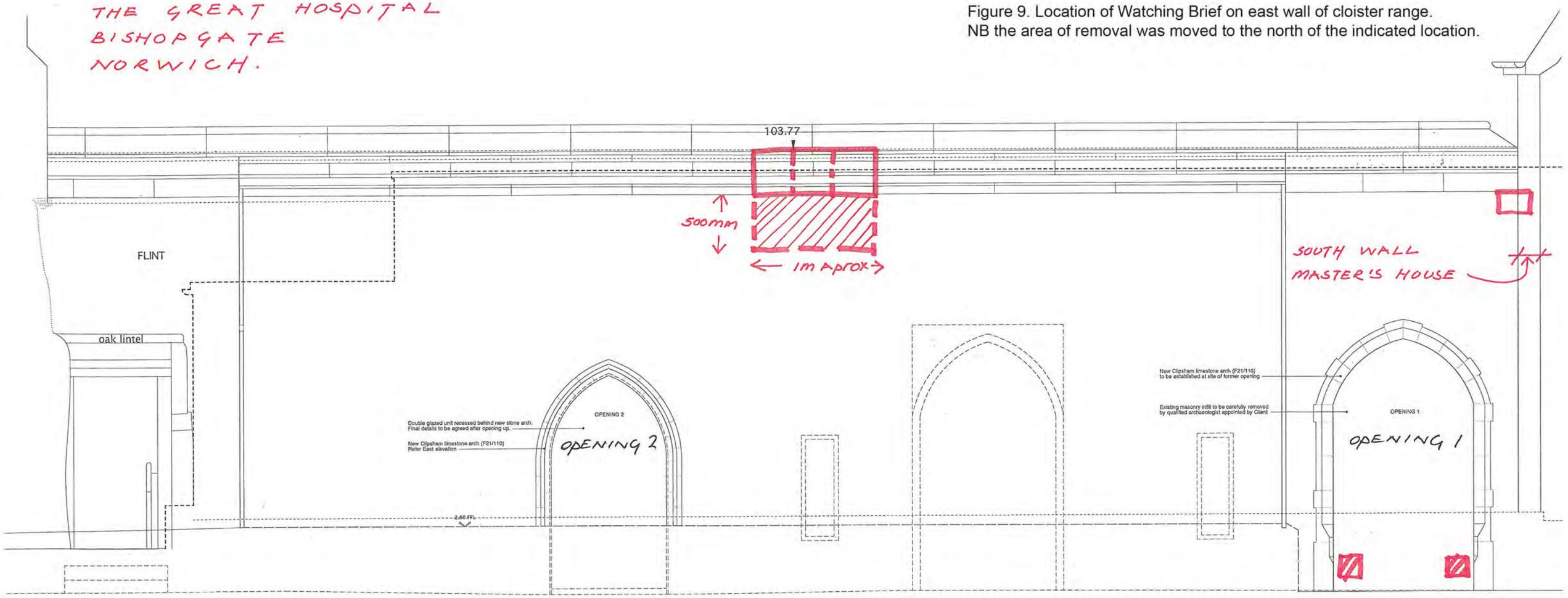
MODERN RENDER ON BRICKWORK.

MODERN BRICKWORK APPROX 230mm IN THICKNESS.

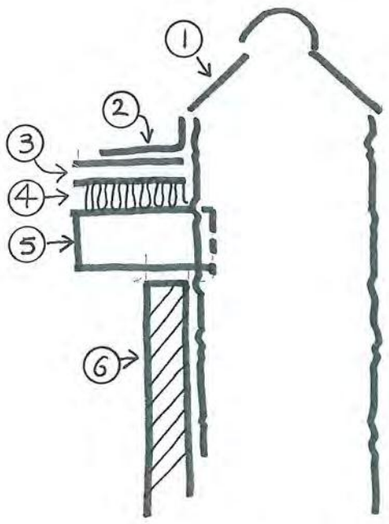
GREAT HOSPITAL COMMUNITY HALL

THE GREAT HOSPITAL
BISHOPGATE
NORWICH.

Figure 9. Location of Watching Brief on east wall of cloister range.
NB the area of removal was moved to the north of the indicated location.



EAST FACING WALL ELEVATION
SCALE 1/20



SECTION AT WALL.

The Great Hospital - Cloister Wall & Wall to Master's House
Further investigation as discussed 6/09/12

To medieval wall - for a length of aprox 1 metre long carry out the following:-

1) Remove clay tiles (as necessary)
2) Remove bituminous felt
3) Carefully break away topping screed
4) Remove cork insulation board
5) Cut projecting remains of concrete flat roof in to sections aprox 300mm long using hand held angle grinder. Carefully break away sections.
6) Carefully take down modern brickwork (where flat roof now removed) reducing the height by aprox 500mm.

To south wall of Master's House - carry out steps 2, 3 and 4 above and await further instruction.

To opening 1 - at base of existing arch form 2 number aprox 250 x 250mm holes through full width of infill.

General notes:-

1) Archaeologist to be in attendance as work proceeds.
2) All procedures to be carried out so as to minimise vibration as much as possible.
3) Set aside removed materials.
4) Protect all work from water ingress.

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11-09-12

parallel to the inset, and might have been part of or associated with its use. These features were overlaid by a compacted mix of sand and mortar [52] which seemed to infill these remains.

Two probable floor levels associated with the use of the range building were identified in evaluation Trench 5. The first ([62]) has already been described above in relation to wall [44]. A second ([47]) was present to the south of wall [44]. This deposit consisted of ferruginous sand at least 0.17m in depth - the iron content of this sand appeared particularly high. This deposit had a distinctive appearance, and could be seen adhering to the north elevation of wall [44]. A similar, if not the same deposit could be seen to overly part of the southern element of wall [51]. Here it was almost solidified from the concentration of iron present in the sand.

Two areas of infilling [46] and [50] seemed to be associated with possible doorways between walls [42] and [44], and walls [42] and [51] respectively. The first of these [46] overlapped both walls [42] and [44] and was built of brick set in a pale yellow lime mortar. One possibility is that brick was part of a surface perhaps laid over sand [47], or a set of steps to a possible lower level to the north, or even a replacement threshold. Context [50] seemed to be a short length of wall built from flint cobble with a length 0.75m and width of 0.34m inserted between two earlier walls.

To the north of wall [44] a large tip of material ([41]) is thought to have been laid down to infill the areas contained by walls [44] and [42]. This material appeared to consist of sorted mortar waste that contained few fragments of brick or larger flints. A strap loop of medieval date was metal detected from this deposit.

Cutting [47] was a medium sized pit [49] which contained building debris, and to the east of walls [42] and [44] was a firm silt-sand [63] thought to be a later (post 17th-century?) deposit. Overlying all of the walls and surfaces was layer [40] comprising modern overburden.

Figure 8 shows the area of excavation and masonry within it combined with the proposed new build.

5.6 The Watching Brief

Figures 2 (location) and 9; Plates 8 and 9

A watching brief was undertaken on the demolition of a laundry block constructed after the Second World War against the east wall of the east wing of the cloister.

Plate 8. Watching Brief, demolished laundry block, looking west

Plate 9. Detail of wall following removal of render at north end of east cloister wall, looking west, 0.50m scale

The main aim of the Watching Brief was to monitor the removal by contractors of render applied to the east elevation of the cloister as part of the redevelopment. Removal of the render (see Fig. 8 – NB the area of removal was moved to the north of the indicated location) revealed neatly constructed courses of slim bricks which might be a facing of the suspected mid 15th-century construction of the cloister.

6.0 FINDS

by Rebecca Sillwood

Finds were processed and recorded by count and weight, and an Excel spreadsheet was produced outlining their broad dating. Each material type has been considered separately and is presented below organised by material.

A list of all finds by context can be found in Appendix 2a.

6.1 Pottery

Ten fragments of pottery were recovered from the same deposit - modern overburden [40]. This pottery, considered residual, covers a period from the 12th century through to the 19th century.

The earliest piece found is a body sherd of highly micaceous coarseware (MCWM), which dates from the 12th-14th centuries.

Three pieces of late medieval and transitional wares (LMT) were also recovered, including two probably from the same, or similar, vessel. A large piece of the base from a bowl, with decorative crimping on the interior and dark green glaze on both the interior and exterior surfaces was found. A smaller body sherd was also found, with the same glaze only on the interior. Both pieces have a pinkish-orange fabric, with the larger piece having a reduced mid grey core. A rim sherd of orange fabric with light coppery green glaze on the interior was recovered alongside the other pieces, and is also LMT, probably from a jar or bowl. These pieces date from the 15th-16th centuries and formed a cross-over between the forms and styles of the medieval period, through to the full-blown earthenwares of the post-medieval period (Jennings 1981, 61).

Of the post-medieval wares the largest group is formed by glazed red earthenwares, with four pieces in total. Three of the pieces have a bright orange fabric, with one piece slightly paler, more pink than orange. This paler piece is part of a pipkin, consisting of a rim sherd with the stub of a handle still present protruding from the body. The outer edge is ribbed around the upper portion, and the underside heavily sooted. The interior is glazed in a yellowish-green colour, with spots of the same glaze on the exterior. All three of the other pieces are handles, with small proportions of the body of the vessels still present. Two pieces have a speckled brown glaze and the other has an orange glaze. The two brown-glazed examples are large enough handles to also be from pipkins, and the smaller piece may be the handle of a mug or small jug.

A piece of the base of a probable German stoneware jug (GSW4) was also recovered, and is possibly from the Frechen area of Germany. The piece consists of part of the base and body, of grey fabric with speckled brown salt-glaze on the

exterior and a matt brown ‘orange-peel’ effect glaze on the interior (Jennings 1981 121, no. 817). This type of pottery dates to the 16th-17th centuries.

A fragment from the base of an iron-glazed black ware (IGBW) vessel was found. The fabric is bright pinkish-orange, with thick black glaze on both interior and exterior of the piece. This type of ware dates to around the 17th-19th century.

6.2 Ceramic Building Material

A single fragment of medieval brick was recovered from north-south range wall [42].

The piece is incomplete, although the width is measurable at 116mm, and the thickness is 46mm. The fabric is poorly mixed estuarine clay, green in colour, with frequent ferrous inclusions. Three of the surfaces are covered in a creamy-white mortar. This piece is an Early Brick, and its measurements place it in Drury’s (1993 164) Early Brick 2 (EB2) range. Most of the bricks in this group are broadly dated from the 13th through to the 15th century.

6.3 Clay Tobacco Pipe

Four fragments of clay pipe, two bowls and two stem fragments, were recovered from modern overburden [40].

The two bowls (one complete, one almost complete) are of different types and are both reasonably early. The first example has a flat circular heel, with the remains of milling around the rim, and is reasonably straight sided; this fits into the Type 10 of the DUA Type Series (Grove 1984), dating to *c.*1640-1660. The second bowl is incomplete, slightly bulbous, and has a slight heel which is a pointed oval in shape with remains of milling around the rim. This example is similar to those of type 11/12 in the DUA Type Series, although this type is said to have a heart-shaped heel, which the Great Hospital example does not, although the oval shape may simply be a worn or badly formed heel. These examples are said to date to *c.*1640-1670.

The two stems were undiagnostic and undecorated and can only be broadly dated to the post-medieval period.

6.4 Metal Finds

6.4.1 Copper Alloy

A total of five objects of copper alloy were recovered from two contexts.

Modern overburden [40] produced three objects; a post-medieval jeton, a medieval mount and a pierced sheet fragment of unknown date.

The jeton is heavily encrusted with corrosion, which obscures all of the detail of the piece, and means that it can only be postulated to be of post-medieval date.

The mount is probably from a belt fitting, and is a rectangular sheet with four rivet holes, one in each corner, and with a larger central hole. The piece probably formed part of a two-piece set of sheets, with a belt or strap secured between with rivets. A similar example has been recovered from Norwich (Margeson 1993, 39, fig. 22, no. 266) which dates between 1300 and 1410.

The irregular sheet fragment has one corner very roughly pierced. The purpose and date of this piece is unknown.

Mortar layer [41] produced two copper alloy objects; a strap fitting of medieval date and a mount or fitting.

The strap fitting is more specifically a strap loop, used to hold down loose parts of a strap, such as in a belt, stirrup or similar. The object is five-sided with two separate (missing) rivets, which would have projected internally to the frame. The frame measures 20mm by 32mm, and has bevelled outer edges. These objects are a reasonably familiar find of the medieval period, and probably would have been worn regularly, and by all walks of society. The only slightly unusual point about this example is that there are two rivet holes in the flat side of the frame, whereas more commonly there is only one, although this is probably because it accommodated a larger size of strap. Only one parallel for this object has been identified - a slightly smaller example from Hampshire recorded on the *Portable Antiquities Scheme Database* (PAS Ref. HAMP-D4FF94, http://finds.org.uk/database). The piece is probably of later 14th-century date.

The other object from layer [41] is a possible mount or fitting of some kind. The copper alloy part is stuck very solidly to what is either wood or badly-corroded iron, and this may be part of whatever it was that the piece was securing. The piece is very worn and corroded, although it seems to comprise of a roughly square sheet with a centrally pierced hole, with a rectangular strap leading from one edge, curving around the wood/iron. The piece looks similar to a hinge fitting, or even a book mount, although it is not possible to say with any certainly the true function of this piece.

6.4.2 Lead

Eleven items of lead were recovered from modern overburden layer [40]; all of which remain undated and some are also of unknown function. One piece, which appears to be a weight, is a discoidal example, weighing 71g (2½ oz). The rest of the pieces are not functionally diagnostic and include several probable waste off-cuts, two pierced sheets and rough tubes or cylinders. A small coil of sub-rectangular sectioned lead is possibly another off cut, and was coiled neatly probably for melting down at a later date.

6.4.3 Iron

A single iron nail was recovered from modern overburden [40], although the piece is heavily corroded and not likely to be modern. The exact date of the piece remains unknown.

6.5 Finds Conclusions

The finds from the Great Hospital evaluation came mainly from layer [40], interpreted as modern overburden, and include objects from the medieval and post-medieval periods. No finds earlier than 12th century were recorded, and those of this date comprise a single piece of pottery and belt/strap fittings. All of these pieces are reasonably common finds from urban archaeological sites, and add to the general background knowledge of the area. The finds of later date are domestic in nature, with pottery sherds from domestic cooking vessels and equipment and clay tobacco pipes. The recovery of a medieval brick fragment

from north-south wall [42] fits neatly with what is known already of the Hospital and its development.

7.0 ENVIRONMENTAL EVIDENCE

by Dr Frances Green

7.1 Organic sediment [59]

Dark organic-rich sediments were observed below a chalk raft laid down prior to construction of the Great Hospital. The depth of these deposits coincided with the modern water table and they were sampled below the water to assess the potential of the deposits for further work.

The necessity of sampling below the water table and collecting in a large sampling tub did not allow a stratified sample to be observed. The sediments collected were principally dark grey soft silt with sand which contained occasional sub angular and sub rounded flint pebbles up to 6cm and small blocks of chalk together with wood and small charcoal fragments. Within this silt were occasional lenses of coarse sand and grit. There were medium sized blocks (5-8cm across) of a dark brown fibrous mat of organic material full of stems and plant well preserved plant remains. These blocks of fibrous peaty sediments were likely to have been derived from a distinct layer or layers which were disturbed during sampling.

Sub-samples of deposit [59] were sieved and also examined under a microscope and the results are described below.

7.1.1 Sieving

Samples of the silt were sieved through a 100μm sieve and small fragments of burnt bone- probably small bird bone and an unidentifiable fragment of burnt larger mammal bone were found. Other finds included part of a pot rim and three worked wood fragments (*c.*10cm long). Two of the wood fragments were consistent with being waste wood from sharpening the point of a small stake. Coincidentally a line of closely spaced stakes were observed during the machining of the site (Steve Hickling, pers comm.).

Sieving of the organic mats of sediments revealed the stems were largely either large grasses or rushes growing on the waterlogged soils or alternatively some may have been straw dumped from domestic use as flooring. Interestingly there was no sign of reed (*Phragmites*) which would be expected if the site was extreme marginal land and not put to any use. The grasses were jumbled and did not appear to be the remains of faggots which could have been used to stabilise the ground and trap sediments for raising land levels.

7.1.2 Microscopic fraction

A small sample of a mix of both the silt and organic mat were mixed in water and swirled. A drop of the supernatant was placed on a slide and a coverslip placed on top and observed at x400 magnification.

The microscopic remains were dominated by small fragments of stems and blobs of amorphous organic material. There were also frequent small woody fragments present in the deposit and charcoal

No attempt has been made to clear the sample and no pollen was observed. A few diatoms were found most of which were *Hantzschia amphioxys* and are typical of soils rather than fully aquatic environments. Fungal spores were also occasionally observed and some were identified as Sordiariaceae-a fungal type which is associated with animal dung.

7.1.3 Summary

The organic sediments that were examined had been deposited prior to the building of the Great Hospital in *c.*1249 and hold a rare environmental record of this period.

The silts were deposited as overbank deposits from the River Wensum in flood settling out over the flood plain. Occasional higher energy floods also carried coarse sand and grit to the site. Some domestic rubbish appears to have been dumped onto this occasionally flooded site.

The organic fibrous peat deposits show no evidence of being in its growing position (at least in this sample). The material is therefore either detrital local material which had grown on the floodplain, or dumped domestic flooring waste acting as a mat prior to the emplacement of the chalk raft.

The presence of soil diatoms and possibly fungi associated with animal dung strongly suggests that the sediments are derived from grazing grassland/water meadow at or close to the water table which was occasionally flooded. Rushes or grasses identified in the fibrous peat may be from such a water meadow.

The sediments of this probable water meadow are likely to have been altered immediately prior to the building of the Great Hospital with the intrusion of chalk and flint from building material. The limited amounts of animal bone and charcoal may be rubbish produced during the construction of the building. The working of wood – resulting in wood chips being found in the underlying sediments may also be associated with the emplacement of fencing prior to construction of the building or from an earlier event on the water meadow.

It is rare to have waterlogged deposits of this pre-1249 date. The preservation of organic remains (worked wood) and the presence of microfossils such as diatoms, fungal spores and possibly pollen provides good potential for further more detailed work on these unusual deposits.

8.0 CONCLUSIONS

Trenches 1-4 of the five excavated to evaluate an area of the Great Hospital in Norwich revealed little of archaeological interest; a wall of possible early post-medieval date in Trench 3 is considered to be the most significant finding from these trenches. The area examined by the evaluation trenches lies close to the River Wensum (*c.*90m to the north) and an area to the east in the vicinity of Cow Tower known as Cowholme, the name Holm associated with an area of grazing land or watermeadow, with Cowholme first mentioned by name in the mid-13th century (Sandred and Lindström 1989). That this low-lying meadow or marshy area extended as far south as the church of St Helen seems to have been demonstrated by the nature of basal deposits revealed within Trench 5.

Based on this, Trenches 1-4 would appear to have examined an area of low-lying grazing land, perhaps subject to periodic flooding and therefore not suitable for occupation. It is considered unlikely that any wide-scale consolidation of this area occurred before the foundation of the Great Hospital, and it is suggested that that reclamation of this area did not occur until perhaps the post-medieval period, which would broadly correspond to the dating of the remains seen in Trenches 3 and 4. The excavated levels in the base of these trenches at *c.*1.55m OD are above the heights of what are interpreted as medieval make up deposits seen in Trench 5 - the upper surfaces of which appeared to lay at *c.*1.09m OD (for deposit [55])

Trench 5 provided the most significant findings of the evaluation. What appeared to be the survival of remains predating the medieval construction of the hospital were identified as context [59], an organic mud. The significance of this deposit is that it can both be placed chronologically as predating the Hospital, and also tentatively identified as having formed part of Cowholme, the area of water meadow grazing. The survival of organic remains in this context is considered to have a great potential for understanding and reconstructing the prevailing environmental conditions at the precise time it was sealed in the mid-13th century.

The earliest structural remains encountered in Trench 5 seem to identify the reclamation of the waterlogged, low lying land discussed above as context [59] by the dumping of chalk and mortar. This material is considered part of the earliest construction of the Hospital complex so presumably dates to *c.*1249. This material seems to have provided a stable level on which the masonry described below was constructed.

What is thought to be the earliest masonry recorded in Trench 5 consisted of two walls ([51]) interpreted as the remnants of a chapel attached to the north wall of St Helen's church. It is possible the western return of this chapel survives today, incorporated within the north end of the east wall of the cloister. While the occurrence of brick in both the elevation of one of these walls and a thickened corner might identify a later addition or repair, the occurrence of small brick fragments within the core of one of these walls requires some explanation, as this would be taken to indicate a post-early 1300s construction date, as brick is not generally considered widespread in use before this (Ryan 1996). The time span for constructing a building as large as St Helen's church is difficult to gauge, but if an allowance of 50 years is taken as an example, this would mean brick use was

becoming current towards the end of construction, so that its presence in part of the possible primary build is not necessarily problematic.

Evaluation Trench 5 also recorded remains of a range building located along the east wing of the cloister, in particular the substantial wall which would have formed the east elevation of this range. The presence of such a range had been speculated before the evaluation, as the presence of three now blocked in doors in the east wall of the cloister were evidently for access to a building beyond. Based on the location of this range and the ornate nature of one the doors leading to it (see Fig. 9) it is thought likely that the range was occupied by the chapter house for the Hospital, the meeting place for the ecclesiastical order of the hospital

The walls revealed in Trench 5 and possible floor [62] at the north end of wall [42] appeared to have been destroyed to a depth of *c.*1.85-1.95m OD, below which height these remains seemed to survive intact.

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The finds were processed, recorded and reported on by Rebecca Sillwood. Dr Frances Green reported on the environmental evidence.

The report was produced by David Dobson and edited by Jayne Bown

Bibliography

Drury, P.J.	1993	'Ceramic Building Materials' in Margeson, S. *Norwich Households.* East Anglian Archaeology No. 58, pp. 163-164
Grove, J.	1984	*Guide to the DUA Clay Tobacco Pipe Type Series.* Museum of London Department of Urban Archaeology
Jennings, S.	1981	*Eighteen Centuries of Pottery from Norwich.* East Anglian Archaeology No. 13
Margeson, S.	1993	*Norwich Households.* East Anglian Archaeology No. 58
Sandred K, and Lindström , B.	1989	The Place Names of Norfolk Part 1 The Place Names of the City of Norwich English Place Name Society
Ryan, P.	1996	Brick in Essex *From the Roman Conquest to the Reformation*. Published by P Ryan.
Underdown, S.	2000	Report on a watching brief at Bishopgate Great Hospital NAU Report 542 (unpublished)

Appendix 1a: Context Summary

Context	Category	Cut Type	Fill Of	Description	Period	Trench
1	Deposit			Brick rubble and silt sand	Modern	
2	Deposit			Black silt sand	Modern	
3	Deposit			Thin chalk layer	Modern	
4	Deposit			Black silt sand	Modern	
5				Void		
6				Void		
7				Void		
8				Void		
9				Void		
10	Cut	Construction		Construction cut	Post-medieval	3
11	Masonry		10	Wall	Post-medieval	3
12	Deposit		10	Fill of construction cut	Post-medieval	3
13	Deposit			Demolition debris	Post-medieval	3
14	Cut	Linear		Linear cut ?	Post-medieval	3
15	Deposit		14	Fill	Post-medieval	3
16	Deposit			Chalk floor?	Post-medieval	3
17	Deposit			Flood deposit?	Post-medieval	3
18	Deposit			Silt layer	Post-medieval	3
19	Masonry			Pad	Post-medieval	3
20	Deposit			Layer	Post-medieval	3
21	Deposit			Layer	Post-medieval	3
22	Deposit			Layer	Post-medieval	3
23	Deposit			Floor?	Post-medieval	3
24	Deposit			Spread	Post-medieval	4
25	Deposit			Floor?	Post-medieval	4
26	Deposit			Floor?	Post-medieval	4
27	Deposit			Spread	Post-medieval	4
28	Cut	Pit		Pit	Post-medieval	4
29	Deposit		28	Pit fill	Post-medieval	4
30	Deposit			Layer	Post-medieval	4
31	Deposit			Layer	Post-medieval	4
32	Deposit		38	Dump	Post-medieval	4
33	Deposit			Layer	Post-medieval	4
34	Deposit			Layer	Post-medieval	4
35	Deposit			Layer	Post-medieval	4
36	Deposit			Layer	Post-medieval	4
37	Deposit			Layer	Post-medieval	4
38	Cut	Pit		Rubble filled pit	Post-medieval	4
39	-	-		Unallocated	-	5
40	Deposit			Modern overburden	Modern	5

Context	Category	Cut Type	Fill Of	Description	Period	Trench
41	Deposit			Mortar layer	Post-medieval	5
42	Masonry	Wall		North south range wall	Medieval	5
43	Cut	Construction	42	For wall 42	Medieval	5
44	Masonry	Wall		East-west wall	Medieval	5
45	Cut	Construction	44	For wall 44	Medieval	5
46	Masonry			Infilling or floor between 42 and 44	Medieval	5
47	Deposit			Make up for floor?	Medieval	5
48	Deposit		49	Rubble filled pit	Post-medieval	5
49	Cut	Pit		Medium sized pit	Post-medieval	5
50	Masonry	Wall		Infilling 42 and 51?	Medieval	5
51	Masonry	Wall		Walls south of 42, part of chapel?	Medieval	5
52	Deposit			Infill of niche in wall 44	Medieval	5
53	Deposit			Layer	Medieval	5
54	Deposit			Layer	Medieval	5
55	Deposit			Trampled surface? Or flood?	Medieval	5
56	Deposit			Silt layer	Medieval	5
57	Deposit			Chalk raft/make up	Medieval	5
58	Deposit			Chalk and mortar make up	Medieval	5
59	Deposit			Organic mud	Medieval	5
60	Deposit			River Terrace gravels	Undated	5
61	Masonry	Pad		Mortar pad with wall 44	Medieval	5
62	Deposit			Ash spread over floor, north end of wall 42	Medieval?	5
63	Deposit			General layer to east of walls 42 and 44	Post-medieval?	5

Appendix 1b: OASIS Feature Summary

Period	Feature	Total
Medieval	Wall	4
	Construction cut	2
	Pad	1
Post-medieval	Construction cut	1
	Pit	3
	Linear feature	1

Appendix 2a: Finds by Context

Context	Material	Qty	Wt	Period	Notes
40	Clay Pipe	4	43g	Post-medieval	Bowls x 2; Stems x 2
40	Copper-Alloy	1	1g	Post-medieval	Jeton; D25; encrusted
40	Copper-Alloy	1	1g	Medieval	Belt mount; L29 W15
40	Copper-Alloy	1	11g	Unknown	Pierced sheet fragment
40	Iron	1	26g	Unknown	Nail
40	Lead	4	66g	Unknown	Offcuts/Waste fragments
40	Lead	1	6g	Unknown	Coiled offcut/strip
40	Lead	2	209g	Unknown	Irregular cylinders
40	Lead	1	91g	Unknown	Unidentified object
40	Lead	2	8g	Unknown	Pierced sub-circular sheets (possibly fit together)
40	Lead	1	71g	Unknown	Weight
40	Pottery	1	8g	Medieval	
40	Pottery	3	201g	Med./Post-Med.	
40	Pottery	6	398g	Post-medieval	
41	Copper-Alloy	1	4g	Medieval	Strap loop; L20 W32
41	Copper-Alloy	1	15g	Unknown	Mount/Fitting; ?wood adhering
42	Ceramic Building Material	1	727g	Medieval	Brick fragment; W116 T46

Appendix 2b: Oasis Finds Summary

Period	Material	Total
Medieval	Ceramic Building Material	1
	Copper-Alloy	2
	Pottery	1
Med./Post-Med.	Pottery	3
Post-medieval	Clay Pipe	4
	Copper-Alloy	1
	Pottery	6
Uncertain	Copper-Alloy	2
	Iron	1
	Lead	11