ARCHAEOLOGICAL SOLUTIONS LTD

4-8 BER ST, NORWICH, NORFOLK
TRIAL TRENCH EVALUATION

Authors: Tom Woolhouse MA AIFA (Fieldwork and report) Adam Dyson BA (Fieldwork) Graphics: Caroline George MA	
NGR: TG 2324 0821	Report No: 3217
Borough: Norwich City	Site Code: 51618
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Archaeological Solutions Ltd, 98-100 Fore Street, Hertford, SG14 1AB.
Tel: 01992 558170 Fax: 01992 553359 E-mail: info@ascontracts.co.uk Web: www.archaeologicalsolutions.co.uk
Registered Number: 4702122

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Project dates (fieldwork)	*1st July – 20th October 2008*		
Previous work (Y/N/?)	*N*	Future work (Y/N/?)	*?*
P. number	*P3155*	Site code	*51618*
Type of project	*Trial trench evaluation*		
Site status	-		
Current land use	*Car park/ taxi rank to rear of street front businesses*		
Planned development	*Pre-application; possible residential apartments*		
Main features (+dates)	*Medieval (12th – 14th century) backyard features (wells, rubbish pits, ditches), large late medieval (c. AD 1400) building, late medieval to early post-medieval furnaces, early post-medieval yard surfaces and rubbish pits*		
Significant finds (+dates)	*Re-constructible pottery vessels, copper-alloy objects (e.g. pins, brooch fittings), furnace lining/ crucible fragments (all medieval to early post-medieval)*		
Project location			
County/ Borough/ Parish	*Norfolk*	*Norwich City*	-
HER/ SMR for area	*Norfolk HER (Gressenhall)*		
Post code (if known)	-		
Area of site	*1253m²*		
NGR	*TG 2324 0821*		
Height AOD (max/ min)	*29.01 – 28.07m OD*		
Project creators			
Brief issued by	*Ken Hamilton, Norfolk Landscape Archaeology*		
Project supervisor/s (PO)	*Tom Woolhouse*		
Funded by	*Commissioned by Chaplin Farrant Ltd on behalf of their clients*		
Full title	*4 - 8 Ber Street, Norwich, Norfolk: Trial Trench Evaluation*		
Authors	*Woolhouse, T. & Dyson, A.*		
Report no.	*3217*		
Date (of report)	*November 2008*		

4 - 8 BER STREET, NORWICH, NORFOLK
TRIAL TRENCH EVALUATION

SUMMARY

Between July and October 2008, Archaeological Solutions conducted an archaeological trial trench evaluation to the rear of Nos. 4 - 8 Ber Street, Norwich, Norfolk (NGR TG 2324 0821). The site is located in an area of Norwich city centre which is known to have been occupied since the late Saxon period. No. 8 Ber Street is a listed 16th-century inn with a surviving carriage entrance. Four trial trenches were excavated, with the aim of characterising any archaeological remains present on the site. The evaluation was intended to inform decision-making regarding the possible purchase of the site for residential development.

The trenches revealed a deep, stratified sequence of medieval and post-medieval remains dating from the 12th century onwards. A range of well-preserved 12th to 14th-century 'backyard' features including burgage plot boundary ditches, rubbish pits and wells were encountered. More significant were the flint and brick foundations of a substantial high-status late medieval building, located towards the rear of the site (Trench 4). The building was probably constructed around AD 1400 and contained a sequence of beaten clay floors, partition walls and occupation layers. Two probable furnaces were also present in Trench 4, the earliest of which was located inside one room of the medieval building. Abundant fragments of re-deposited furnace lining in Trench 1 indicate that bronze working also took place in other areas of the site. Frequent finds of small copper alloy objects, including pins and brooch fittings, suggest some of the items which were being manufactured. This industrial activity probably spanned the 14th to 16th centuries. There was less evidence of past activity towards the north-east corner of the site (Trench 2). However, part of a human skull lying on the surface of the natural clay at the bottom of the trench might indicate the presence of medieval or earlier graves in the vicinity.

1 INTRODUCTION (Figs. 1 & 2)

1.1 Between 1st July and 20th October 2008, Archaeological Solutions Ltd (AS) carried out an archaeological trial trench evaluation to the rear of Nos. 4 - 8 Ber Street, Norwich, Norfolk (NGR TG 2324 0821; Figs. 1 and 2). The evaluation was commissioned by Chaplin Farrant Ltd on behalf of their clients, in advance of the possible purchase of the site for residential development. The evaluation was conducted in accordance with a Brief issued by Norfolk Landscape Archaeology (NLA) (K. Hamilton, dated 26/04/07) and a Specification compiled by AS (dated 15/04/08). The investigation complied with the Institute for Archaeologists' (IFA) *Code of Conduct* and *Standard and Guidance for Archaeological Field Evaluations* (revised 2001), as well as the *Standards for Field Archaeology in the East of England* (East Anglian Archaeology Occasional Paper 14, Gurney 2003).

1.2 The site lies in the core of the medieval city, within the Area of Main Archaeological Interest, as defined in policy HBE 3 of the Norwich City Local Plan (November 2004). The aim of the trial trenching was to characterise the

archaeological remains on the site, with the purpose of allowing informed decision-making regarding any future development proposals for the site. The specific objectives of the evaluation were to determine the presence/ absence, date, extent, state of preservation and significance of any archaeological layers or subsoil archaeological features.

2 DESCRIPTION OF THE SITE (Figs. 1 & 2)

2.1 The site is located in Norwich city centre. It lies to the rear of Nos. 4 - 8 Ber Street and forms a roughly rectangular plot (with two small extensions to the north-east and north-west) extending back (eastwards) for approximately 50m from the businesses at the street frontage. It encompasses a total area of 1253m². It is bounded to the north by the car park of the Woolpack Inn, to the south by a garden centre and to the east by a light industrial building. It is currently in use as a taxi rank and private car park, with numerous brick outbuildings running along the spine of the site. Ber Street runs along a south-east to north-west aligned chalk ridge 400m west of the river Wensum. The site is on top of this ridge, at a maximum elevation of *c*. 29m OD. It slopes down slightly to the west, towards the Ber Street frontage. The solid chalk geology is overlain by sand and gravel, capped in places with clay (Norwich Crag).

3 BACKGROUND (Figs. 3 - 9)

3.1 Prehistoric activity in this area of the later city is attested by a Neolithic polished flint axehead found 250m north-east of the site (HER[1] 254). An evaluation on Surrey Street, to the south-west, also found flint tools, in addition to possible Iron Age pottery (HER 26400). Remains of transient occupation, including a possible circular shelter, have been identified a few kilometres west of Norwich in Bowthorpe, indicating that the valleys of the Yare and Wensum were exploited by Neolithic hunter-gatherers (Percival 2002). By the Bronze Age, there are signs of a more settled population in the area. An evaluation 100m south of the site found a Bronze Age round barrow (HER 45439), thought to be the only one found within the city (although early 20th century records suggest that another may have originally existed close to Thorpe Station).

3.2 It has been suggested that Roman *Venta Icenorum*, 5km south of the site, was built on the site of a major late Iron Age settlement or *oppidum* (Davies 1996, 80). Ber Street is one of the oldest roads in Norwich and may, in fact, run along the line of the Roman road which ran north from the civitas capital as an extension of the Pye Road. Several Roman finds close to the site, including pottery (HER 90, HER 539 and HER 8) and coins (HER 820), could indicate Roman roadside settlement.

3.3 The fate of the Norwich area following the withdrawal of the Roman army and the abandonment of the town and administrative centre at *Venta Icenorum* is obscure. A 5th/6th century cremation cemetery at Eade Road (Green and Young 1981, 9, fig. 6) and a 7th century graveyard at Harford Farm (Penn 2000) indicate a level of early Anglo-Saxon activity, but remains of the settlements inhabited by these people have

[1] Norfolk Historic Environment Record No.

not yet been found (Ayers 1994, 22). Substantial quantities of Ipswich ware found on various sites across Norwich suggest the presence of settlements in the area by the 8th century. In addition, a number of street and area names in the city have middle Saxon origins, including Westwick, Conesford, Northwic and Coslany. However, attempts to locate these early settlements, let alone establish whether they were anything more than isolated farmsteads, have so far met with limited success (Evans and Atkin 2002, 236).

3.4 From *c.* AD 870 to 917, proto-urban Norwich was under Viking control. The city's Scandinavian heritage is reflected in numerous surviving street names and church dedications, but understanding of the impact of the Viking settlers and their contribution to the city's development is limited (Ayers 1994, 25). Excavations on St George's Street have revealed the ditch of the fortified 10th century *burh*, the outline of which can still be traced in the topography of the streets north of the river Wensum. It remains unclear whether the *burh* was created during the period of Scandinavian rule (Ayers 1994, 27), or was an English creation following the West Saxon re-conquest of East Anglia (Evans and Atkin 2002, 237). Between Edward the Elder's re-conquest in 917, and 1066, Norwich grew into a densely-populated urban centre. Numismatic evidence indicates that a mint was established by the second quarter of the 10th century. Settlement initially remained concentrated north of the river, but soon spread southwards in a development which displays considerable regularity and may have involved central planning in the laying out of the main streets (Atkin *et al*. 1985, 2, fig. 2; Ayers 1994, 33; Evans and Atkin 2002, 237). There is some evidence that by this time, a second set of defences had been established around the settlement on the south bank of the river (Ayers 2004, 10-11). By the Norman Conquest, Norwich was among the richest and most populous cities in England, with some 1320 burgesses recorded in Domesday Book (Williams and Martin 1992, 1057) and an estimated population of at least 5000.

3.5 The development of the Ber Street area of the city is thought to have begun before the Norman Conquest (Young and Young 1981; Fig. 4). The partial remains of a late Saxon timber building have been excavated close to the street frontage a short distance south of the present site (HER 39789). Several nearby churches, including St Michael-at-Thorn (destroyed during a Second World War air raid) and All Saints, are thought to have late Saxon origins. St John the Baptist, 60m north-west of the site, contains early post-Conquest long-and-short work. Other late Saxon timber buildings have been identified along King Street (HER 38006, HER 35170) and in advance of the Castle Mall development, just north of the site (HER 777). This area of the city saw dramatic changes following the Norman Conquest, including the imposition of the Norman castle over an area that had previously been occupied by Saxon dwellings. It is thought that Ber Street and King Street would have lain within the castle fee.

3.6 *Berstrete* is mentioned in documentary records from the 12th century and was one of the principal roads into the medieval city. The name is thought to reflect the position of the street on a ridge and may derive from the Old English *berg*, meaning 'hill' or 'mound' (Brooks 2006, 24). The site would have been well within the circuit of the late 13th/ early 14th century city walls. Previous fieldwork at 93-101 Ber Street has identified a medieval street front building and early medieval ovens/ hearths (HER 45439). Medieval and early post-medieval sand/ clay quarrying has been

identified at several sites (HER 26508, HER 39789). An excavation on the corner of Thorn Lane (100m south of 4-8 Ber St) found features associated with early post-medieval bell founding, as well as what may be the first tin-glazed earthenware kiln site in England (HER 39789).

3.7 Later in the post-medieval period, Ber St was known as 'Blood-and-Guts Street', being the only place within the city walls where cattle were slaughtered (Brooks 2006, 24). Both 4 and 8 Ber Street are listed buildings; No. 8 was originally a 16th century inn and has a surviving carriage entrance. Cartographic sources dating from 1696 to the late 18th century show the site as an open area (probably a yard) to the rear of the street frontage buildings; early Ordnance Survey maps depict numerous outbuildings on the site (Figs. 5-9).

4 METHODOLOGY

4.1 Four trial trenches were excavated (Fig. 2). These measured 4 x 4m, with the exception of Trench 1, which was reduced (with the approval of NLA) to avoid a live service running north-west to south-east across the north side of the trench. The trenches were positioned around the site, in locations approved by NLA. The site was in use as a working car park and taxi rank during the evaluation, so trench positioning was dictated to an extent by the need to maintain vehicular access. The trenches provided a *c*. 5% sample of the 1253m² site.

4.2 Modern and 19th century deposits were removed under close archaeological supervision using a 360° degree mechanical excavator fitted with a toothless ditching bucket. Thereafter, all further investigation was undertaken by hand. Exposed surfaces were cleaned as appropriate and examined for archaeological features and finds. Deposits were recorded using *pro-forma* recording sheets, drawn to scale and photographed as appropriate. Excavated spoil was checked for finds and the trenches were scanned by metal detector. Shoring was installed in all trenches to prevent collapse.

4.3 A total of 54 bulk soil samples, generally 20 - 40 litres in volume, were taken from sealed, dated contexts. Samples were taken according to a purposeful sampling strategy with the aims of investigating the past environment and economy of the site and enhancing finds recovery.

5 DESCRIPTION OF RESULTS

5.1 Trench 1 (Fig. 10; Digital Photos (DPs) 1 - 3)

Sample Section 1: West side of trench, south end, east-facing *0.00 = 28.15m OD*	
0.00 – 0.14m	L1000. Modern ground surface. Asphalt on a bed of yellow sand/ gravel.
0.14 – 0.21m	L1070. Levelling layer. Red brick rubble in loose pale yellow sandy mortar.
0.21 – 0.81m	L1051. Garden soil accumulation. Fairly firm dark grey-brown sandy silt with orange clay lenses.
0.81m+	Archaeological deposits (described below).

Sample Section 2: West side of trench, north end, east-facing *0.00 = 28.11m OD*	
0.00 – 0.10m	L1000. Modern ground surface. As above, Sample Section 1.
0.10 – 0.23m	L1070. Levelling layer. As above, Sample Section 1.
0.23 – 1.25m+	L1015. Demolition layer. Brick rubble in loose grey-brown silty sand and crushed mortar. Backfills Culvert S1035

Sample Section 3: East side of trench, west-facing *0.00 = 28.45m OD*	
0.00 – 0.14m	L1000. Modern ground surface. As above, Sample Section 1.
0.14 – 1.75m	L1011. Demolition layer. Brick rubble and large flints in loose silty sand. Backfill of cellar.
1.75 – 1.81m	L1009. Cellar floor (described below).
1.81m+	L1021. Natural sand. Firm, heavily-mineralised, pale yellowy-brown to dark orange sand with occasional small rounded quartz and flint pebbles.

Description: Trench 1 was located in the north-west of the site, immediately behind No. 8 Ber Street. The original proposed trench dimensions of 4 x 4m had to be reduced because of a live service running north-west to south-east across the north side of the trench. Removal of the modern asphalt ground surface (L1000) and a crushed brick levelling layer (L1070) revealed a north to south aligned cellar wall (M1012), which divided the trench in two. The eastern half of the trench contained part of the backfilled interior of the cellar; it was probably built in the 18th or early 19th-century and had a well-laid brick floor (L1009) with staining from use as a coal store. Several successive re-cuts of a medieval to early post-medieval burgage plot boundary ditch (F1045, F1043 and F1024) survived beneath the cellar floor, cut into the natural sand (L1021). The western half of the trench, on the outside of the cellar, contained a modern (c. 1930s?) brick culvert (S1035), cut through a late 18th to 19th-century garden soil accumulation (L1051). This sealed a small localised patch of burnt daub/ furnace lining (L1026), which may indicate the former presence of early post-medieval bronze working in this part of the site (similar to that found in Trench 4; see below). Also below the garden soil, and cut into the natural clay (L1034), were a late medieval pit (F1057) and two re-cuts of an east to west aligned late medieval/ early post-medieval plot boundary ditch (F1058 and F1056).

The north to south aligned retaining wall (M1012) of a cellar ran across the centre of Trench 1 (2.80m+ long x 0.40m wide x 1.52m deep[2]). It was constructed of large (70-150mm) flints bonded with pale yellow sandy lime mortar, rendered on both faces with pale blue-grey to white lime plaster 30mm thick. The plaster obscured some details of wall construction, but the flints were not in regular courses; the bottom of a bricked-in doorway (F1215 and L1216) was present in the middle of the wall. No construction cut for the wall was visible within the confines of the trench. It appeared that the cellar was cut through the garden soil accumulation (L1051) and natural clay (L1034) in the west of the trench and that the wall was constructed directly against the west edge of the cut. The above-ground portion of this cellar wall is shown on the 1st Edition Ordnance Survey Map (Fig. 7).

[2] In all feature descriptions, dimensions are given in the order: length x width x depth

To the east of the cellar wall was a deep (1.45m) demolition layer comprising tips of flint and brick rubble mixed with loose dark sandy silt and crushed pale grey mortar (L1011). It contained numerous glass medicine and drinks bottles, the mechanism of a carriage clock and an Fe sign advertising 'Nut Brown Tobacco', which dates to no earlier than *c*. 1910 (Website 1). The finds suggest that the cellar was deliberately backfilled in the early to mid 20th century, possibly following the Second World War bomb damage which is known to have affected the building at No. 6 Ber Street.

The demolition layer (L1011) sealed a cellar floor (L1009), present at 26.69m OD, 1.75m below the modern ground surface (DP1). The floor comprised a single layer of locally-manufactured pale to mid brownish-orange bricks with fairly regular arises and smooth faces, which could have been manufactured between the 17th and 19th centuries (Peachey, this report). The bricks were well-laid in stretcher courses, lying directly on the surface of the natural sand (L1021); they were not bonded. Black staining on the bricks and dust in the narrow gaps between them indicated use as a coal cellar. The floor extended north, east and south beyond the limits of the trench. Two clay pipe stems were found lying on top of the natural sand directly below the brick floor.

Below the cellar floor was natural sand (L1021). This was undisturbed, except at the south edge of the trench where three successive re-cuts of an east to west aligned ditch were identified (DP2). All had clearly been truncated by the construction of the cellar and only their bases survived. The earliest ditch (F1045; 1.80+ x 0.90+ x 0.18m+) had steep rounded sides and a flattish base which sloped downwards to the south-west. It contained loose light yellowish-brown clayey sand (L1046) with frequent small rounded flints, which contained a small quantity of CBM and a fragment of animal bone. The CBM fragments are from 15th to 17th-century bricks and were probably intrusive from a later re-cut of the ditch (F1024), which also contained brick of this date. A circular posthole (F1047; 0.42+ x 0.42+ x 0.19m) with straight sides and a flat base had been cut into the base of the ditch while the ditch was open. Its fill (L1048) was more or less identical to that of the ditch and contained 9g of animal bone. The ditch was re-cut by a later ditch (F1043) which had a similar profile and identical east to west alignment, but terminated halfway across the east side of the trench. The re-cut of the ditch contained firm dark reddish-brown clayey silt (L1044) which yielded a single sherd (9g) of late 12th to 14th-century grey ware. A fragment of clay pipe stem was found lying on top of the north side of the ditch, probably deriving from the construction of the cellar. The third re-cut of the ditch (F1024; 1.84+ x 0.70+ x 0.24m+) had steep straight sides and a flat base and contained a firm dark reddish-brown clayey silt. A small quantity of oyster shell and animal bone fragments, CBM (428g) and six fragments (27g) of late medieval (15th to 16th-century) pottery were present. The ditches (F1045, F1043 and F1024) probably represent successive re-cuts of a medieval burgage plot boundary running perpendicular to Ber Street.

Below the modern ground surface (L1000 and L1070) in the west side of Trench 1 was a steep-sided machine-made scoop (F1049) associated with the construction of a modern brick culvert (S1035). This had a vertical side to the east, a steeply-sloping rounded side to the south and a flat base (2.80+ x 1.20+ x 0.65m); it had been cut down to the level of the natural clay (L1034). The lower portion of the scoop contained a shallow layer of re-deposited natural clay (L1033), a compact dark grey-

brown clayey silt (L1013) and a dump of mortar (L1032 (=L1020)). One of these layers (L1013) contained residual 16th-century pottery including large, fresh pieces of Frechen and Raeren Stoneware jugs, almost certainly derived from the late medieval/ early post-medieval features truncated by the modern construction activity (Ditches F1056 and F1058 and Pit F1057; see below).

At the north edge of the trench, these layers were cut by the foundation cut (F1014) for the brick culvert itself. This was initially roughly square in plan, before becoming irregular as excavation progressed (1.45+ x 1.15+ x 0.65m+). It had near-vertical sides but was not fully excavated, so its depth was not established. Within the construction cut was a curving masonry structure (S1035; 1.40+ x 1.10+ x 1.30m+) built of machine-made coarse red bricks (M1037; 220 x 110 x 60-65mm) laid in stretcher courses and bonded with coarse dark yellowy-brown sandy mortar (L1038), which also coated the outside of the bricks. In section, it was clear that the top of the structure had originally been arched. The narrow gap between the brick structure and the construction cut (F1014) was backfilled with loose dark grey/ black silt (L1036) containing abundant ash, charcoal and re-deposited fired clay fragments (60; 1.6kg), which were almost certainly residual from earlier industrial features cut by the culvert (perhaps associated with the patch of industrial residue (L1026) in the south-west of the trench; see below). On the interior, the structure had a cement-based plaster lining *c*. 10mm thick (L1042). The north-east side of the culvert had been damaged during demolition. After the construction of the culvert and the backfilling of the gap between it and its construction cut, the remainder of the machine-made scoop associated with its construction (F1049) was backfilled with firm mid grey-brown silty sand containing frequent brick rubble, flint pebbles and mortar (L1050). The culvert itself contained a brick rubble, grey-brown silty sand and crushed mortar dump relating to its later demolition (L1015).

The machine-made cut (F1049) truncated a 0.60m deep layer of firm dark greyish-brown sandy silt garden soil (L1051). It contained no finds, but based on its stratigraphic position, it probably represents a gradual build up in the *c*. 18th century. At the south-west edge of the trench, the garden soil sealed a localised patch of burnt material (L1026). This was shallow and irregular in plan (0.76+ x 0.65 x 0.10m) and consisted of compact dark orangey-red and black burnt daub and charcoal. It was similar in appearance to an industrial layer/ possible furnace in Trench 4 (L1010; see below) and probably represented dumped waste from metalworking somewhere in the vicinity. Fifteen fragments of furnace lining (190g; in addition to numerous fragments too abraded to recover) and six fragments of copper alloy (6; 21g) were found in association. Above L1026 was a thin lens of similar burnt material (L1030; 0.95+ x 0.60+ x 0.08m) which probably represents industrial residue from L1026 that had been disturbed by garden activity in the layer above (L1051). The backfill of the construction cut (F1014) for the modern brick culvert in the north of the trench also contained abundant residual furnace lining fragments, some of which appear to derive from crucibles. It therefore seems likely that features associated with bronze working, similar to those encountered in Trench 4 (see below), originally also existed in the west of the site.

At the south side of the trench, beneath L1026, was an east to west aligned ditch (F1056) cut into the natural clay (DP3). The ditch was only partially exposed within the trench and could not be bottomed due to safety constraints (excavation ceased at

1.35m below modern ground level and space in the west side of Trench 1 was too limited for shoring to be installed). Based on the limited portion of the ditch which could be excavated, it had steep rounded sides and measured 1.80m+ x 1.05m+ x 0.50m+. The (uppermost) fill of the ditch was a firm, plastic mid brownish-grey silty clay with frequent orange clay lenses and flint inclusions (L1039 (=L1040)). It yielded a large quantity of pottery (45 sherds; 702g), peg tile (1.8kg), animal bone (1.9kg), oyster shell (24; 119g) and a Cu alloy brooch fastener (SF4). The pottery assemblage suggests a late medieval/ transitional date, probably around the early 16th century, although this fill was probably a deliberate backfill of the ditch at the end of its period of use. This ditch may have been the westward continuation of the latest of the three ditches which survived below the cellar floor in the east side of the trench. To the east the ditch was cut by a shallow pit (F1022) with moderately-sloping concave sides and an uneven base (0.90+ x 0.70+ x 0.20m). Its fill was a loose greenish-grey silty clay with moderate charcoal inclusions (L1023) which contained four iron nails (46g) and two abraded sherds (5g) of 14th to 15th-century pottery. The greenish colouration of the pit fill suggests that it had been used to dispose of cess or organic waste. It was sealed by the garden soil (L1051) and cut by the cellar wall (M1012).

On the north side of the ditch was a trace of an earlier demarcation of the same boundary. This earlier ditch (F1058) had been largely destroyed by F1056, but a *c.* 1.00m length survived. It had a steep rounded side to the north and was at least 0.40m deep (excavation ceased due to safety constraints). It contained a sequence of fills, representing alternating episodes of slumped weathered natural orange clay from the sides of the ditch (L1069 and L1067) and periods of silting (L1068 and L1059); a charcoal lens (L1066) was present beneath the upper fill. A small quantity of undiagnostic but probably 14th to 15th-century grey ware body sherds were present (in L1068).

To the north of F1058, and cut by it, was a small heavily-truncated pit (F1057) (DP3). This was oval in plan and rounded in profile (0.70+ x 0.50 x 0.15m) and contained a single fill of firm dark grey-brown sandy silt with orange clay lenses (L1041). It was cut into the natural clay. The pit contained a large assemblage of finds including 15th-century pottery (21; 403g), animal bone (689g), re-deposited furnace lining (34; 761g), slag (1; 6g) and peg tile (1kg). Both ditches (F1056 and F1058) and the pit (F1057) were cut into the natural clay (L1034) and were encountered at around 0.80m below modern ground level (*c*. 27.30m OD).

5.2 Trench 2 (Fig. 11; DPs 4-5)

Sample Section 4: North side of trench, south-facing *0.00 = 28.90m OD*	
0.00 – 0.05m	L1109. Modern ground surface. Compact gravel in dark grey-brown silty sand.
0.05 – 1.05m	L1110. Modern rubble/ made ground. Fairly loose CBM, mortar and flint rubble in light grey sand.
1.05 – 1.45m	L1111. Victorian made ground. Firm light orangey-brown clayey sand with occasional brick rubble and small flints.
1.45 – 2.25m	L1112. Garden soil. Fairly firm mid to dark brown-grey clayey silt with occasional pockets of brick rubble.
2.25m+	L1034. Natural clay. Firm, compact mid to dark orange sandy clay.

Description: Trench 2 was located in the far north-east corner of the site, 50m from the Ber Street frontage. The ground level in this area had been artificially raised with a deep dump of modern rubble (L1110), possibly during ground levelling associated with the construction of the pub car park to the west or the light industrial building to the east. Beneath this modern layer was a Victorian made ground deposit (L1111), sealing a deep garden soil accumulation (L1112) which may have begun to build up in the 17th century. The only feature in Trench 2 was the edge of a large medieval quarry pit (F1138), probably in-filled in the 15th century. To the west of the pit, and compacted into the disturbed interface with the natural clay (L1113), was a severely-truncated human skull fragment (SK1142). It is possible that the quarry pit had disturbed a grave, perhaps associated with a medieval cemetery attached to St John the Baptist Church, to the north-west. Prior to the build up of some 2.30m of overlying deposits, the original ground level in this area of the site would have sloped downwards to the north-east.

At the south side of Trench 2, beneath the garden soil accumulation (L1112), was a firm layer (2.20+ x 1.50+ x 0.15-0.20m) of mid orangey-brown sandy clay (L1113). This was initially thought to be made ground, but was probably just where the natural clay had been disturbed by garden activity in the level above. Pottery recovered from its surface indicates that the overlying garden soil began to form in the 17th century.

At the east side of the trench, and extending beyond it to the east and south, was a large quarry pit (F1138) (DP4). Based on the small portion of the pit which was revealed in the trench, it was oval in plan, with near-vertical straight sides (2.82+ x 1.58+ x 1.35m+). The base of the pit could not be reached due to safety constraints; attempts at augering repeatedly failed due to large stones and CBM rubble in the pit fill. The pit contained at least four fills, which appeared to have been tipped in from the west. The lowest identified fill (L1141) was a loose light grey silty clay with frequent charcoal and ash inclusions. It yielded a large assemblage of finds, including 1.6kg of animal bone, 28 sherds (326g) of pottery, nails, fragments of iron sheeting (17; 168g) and a Cu alloy pin (SF9). Above this was a firm mid to dark orangey-brown silty clay layer (L1140), which contained animal bone (437g) and pottery (13 sherds; 88g). This was sealed by L1162, a loose lens of light to mid orangey-brown clayey sand, probably re-deposited natural material. The final pit fill (L1139) was a loose mid to dark grey-brown silty clay, very similar in appearance to the overlying garden soil (L1112). It contained 18 sherds (170g) of pottery, 268g of animal bone and nine small iron fragments. The pit was probably dug to quarry natural sand. After its disuse, it was backfilled with rubbish. The lowest excavated fill of the pit (L1141) contained Langerwehe Stoneware and late Grimston sherds, indicating a 15th century date. The pottery from the overlying fills was of similar date, suggesting that all these tipped layers were dumped into the pit within approximately the same timeframe. As the finds from the pit reflect its abandonment and backfilling rather than its original use, the pit might be considerably earlier than the recovered finds suggest.

The quarry pit was cut through the layer of disturbed clay (L1113) in the south of the trench. Lying compacted into the top of this layer, and located immediately adjacent to the west edge of the pit, was the back of a human skull (SK1142) (DP5). It is not uncommon to find small fragments of disarticulated human bone amongst domestic

rubbish on medieval sites and the skull might therefore have been residual disarticulated charnal material which had been compacted into the surface of the natural clay by the weight of the overlying deposits. However, it is also possible that the skull represents the west end of a grave, the rest of which had been entirely destroyed by the (later) quarry pit. Although conjectural, it is possible that a medieval cemetery associated with St John the Baptist Church (to the north-west) originally extended into the site.

5.3 **Trench 3** (Figs. 12 - 13; DPs 6-9)

Sample Section 5: West side of trench, east-facing *0.00 = 28.65m OD*	
0.00 – 0.18m	L1000. Modern ground surface. As above, Sample Section 1.
0.18 – 0.42m	L1001. Made ground. Firm mid greyish-brown clayey silt containing frequent flints and brick and mortar rubble.
0.42m+	Archaeological deposits (described below).

Description: Trench 3 was located in the south-west of the site, close to the southern site boundary and the carriage entrance under No. 8 Ber Street. The earliest features were a cluster of five intercutting early medieval rubbish pits (F1250, F1248, F1245, F1239 and F1243) dug into the natural clay/ sand at the south side of the trench. Several of the earliest pits were probably 11th to 12th-century. The pits were sealed by a 13th to 14th-century garden soil (L1221), which was truncated by late medieval (14th to 15th-century) features including a possible cess pit or well (F1236). These were in turn overlain by a layer of late medieval made ground (L1209), which was cut by several rubbish pits. One of these yielded a broken but near-complete mid 16th-century green-glazed cauldron; others contained metalworking waste. With the exception of disused modern service trenches, the latest features in the trench were a Victorian wall (M1199) and two postholes, which together formed an eastward continuation of the existing lean-to building to the west of the trench. The wall foundation (M1198) incorporated several finely-carved limestone architectural fragments which appear to have been robbed from a substantial medieval building.

The modern asphalt ground surface (L1000) in Trench 3 sealed two disused modern service trenches, both of which cut a layer of made ground (L1001). The most recent service (F1211; 3.60+ x 1.04 x 1.10m) ran east to west across the north side of the trench. It had vertical sides and a flat base and contained a deliberate backfill of firm mid to dark grey-brown clayey silt with frequent stones, charcoal and modern CBM rubble inclusions (L1212). It cut a slightly earlier service trench (F1213; 2.56+ x 0.42+ x 0.52m) which ran north to south along the east side of the trench. This had steep rounded sides and a flat base and contained firm dark orangey-brown clayey silt with frequent charcoal, CBM fragments and small stone inclusions (L1214). A live electric cable and two modern postholes also cut the made ground (L1001). The postholes were positioned in line with the front of an existing lean-to building in the south-west corner of the site and probably formed part of an eastward continuation of this range of outbuildings, as shown on the 1st Edition and later Ordnance Survey maps (Figs. 7 - 9).

The made ground (L1001) sealed a Victorian brick wall (M1199), which ran northwards from the southern limit of the trench. The wall (2.00+ x 0.23 x 0.29m) survived to three courses in height and was constructed of red bricks (230 x 110 x 75mm) laid in stretcher courses and bonded with light grey ash-rich cement. The wall was constructed on a flint rubble foundation *c.* 0.18m high (M1198), which incorporated several large, dressed, fine-grained limestone blocks. The pieces have not yet been subject to full specialist analysis, but Lee Prosser (Historic Buildings Consultant, Hampton Court Palace) kindly commented on digital photos of them. One has composite roll mouldings, from a door, and is probably Tudor or late medieval; another may be the base of a capital. The carved stone fragments might have been salvaged from the substantial medieval building which was partially revealed in Trench 4, towards the rear of the site (see below). The wall terminated in line with the small lean-to building to the west of the trench, and in association with the postholes (above), probably formed a partition within an eastward continuation of this range.

Below the wall, at *c*. 0.50m below modern ground level, was a fairly firm dark grey-brown clayey silt layer containing frequent small stones and CBM fragments (L1209). It extended across the whole trench (except where it had been removed by modern service trenches) and was up to 0.30m deep. It could represent either made ground or a backyard garden soil accumulation. A Cu alloy pin (SF19), a small quantity of animal bone (317g) and 14 sherds (224g) of 15th to early 16th-century pottery, including fragments of green-glazed Ely or Surrey Border Ware, were found in the layer. The deposit was cut by a possible foundation trench (F1219), a brick drain (M1224) and five pits (F1203, F1201, F1205, F1207 and F1229).

A short, shallow linear feature (F1219; 1.80 x 0.47 x 0.13m) was located in the east of Trench 3 and was cut through L1209. It was aligned north-north-east to south-south-west, at a slight angle to the Victorian wall (M1199) just to the west. It had moderately steep straight sides and a flat base and was cut through L1209 and the east end of an earlier pit (F1207; see below). It contained a fill of loose dark reddish-brown silt with orangey-yellow clay lenses, frequent charcoal flecks and abundant fired clay fragments (L1220), which yielded two Cu alloy pins (SF17) and nine sherds (152g) of (?residual) mid 15th-century pottery, including part of a bunghole jar with finger decoration and patchy green glaze. Although the finds from this feature were almost certainly derived from a dump of metalworking waste, the feature appears to have been dug as a foundation trench for a wall. This was represented by a degraded yellowy-white mortar footing (L1200) running the length of the feature and continuing southwards, beyond the limits of F1219. The finds from the foundation trench were probably re-deposited from an earlier context disturbed during the construction of this wall footing. The foundation trench was cut by the earlier of the two modern services (F1213).

In the north-east of Trench 3, a brick drain (M1224) was cut through the 15th to early 16th-century made ground/ garden soil (L1209). It was built within a square, vertical-sided, flat-based construction cut (F1223; 0.82+ x 0.54 x 0.80m). The drain comprised two short opposing east to west walls, spaced 0.32m apart. These were constructed of 220 x 110 x 60-65mm red bricks laid in stretcher courses with 10mm joints, bonded with light yellowish-white mortar. The bricks were produced between the 17th and 19th centuries (Peachey, this report). The inside of each wall had a plaster

lining *c*. 4-7mm thick. The gaps between the masonry (M1224) and the construction cut for the drain (F1223) were filled with a firm mid to dark grey-brown clayey silt packing deposit (L1225) containing frequent charcoal and mortar fragments, which yielded a single small fragment of 19th/ 20th-century pottery. Following its disuse, the drain had been deliberately backfilled with a fairly firm dark grey-brown sandy silt containing frequent gravel and CBM fragments (L1226). The drain continued eastwards beyond the limits of the trench and was cut by both modern service trenches (F1213 and F1211).

A shallow pit (F1203) was located in the south-west corner of the trench, cutting the made ground/ garden soil (L1209). It was only partially revealed within the trench, but appeared to be roughly square or rectangular in plan, with steep rounded sides and a flat base (0.60+ x 0.56+ x 0.52m). It contained three fills. The lowest identified fill (L1228) was a loose light to mid grey clayey silt with frequent charcoal inclusions, which contained a single 15th to early 16th-century potsherd (7g) and slag (1; 12g). Above this was a loose dark reddish-brown silt (L1227). The upper fill (L1204) comprised loose mid reddish-brown silt with moderate charcoal inclusions; it yielded 242g of animal bone, four fragments of furnace lining (20g), a slag fragment (11g) and seven sherds (122g) of mid 15th to mid 16th-century pottery. The lower and upper fills (L1228 and L1204) also contained occasional degraded fired clay fragments. The finds from the pit and the composition of its fills suggest that it had been used to dispose of metalworking waste.

Another pit (F1201) was located in the centre of Trench 3, below the Victorian wall (M1199). It was roughly rectangular in plan with steep, straight sides and a flattish, slightly sloping base (0.96 x 0.65 x 0.37m). Its fill (L1202) was a loose mix of mid brownish-grey clayey silt, brick rubble and ash-based cement, identical to that used in the overlying wall. The pit was probably backfilled during the construction of the wall. A single piece (7g) of 18th to early 19th-century pottery was present.

Immediately to the east was another small pit (F1205). This was circular in plan and fairly shallow (0.50 x 0.42 x 0.30m), with a 'u'-shaped profile and a CBM rubble and cement fill (L1206). The fill was identical in appearance to that of the pit to the west (F1201), although the associated (15th to 17th-century) brick fragments might indicate an earlier date.

A fourth pit (F1207) was identified at the southern edge of the trench. It extended southwards beyond the limit of excavation. It was overlain by the Victorian wall (M1199). It was oval in plan with steep concave sides and a flattish base (1.54+ x 0.69+ x 0.19m). It contained a fairly firm mid greyish-brown clayey silt (L1208) with moderate charcoal inclusions and occasional charcoal lenses, which yielded numerous finds including a near-complete mid 16th-century green-glazed cauldron (SF16), a Frechen Stoneware jug, a Cu alloy buckle (SF18) and several glass bottle fragments (10; 46g) (DPs 7-8). The pit fill appears to represent a dump of domestic rubbish, including hearth waste.

The west edge of the pit was cut by a smaller pit (F1229), which was also overlain by the Victorian wall. This was circular in plan, with moderately-sloping concave sides and a rounded base (0.42m x 0.38m x 0.12m). It contained loose light brownish-grey

clayey silt with frequent charcoal inclusions, which yielded a small quantity of animal bone (38g).

Towards the west side of the trench, the made ground/ garden soil (L1209) was overlain by a small, shallow patch of charcoal (L1222; 0.50 x 0.36 x 0.04m). It contained a single CBM fragment (8g) and a small quantity of animal bone (22g). The patch probably represented the remains of a fire or a localised dump of hearth waste.

Beneath the 15th to early 16th-century made ground/ garden soil (L1209) was an earlier probable garden soil accumulation (L1221), generally present at around 0.75m below the modern ground surface. This was a loose reddish-brown sandy silt with frequent small stones and moderate chalk and charcoal flecks. It was present across the entire trench, except where it had been removed by modern services. It was up to 0.30m deep and contained animal bone (460g), a few fragments of peg tile and a moderate assemblage of 13th to 14th-century pottery, including glazed Grimston Ware sherds.

On the west side of the trench, the garden soil (L1221) was cut by a deep pit (F1236) (DP9). It was roughly rectangular in plan, with steep to near-vertical sides; its base could not be manually excavated due to safety constraints, but augering suggested a tapering profile (2.51 x 1.69+ x 1.72m+). The lowest identified fill (L1238) was a loose, moist, light to mid orangey-brown silty clay containing charcoal, mortar fragments and moderate stone inclusions. It contained numerous finds including animal bone (1932g), CBM (3.3kg), 62 sherds (1kg+) of pottery and a silver half-penny. The composition of the fill (L1238) suggests that it was a deliberate backfill consisting of dumped rubbish. The upper fill of the pit (L1237) was a loose light to mid orangey-brown silty clay, which again contained frequent stones and mortar fragments. It contained small amounts of animal bone and CBM and three sherds of pottery (46g). Based on its considerable depth and steep-sided profile, the pit may have originally been a cess pit or well, although its fills clearly represented the disuse and deliberate backfilling of the feature rather than deriving from its period of use. The associated pottery suggests a 14th to 15th-century date for the disuse and infilling of the feature.

To the east of the cess pit/ well, a second feature (F1231) was cut through the 13th to 14th-century garden soil horizon (L1221). It was a short linear feature with steep concave sides and a flattish base (1.58 x 0.36 x 0.28m), which ran on a roughly north to south alignment. It contained a dark greyish-brown silty clay with moderate charcoal inclusions (L1232), which yielded Cu alloy fragments, animal bone (277g), CBM (4744g) and seven sherds (188g) of 15th-century pottery. It might have been an elongated rubbish pit, but its profile suggests that it could have initially been a slot or foundation trench for a small structure. Several CBM fragments found in its fill appear to be 17th-century at the earliest; these were presumably either intrusive from the later pits (e.g. F1201) in this area, or were too fragmentary to accurately identify.

Removal of the medieval garden soil (L1221) revealed a large pit occupying much of the east and north of the trench (F1242) and a cluster of intercutting pits on the south side of the trench (F1250, F1248, F1245, F1239 and F1243). These features were present at between 1.00 and 1.10m below the modern ground level (27.55 - 27.65m

OD). Pit F1242 was a large but fairly shallow pit (3.60+ x 2.84+ x 0.65m). It was probably dug for clay extraction, as it was cut into the natural clay (L1034), but not into the underlying sand (L1021). The pit was not fully revealed within the confines of the trench, but its curving southern edge suggested a roughly circular or oval shape in plan; it had moderately steep rounded sides and a flat base. A shallow east to west gully (F1252) was recorded as being cut into the base of the pit, but it seems more likely that this was just an undulation in the base of the pit cut. The pit had a mixed fill, comprising firm light grey-brown clayey silt with orange clay lenses (L1210), containing frequent pebbles, mortar fragments and large flint inclusions. Twenty-two sherds (234g) of mid 13th to 14th-century pottery, including glazed Grimston sherds, were present, in addition to fragments of peg tile (4; 315g).

The earliest of the cluster of five pits cutting the natural clay (L1034) and sand (L1021) at the southern edge of the trench was Pit F1250. This had been heavily disturbed by later pits, but appeared to be oval in plan with steep straight sides and an uneven flat base (0.64+ x 0.78 x 0.15m). It contained firm mid orangey-brown sandy silt (L1251) which yielded 70g of animal bone and two sherds (62g) of Thetford-type pottery.

Pit F1250 was cut to the south by Pit F1248. Again, F1248 was severely truncated, but was possibly circular in plan with steep irregular sides; its base lay beyond the limits of the trench (0.68+ x 0.43+ x 1.15m+). The pit contained fairly loose mid orangey-brown silty sand with patches of orange clay (L1249). Two sherds (11g) of local medieval unglazed pottery were present and given the stratigraphic position of F1248, probably date to the 12th century.

To the west, F1248 was cut by Pit F1245. This appears to have been oval or roughly rectangular in plan, with a steep side to the east and an irregular stepped side to the west (1.24+ x 0.68+ x 1.11m+); its base lay outside the trench. The lowest identified fill, L1247, was a loose light orangey-brown silty sand containing moderate charcoal flecks, which yielded a single sherd (13g) of pottery. The upper fill, L1246, was a loose light grey-brown sandy clay with moderate charcoal and frequent stone inclusions, which contained a fairly large pottery assemblage of Thetford and St Neots-type sherds consistent with an 11th to mid-12th century date (19 sherds; 1175g).

Pit F1245 was cut by shallow Pit F1239. This was oval in plan and 'u'-shaped in profile (0.62+ x 0.79+ x 0.64m); it extended beyond the trench to the south. It contained a single fill of fairly loose mid to dark brownish-grey silty sand containing moderate quantities of small to large flints (L1240). A small amount of animal bone (212g) and 11 sherds (116g) of 12th - 13th/ 14th century pottery were present.

Pits F1239 and F1245 were cut to the west by F1243, a large ?pit which was partially revealed in the south-west corner of Trench 3. It had a steep stepped edge to the east and a flattish base (1.34+ x 0.82+ x 0.72m) and contained a variable fill of light to mid orangey-brown sandy silty clay with moderate mortar, charcoal and flint inclusions. It yielded a few fragments of animal bone (86g), eight sherds (74g) of pottery and a piece of peg tile. The pottery was abraded, but probably 13th - 14th century.

5.4 Trench 4 (Figs. 14 - 18; DPs 10-16)

Sample Section 6: North end, south-facing *0.00 = 29.01m OD*	
0.00 – 0.20m	L1000. Modern ground surface. As above, Sample Section 1.
0.20 – 0.43m	L1001. Made ground. As above, Sample Section 5.
0.43 – 0.66m	L1002. Garden soil. Fairly compact dark brown/ black clayey sand with frequent chalk flecks.
0.66 – 0.76m	L1003. Garden soil. Fairly firm dark brown clayey sand with moderate charcoal and flint inclusions.
0.76 – 0.81m	L1006. Yard surface. Gravel and rounded cobbles (70mm) in fairly firm light grey clayey silt.
0.81 – 1.13m	L1008. Garden soil. Fairly loose dark greyish-brown clayey silt containing frequent flints and re-deposited ash/ fired clay fragments.
1.13m+	Archaeological deposits (described below).

Description: Trial Trench 4 was located in the south-east corner of the site, away from the Ber Street frontage. It revealed a deep sequence of stratified remains, probably beginning in the 12th century. The earliest features were a cluster of intercutting early to 'high' medieval (12th to 14th-century) rubbish pits, ditches and cess pits/ wells, which were cut into the natural clay and sand at approximately 1.50m below modern ground level.

Several of the pits were truncated by the construction cut for a large flint and mortar foundation (M1061), which formed the north wall of a substantial late medieval building partially revealed in the south of the trench. The foundation was up to 1.40m high and incorporated two brick arches designed to better distribute the weight of the building. The interior of the exposed part of the building was divided into two rooms by a north to south aligned stud wall, on either side of which were a sequence of beaten clay floor surfaces and occupation layers. In the eastern room, the earliest clay floor was cut by a small furnace (S1148), indicating that at least during the early stages of its use, the building was directly associated with industrial activity. The building was probably constructed in the late 14th/ early 15th-century and may have remained in use for around a century. The large scale of the foundations and the investment involved in the building's construction suggest that it was of relatively high status, and probably had at least two above-ground storeys. The area outside (north of) the building was probably a yard.

Around the beginning of the 16th century, the entire area revealed in the trench was covered by a metalled yard surface (L1029). There was some evidence of contemporary structures, in the form of a clay floor or collapsed clay wall (L1018) and a posthole. Later in the 16th century, the area again seems to have been used for bronze working activity, represented by a wide spread of compacted ash and furnace lining fragments (L1010), present at around 0.90m below modern ground level. The industrial residue was interleaved with clay lenses, which appeared to represent successive episodes of re-lining. This burnt layer might be an in-situ part furnace. The industrial activity was sealed by a 17th-century garden soil (L1008), a patchy 17th to 18th-century cobbled surface (L1006), 18th to 19th-century garden soil horizons (L1003 and L1002) and a layer of Victorian made ground (L1001).

Removal of the modern asphalt (L1000) in Trench 4 revealed a layer of Victorian made ground (L1001) similar to that in Trench 3. This sealed two garden soil horizons, the earliest of which (L1003) contained 18th-century pottery. The garden soil covered a patchy irregular stone and gravel spread, which probably represents a yard surface disturbed by the later garden activity; a 17th to 18th-century jug fragment was found in association. The yard surface in turn sealed an earlier garden soil build-up (L1008), which contained lenses of re-deposited ash and industrial residue (L1007) disturbed from the layer beneath (L1010; see below). The associated pottery was generally consistent with a late 17th-century date, with a few intrusive sherds and some residual material (including glazed Grimston Ware). This sequence of deposits was present across the trench, although it was partially obscured by an east to west service trench running across its south side.

A brick soakaway (M1004) was present in the south-east corner of the trench. It was cut through L1010 and sealed by the uppermost garden soil (L1002); its relationships with the earlier garden soil layers (L1003 and L1008) and the yard surface (L1006) were not clear. The soakaway was circular in plan (1.07 x 1.06 x 0.82m) and constructed of un-frogged 17th to 19th-century red bricks laid in rough stretcher courses without bonding material. In places, a fine-grained sandy lime mortar adhered to occasional bricks which had probably been salvaged and reused from an earlier structure. The soakaway was contained within a circular construction cut (F1079) and held in place with a compact silty clay packing deposit (L1080). Pottery from the backfill of the soakaway (L1005), including a red earthenware jug handle with black glaze, indicates an 18th-century date for its disuse. The top of the soakaway was present at *c*. 28.27m OD, around 0.75m below modern ground level.

In the northern two thirds of the trench, beneath the earliest garden soil (L1008), was a thick layer of compact ash, charcoal and reddish-orange fired/ burnt clay fragments (L1010), which is thought to have been an in-situ part of a furnace (DP10). A small quantity (6g) of Cu slag was recovered from this layer. The layer formed an irregular east to west aligned spread (3.70+ x 1.90+ x 0.20m) with a fairly well-defined 'L'-shaped edge to the north and traces of a separate outlying 'patch' at the same stratigraphic level in the north-east corner of the trench. It extended beyond the limits of the trench to the east and west. Its extent to the south was uncertain due to truncation from the modern service trench, but it did not appear to continue in this direction. The layer formed a slightly raised east to west aligned 'ridge' and increased in thickness towards the west side of the trench. A slot excavated through this side of the spread revealed a sequence of ash and burnt daub layers (L1055, L1053 and L1010), separated from each other by thin (0.05m (max.)) lenses of homogenous, firm, slightly silty clay (L1054 and L1052) (DP11). The sequence had the appearance of successive firings and re-linings of a furnace. The surrounding deposits showed no obvious signs of having been directly exposed to heat, so this was probably not the furnace chamber itself. However, the increasing depth of the industrial residue towards the west side of the trench suggests that the main parts of the furnace might lie just beyond the trench in this direction. This industrial activity was present at around 0.90m below modern ground level (28.10m OD). Approximately 2kg of the better-preserved furnace lining fragments were recovered from L1010 and the other successive burnt layers. Two fragments (17g) of oxidised 16th-century pottery were found in L1055, while L1010 contained 10 sherds (178g) of 15th to late 16th-century

pottery, the earliest of which were probably residual. A date in the mid to late 16th century would best fit the finds and stratigraphic evidence.

Towards the north-west of the trench, *c*. 0.40m from the burnt layer, a posthole (F1016) was identified beneath the earliest garden soil horizon (L1008). It was roughly circular in plan (0.50 x 0.48 x 0.17m) with steep rounded sides and a flattish base. Its lower fill (L1028) comprised loose grey silty clay with frequent large flint inclusions; it contained a small quantity of animal bone and three iron nails. The upper fill (L1017) was a pad of firm yellow clay containing a few sherds of probably residual 15th-century pottery, all from the same vessel. The posthole may have been associated with a thin spread of firm dark brownish-yellow clay (L1018; 2.00+ x 1.06+ x 0.05m) present in the north-east of the trench (below the burnt layers), which was possibly a floor surface or a collapsed clay wall.

Beneath the industrial layer (L1010 etc.), and at the same stratigraphic level as the floor/ collapsed clay wall (L1018), was a 'sticky' pale grey silty clay layer (0.07 - 0.13m deep) containing frequent flint cobbles (L1027). Its appearance was consistent with a build-up of trample from the use of the underlying metalled yard surface (L1029; see below). The trample layer yielded a moderate assemblage of iron nails (13; 154g) and 13 sherds (104g) of 16th-century pottery. Based on its stratigraphic position, a date in the first half of the 16th century seems likely. The trample layer was not present at the southern edge of the trench, where the metalled surface (L1029) was directly overlain by 17th-century garden soil (L1008).

The metalled surface (L1029) was present across the whole trench, extending beyond it in all directions. It comprised a layer (0.12m deep) of large rounded flint cobbles (60-150mm) and smaller pebbles in a matrix of hard, compacted pale greyish-yellow sandy mortar. It was a relatively 'clean' layer, with few finds. A few pieces of oyster shell (11; 46g), slag (1; 17g) and five sherds (76g) of (probably late) 15th to early 16th-century pottery, including a Langerwehe rim and strap handle, were found in association. A slightly raised patch of sandy mortar (L1060; 1.20 x 0.55 x 0.11m) overlying the north-western part of the surface probably represented an episode of repair. The metalled surface was cut by two small pits: F1064, which was sealed by the collapsed clay wall/ floor (L1018), and F1062, in the south of the trench, which was sealed by the earliest garden soil horizon (L1008). The north-eastern pit (F1064) was roughly circular (0.58 x 0.36 x 0.19m) with moderately-sloping rounded sides and a flat base. It contained two fills (L1071 and L1065), both of which comprised fairly similar loose greyish-brown clayey silt deposits. The pit at the southern edge of the trench (F1062) appeared to be roughly rectangular, with steep rounded sides and a flat base (0.75 x 0.25+ x 0.23m). It contained a single fill of firm dark grey-brown silty clay (L1063), which contained an abraded piece (9g) of probably 17th-century pottery, clay pipe and two Cu alloy pins (SFs 5 and 6).

Removal of the metalled surface revealed a substantial flint and mortar wall foundation (M1061), which ran east to west approximately 1.00m from the southern limit of excavation, directly below the modern service trench which had truncated the overlying deposits in this part of the trench. The top of the wall was encountered at between 27.83m and 27.76m OD (in the west and east of the trench, respectively), 1.20m below modern ground level. Below the metalled surface, the earlier deposits in the south of the trench were related to a sequence of internal floors and phases of

renovation inside the building represented by the stone wall. The layers in the northern two thirds of the trench were associated with activity in a yard area outside the building.

In the north of the trench, the metalled surface sealed an earlier and less well-made yard surface (L1075). This comprised a 0.10m deep layer of rounded cobbles (generally around 100mm in size) in a light greyish-brown sand of variable consistency. Ceramic building material (464g), animal bone (531g), oyster shell (15; 40g), a few glass fragments and residual 12th to 14th-century pottery (8 sherds; 62g) were found in association. In the far north-west corner of the trench, the yard surface was cut by what appeared to be a small posthole (F1076; 0.24+ x 0.30+ x 0.12m). It extended beyond the limits of the trench, but was probably roughly circular with steep rounded sides and a flat base; it contained degraded sandy mortar (L1083). It was broadly contemporary with the use of the late medieval building in the south of the trench and may have been associated with an outbuilding of some kind. In the north-east of the trench, the yard was cut by a small ?square, steep-sided, flat-based rubbish pit (F1084; 0.80+ x 0.75+ x 0.15m). This contained a mixed fill of dark grey-brown silty sand with orangey clay lenses and frequent large flint inclusions, which yielded numerous finds including an assemblage of iron slag (17; 578g) and a sherd (5g) of 13th to 15th-century grey ware.

The southern edge of the yard surface (L1075), adjacent to the north side of the building, had been truncated by two pits (F1253 and F1186). Towards the east side of the trench, an elongated pit (F1253) ran along the north side of the stone wall (M1061). It had steep rounded sides and a sloping base (2.00+ x 0.90+ x 0.35m) and contained 15th to early 16th-century pottery (5 sherds; 40g). It may have been associated with the demolition of the medieval building. Another pit (F1186), which was also cut down the north side of the wall foundation, was located just to the west of F1253. It was oval in plan with near-vertical sides (0.88 x 0.66 x 1.10m) and contained four fills. The lowest fill (L1177) comprised loose degraded mortar containing fragments of 15th to 17th-century brick (4; 2.8kg). The next fill (L1161) was a loose mid to dark grey-brown sandy silt with frequent flint gravel, which again contained 15th to 17th-century brick, two sherds (26g) of abraded 13th to 15th-century pottery and a lead object (SF13). This was overlain by a light brown silty sand with frequent mortar and gravel inclusions (L1176), which also contained 15th to 17th-century brick (3; 2.8kg), animal bone (425g) and five sherds (28g) of 13th to 15th-century pottery. The uppermost fill (L1099) was a loose yellowish-grey degraded mortar deposit which contained an abraded 13th to 15th-century grey ware strap handle. The mortar and CBM inclusions in the fills of the pit suggest that it was associated with the demolition of the medieval building. Its stratigraphic relationship with the yard surface (L1075) was obscured by a modern manhole which had been cut through the overlying deposits. However, based on the approximate 15th to 17th-century date of the associated CBM and the abraded condition of the medieval pottery from its fills, F1186 was probably related to the demolition of the adjacent building rather than being an earlier pit cut by it.

Underneath the yard surface (L1075) was a dark brown clayey silt layer (L1107) 0.08m deep, which could represent either a made ground deposit intended to level the ground for the overlying yard surface, or a build-up of occupation debris in the area to the north of the building. It contained animal bone (1287g), a considerable quantity

of iron slag (42 fragments; 1331g) and a few sherds (6; 46g) of 14th to 15th-century pottery including local medieval coarseware and one sherd in an oxidised late medieval fabric.

In the north-east of Trench 4, beneath the made ground/ occupation layer (L1107), was a series of intercutting medieval pits and ditches cut into the natural clay and sand (DP12). The earliest of these were a pit (F1158), in the north-east corner of the trench, and what appeared to be the shallow remnant of a ditch (F1116). In the north-west corner of the trench, archaeological excavation ceased at L1107 to enable continued safe access to the trench.

A truncated rubbish pit (F1158; 1.50+ x 1.18+ x 0.72m) was partially revealed in the north-east corner of the trench. It extended beyond the limit of excavation to the north and east. Based on its surviving portion, it was roughly circular in plan, with rounded sides and a flattish base. It contained a single fill of firm mid greyish-brown clayey silt (L1159), which yielded a few fragments of animal bone (22g) and four sherds (46g) of 12th to 13th-century pottery. The southern edge of the pit had been destroyed by a later ditch (F1115) and its western edge by a later cess pit (F1156) (see below).

In the approximate centre of the trench was what appeared to be part of a heavily-truncated north-north-east to south-south-west aligned ditch (F1116). It was cut to the north by a later ditch (F1115) and a pit (F1156), and to the south by a possible well (F1078), a pit (F1253; see above) and the north wall (M1061) of the late medieval building. It had near-vertical sides and a flattish base (1.40+ x 1.68 x 0.35m) and was filled with a firm mid greyish-brown clayey (occasionally sandy) silt (L1117) which contained animal bone (483g), an iron nail (10g) and 19 sherds (617g) of pottery including a local medieval coarseware bowl rim of *c*. 13th-century date.

A later ditch (F1115) ran east to west across the north side of Trench 4, cutting the south side of the earlier pit in the north-east corner of the trench (F1158) and the northern part of the earlier ditch (F1116). The ditch was fairly narrow with steep rounded sides and a slightly concave base (0.70+ x 1.05 x 0.60m). It had a sequence of fills, the earliest of which was a fairly loose light brownish-yellow clayey sand (L1131), probably a slump of weathered natural material from the open sides of the ditch. This was overlain by a layer of loose, moist, mid reddish-brown silt (L1130), followed by a lens of dark silt and charcoal (L1129) which appeared to have been tipped in from the north side of the ditch. The upper fill consisted of firm dark greyish-brown clayey silt (L1114). The three upper fills probably represent material that was deliberately dumped into the ditch; the only fill to contain finds, comprising an oyster shell (8g) and a fragment of animal bone (8g), was L1130.

A large pit (F1156) was cut through the west side of the ditch. It extended beyond the trench to the north, but appeared to be oval or roughly rectangular with moderately-steep straight sides and a flattish base (1.60+ x 1.60+ x 0.56m). A small circular pit with rounded sides and base (F1143; 0.67 x 0.53 x 0.24m) had been cut into the bottom of the pit while it was open. The two pits contained identical fills (L1144 and L1157), comprising firm dark greyish-brown clayey silt with frequent bluish-green staining deriving from cess and dark brown/ black lenses of partially-decomposed organic material (L1132). The fills had a strong petrol-like smell, probably from

partially-decayed nightsoil and other organic matter that had been deposited in them. The three fills contained animal bone (645g), 41 sherds (549g) of 13th to 14th-century pottery and a handful of slag, iron fragments and nails.

This cluster of medieval features in the north-east of Trench 4 was sealed by a layer of firm, compacted, fairly 'clean' brownish-orange clay (L1108; 1.70+ x 2.00+ x 0.12-0.18m). This was probably made ground intended to level off the uneven ground caused by the underlying pits and ditches. Slag fragments (2; 10g), brick (655g) and four sherds (80g) of ?14th-century pottery, including a glazed Grimston jug handle, were found in association. The levelling layer may have been broadly contemporary with the construction of the building in the south of the trench.

At the east side of the trench, immediately north of the masonry wall foundation (M1061), was a deep cess pit or well (F1078) (DP13). It was cut through the south end of the earliest ditch (F1116) and into the natural clay and sand geology. It was cut in turn by the foundation trench for the wall (F1172) and by a later pit (F1253; see above). The well/ cess pit had near-vertical sides and was at least 2.58m deep. There were some signs of a deliberate clay lining like that in the broadly contemporary well/ cess pit immediately to the west (F1160; see below), although this only survived on its west side. It contained a sequence of tipped-in fills (see Table 1, below). The associated pottery suggests a 13th to 14th-century date for its disuse, although one or two sherds could be later and may have been intrusive from the construction of the building. It is possible that this deep feature was still partially open when the structure came to be built and that the upper fills were deliberately dumped in during the building of the wall (M1061).

Fill	Description	Finds
1137	Loose, moist light to mid brownish-yellow sandy clay	-
1136	Firm, sticky, light brown-yellow silty clay with crushed CBM and mortar inclusions	-
1135	Firm, plastic light brown clay	-
1134	Fairly compact, moist dark grey/ orange clayey silt with frequent yellowish-grey cess lenses -	-
1133	Plastic, moist dark brown/ black silty clay	-
1128	Firm yellow to mid grey clayey silt	-
1127	Sticky black charcoal lens	-
1126	Fairly compact dark red clayey silt. Discolouration suggests dumped material was still hot when deposited	12th - 13th century pottery (4; 56g)
1196	Loose light to mid grey-brown clayey silt with frequent charcoal and gravel	13th - 14th century pottery (14; 148g). A late medieval (15th C?) sherd is intrusive from Foundation Trench F1172
1125	Firm, plastic mid grey silty clay	Animal bone (118g), 13th - 14th century pottery including glazed Grimston jug fragments
1124	Moderately compact pale orangey-yellow silty sand	-
1123	Fairly firm mid to dark grey silt	13th - 15th century pottery (6; 46g)
1122	Firm, plastic pale to mid greyish-orange clay	14th - 15th century pottery (6; 122g), animal bone (144g)
1121	Plastic dark grey/ black clayey silt with frequent charcoal	-
1120	Fairly firm orangey-yellow/ grey clayey silt	-

Table 1: Fills of Well/ Cess Pit F1078
Fills are tabulated from lowest identified to uppermost

To the west of F1078 was a very similar deep pit (F1160; 1.25+ x 1.06+ x 1.65m+) (DP14). This was irregular in plan with near-vertical sides; its base was not reached due to safety constraints. It had a lining of re-deposited natural clay (L1193), which varied in thickness (20-180mm). The pit contained a sequence of fills, dumped in from the north. The lowest identified fill was a loose dark grey-brown clayey silt (L1190). This was overlain by a deep layer of firm mid grey-brown sandy clay containing occasional charcoal and CBM flecks (L1178). The latest fill was a loose layer of dark brown/ black sandy silt (L1183). Given its considerable depth and clay lining, the pit may have originally been a well or cess pit, or used in a process which required liquid, such as tanning. Its fills were deliberately tipped in after its disuse; all contained late 14th to 15th-century pottery, as well as fragments of probably 15th-century brick. Animal bone (478g), a large assemblage of slag (94 fragments; 2903g) and an (intrusive?) fragment of glazed floor tile were also present. The dating of the associated finds, and the way in which its fills had banked up against Wall M1061, suggests that F1160 was still partially open when the late medieval building was constructed and was probably deliberately filled in at this time. Other finds may have been intrusive from a later pit (F1186) cut through F1160.

At the south side of Trench 4, the natural sand (L1021) was overlain by a deep mixed deposit of firm mid greyish-brown clayey silt and re-deposited natural orange clay (L1149; 4.00+ x 0.94+ x 0.90m). It was not possible to ascertain the nature of the deposit within the confines of the trench, but it could have been a made ground/ build-up layer, or more likely, the fill of a large feature such as a quarry pit. It contained Fe nails (5; 94g), a fragment of Cu alloy sheeting (SF10), fragments of an iron object (SF12), animal bone (329g) and eight sherds (34g) of fairly undiagnostic but probably 11th to 12th/13th-century abraded coarseware pottery. Some of the finds, including a fragment of peg tile and two fragments of probably 15th-century brick, were almost certainly intrusive from the foundation trench (F1172) for the wall.

The foundation trench (F1172) for the wall (M1061) was slightly irregular in plan but ran roughly east to west across the width of the trench, extending beyond the limit of excavation in both directions (4.00+ x 1.12 x 1.56m). To the north, it cut the earlier wells/ cess pits (F1078 and F1160). These may have remained partially open when the building was first constructed and their upper fills could derive from deliberate backfilling during the construction. The foundation trench had a vertical side to the north, a steep straight side to the south and a flat base. The masonry of the wall foundation was constructed directly against the north edge of the foundation trench. The foundation itself (M1061) was 3.60m+ long x 0.55m wide x 1.40m high. It was constructed of large unworked flints, generally with dimensions in the range of 70-180mm, bonded with light orangey-yellow sandy lime mortar with frequent gravel (3-12mm) inclusions. The flints were not laid in courses, with the exception of the uppermost *c.* 0.40m of the western half of the wall, to either side of the bricked-in doorway (M1188; see below), where slightly more ordered coursing was apparent.

The flint and mortar foundation incorporated two large brick segmental headed arches with cambered soffits (DP15). The western arch (M1192), the majority of which lay within the trench, was around 2.20m across by 0.90m high; the eastern arch (M1191) appeared to be of similar dimensions but lay partially outside the trench. The bricks were laid on end and measured 10" long by 2" thick; their width could not be established due to a mortar layer adhering to the underside of each arch. It was not possible to take a sample brick from either arch without causing serious damage to the structure. However, the observed dimensions, particularly the narrow thickness of the bricks, would fit a 14th to 15th-century date. Bricks 2⅛" thick were used in Norwich city wall in around 1340, while those used in a bridge of *c*. 1400 in Pleshey (Essex), range between 1⅞ and 2" thick (Brunskill 1997, 37). Brian Ayers visited the site and suggested that the use of brick arches is unlikely to predate the 15th century, an observation also made by Lee Prosser (Historic Buildings Consultant, Hampton Court Palace). However, it is worth noting that brick arches of far greater complexity were used in an undercroft dated to *c*. 1300 at St Olave's Priory, near Great Yarmouth. The pottery from the fills of the wall foundation trench (L1195 and L1169 (=L1194)) includes several local green-glazed sherds, including a 'T'-shaped bowl rim of 14th to 15th-century date, and 15th-century Grimston sherds. The evidence of successive internal floor surfaces (see below) within the building suggests a fairly long period of use. Combined with the stratigraphic position of the building (cut through a 13th to 14th-century well/ cess pit (F1078), but sealed by a 15th to early 16th-century yard surface (L1029)), a date at the very beginning of the 15th century seems likely for the building's initial construction, although a late 14th-century date is not impossible. The brick fragments from features related to the construction are thought unlikely to

predate the 15th century (Peachey, this report). However, further analysis of locally-manufactured medieval brick from other Norwich sites may enable this date to be refined.

The arches seem to have been designed to better distribute the weight of the building. It was constructed in an area that had earlier been disturbed by numerous deep pits and wells, leaving only pockets of firm natural clay and sand. This would have resulted in an uneven and potentially unstable surface on which to build, possibly with some of the deeper pits still remaining partially open at the time of construction. Each arch was positioned over an earlier pit (M1191 was positioned over Pit F1078; M1192 was over Pit F1160), with the load of the wall spread laterally and downwards onto a narrow plinth of undisturbed natural sand left between the two pits.

The top of the eastern section of the wall had been truncated by an 18th-century brick soakaway (M1004). Towards the west side of the trench, the top of the wall originally incorporated an opening for a doorway, which had been blocked-in later in the life of the building (M1188; see below). The doorway was flanked on either side by chamfered bricks built into the otherwise flint and mortar wall (see elevations, Fig. 18). The bottom of the doorway and the earliest floor surface on the west side of the building (L1185) were on a level (27.45m OD; see below). It seems likely that this was also the contemporary ground level in the area surrounding the building when it was first in use. This broadly corresponds with the height of the clay levelling layer (L1108), in the north-east of Trench 4, which was probably contemporary with the building's construction and intended to level off the heavily-pitted ground surface outside the building. If the base of the doorway does correspond with the contemporary ground level at the time the building was first in use, then the lower part of the wall foundation, including the two brick arches, would have been below ground level, while the upper 0.45m would probably have been an above-ground dwarf wall. This might explain the slightly better flint coursing apparent in the upper (visible) section of the wall. The dwarf wall might have supported a timber-framed superstructure, although the fragments of medieval worked stone found in Trench 3 (see above) hint at a substantial high-status stone building somewhere in the vicinity, possibly that in Trench 4.

On the south side of the wall, on the interior of the building, was a sequence of floor surfaces interleaved with occupation layers. The sequence varied between the east and west sides of the building, which appears to have been divided by a stud wall into two separate rooms.

On the west side of the building, several levelling layers (L1180, L1179 and L1184) had been deposited before the first floor surface was laid. These may have been necessary because the ground in the area of the building was uneven from numerous earlier pits, some of which might still have been partially open at the time of its construction. The first levelling layer (L1180) was a thin (0.02-0.04m) lens of light grey sand. This was overlain by a 0.08m deep spread of loose greyish-white mortar (L1179). The final levelling deposit was a fairly firm layer of orangey-brown silty clay *c*. 0.08m thick (L1184). The eastern edge of this layer butted up against a 'plinth' of compacted greyish-white clay (L1167; 0.58+ x 0.40 x 0.11m) which ran north to south approximately halfway across the exposed portion of the building. This continued beyond the trench to the south; to the north it ended *c*. 0.15m short of the

north wall of the building (M1061). It was probably the base of a clay bat stud wall dividing this part of the building into two separate rooms. At the west edge of the trench, overlying L1184, was a very compact, firm light blue-white clay layer 0.05m deep (L1185). It only extended part of the way across the 'room' towards the partition wall (L1167), but probably represents the remnant of the earliest floor surface in this part of the building. The rest of this floor level had probably been scoured away during an episode of demolition/ renovation represented by a dark clayey silt layer (L1147), which sealed the base of the stud wall and the remnant of this earliest beaten clay floor. A single sherd (8g) of local medieval coarseware (12th to 14th-century) was found in the demolition layer (L1147). The identification of L1185 as the first floor surface in this part of the building is perhaps also supported by its position level with the bottom of the blocked-in doorway (M1188) in the top of the north wall (M1061): both were at 27.45m OD. Alternatively, it is possible that L1184 was the earliest clay floor and that its uneven profile is the result of it having subsequently slumped (in the intervening centuries since the use of the building) into the loose deposits underneath the building.

Above L1147 was the partial remnant of another beaten clay floor (L1171), this one 0.03 - 0.05m deep and mid orangey-brown in colour. It was in turn sealed by a shallow dump of reddish-black industrial residue (L1170), which yielded six fragments (114g) of furnace lining, and by a dark clayey silt demolition layer (L1105), which contained two unabraded late medieval transitional oxidised sherds with splashed green glaze, which would fit a 15th century date. Demolition Layer L1105 also contained slag (7; 205g), a Cu alloy ?ring fragment (SF3), broken peg tile (25; 2.2kg) and a fragment of ?15th century brick.

Probably contemporary with the stage of demolition/ internal reorganisation represented by Layer L1105 was the blocking-in of the former doorway (M1188) in Wall M1061. The blocking comprised bricks bonded with lime mortar. On the north side of the building, uncoursed brick rubble was used to infill the gap, while on the south side, three header courses of bricks were apparent, suggesting a concern for the blocking-in to look neat when viewed from the inside of the building, but not from the outside. This might indicate that the gradual build-up of made ground and yard surfaces to the north of the building (e.g. L1107 and L1075) had raised the ground level to the point where the majority of this blocking-in would have been below the contemporary ground level and therefore not visible.

The blocking-in of the doorway was followed by the laying of a new beaten clay floor (L1096), this time containing frequent crushed CBM and mortar, over L1105. To the east, the floor terminated in line with a new north to south partition wall represented by a shallow, square-edged cut (F1094; 0.65+ x 0.20+ x 0.12m) containing clean firm brownish-orange clay (L1106). It was located in exactly the same position as the earlier stud wall represented by L1167 and, again, extended southwards beyond the limit of the trench. Two sherds (9g) of abraded 13th - 15th century local coarseware were found within L1106. To the west, 1.10m from the reinstated stud wall, Floor Surface L1096 was cut by a narrow, shallow north to south aligned slot (F1092) which may have held a lightweight (wattle and daub?) partition. To the north, the new floor surface extended to within *c*. 0.20m of Wall M1061, before being cut by a second narrow, shallow slot (F1090; 1.00 x 0.20 x 0.15m). This was associated with the addition of a single course of on-end bricks to the top of the recently blocked-in

doorway. These were neatly laid and almost certainly formed the threshold of a new entrance to the building, in the same position as the old doorway, but raised by around 0.40m to account for the accumulation of floor and demolition layers inside the building. The narrow gap of *c*. 1.10m between the north to south stud wall (L1106) and the parallel lightweight partition wall represented by Slot F1092 suggests that by this phase of the building's use, this western 'room' had been reduced to a narrow entrance corridor leading southwards from the doorway. To the west of Slot F1092 was a thick spread of flint and mortar rubble (L1089), which it appeared to cut. If the identification of F1092 as the foundation slot for a lightweight internal wall is correct, then this rubble would have lain in a room to the west of the entrance 'corridor'. It was impossible to properly ascertain the nature of this deposit within the narrow confines of the trench; it could represent either a phase of demolition, or a foundation pad for a more substantial north to south wall line.

Floor Surface L1096 was reinstated twice. The first of these replacement floors was L1086, a firm beaten clay layer (1.04 x 0.75+ x 0.02-0.04m) of varied but generally reddish-brown colouration. This was later covered by L1082, a firm dark orange to brown clay layer (1.04 x 0.88+ x 0.02m). Perhaps between the laying of these two successive floors, the main north to south partition wall between the eastern and western 'rooms' of the building was replaced a third time. A rough line of brick rubble (L1095) ran south from Wall M1061 to the southern baulk. The bricks vary in colour from off-white/ beige to orangey-red to purple but the fabrics and dimensions are consistent with a 15th to 17th century date. Some of the bricks still have mortar adhering, while others are deeply scored, probably to facilitate bonding. The bricks probably represented the demolished remains of a replacement internal wall. To the north, it may have originally been bonded to M1088, which appeared to be the beginning of a north to south brick and lime mortar wall bonded to the upper part of Wall M1061. The south side of M1088 had experienced some damage, perhaps during the final demolition of this internal wall.

On the east side of the building, some of the interior had been truncated by later pits (F1101 and F1062). However, a sequence of clay floor surfaces and occupation layers was still apparent.

The earliest floor surface, L1104, comprised compact mid to dark brownish-yellow beaten clay with lenses of ashy material (1.66+ x 0.76+ x 0.07m), which yielded a few small fragments of Cu alloy (4; 6g). It extended beyond the trench to the south and east. To the west, it was truncated by a furnace (DP16). Furnace S1148 was constructed inside the building represented by Wall M1061; it extended southwards beyond the trench. It comprised a roughly circular cut (F1163; 0.72 x 0.50+ x 0.35m) with steep rounded sides and a slightly curving/ flattish base. It was cut through Floor Surface L1104 and through the earliest partition wall between the east and west sides of the building (L1167). The base and lower part of the sides of the construction cut were lined with compact, plastic orangey-yellow clay (L1164) which varied from 0.05m deep at the sides of the cut to 0.02m in the centre and was embedded with occasional small charcoal fragments. Above the lining of the furnace chamber was a dense (around 0.15m deep) concentration of grass-tempered fired clay/ daub fragments (L1155) in a matrix of dark grey 'sticky' clayey silt with abundant charcoal and ash and occasional small Cu alloy fragments. One piece of charcoal, pressed against the north-east side of the furnace, measured 150 x 80 x 20mm. The fired clay

fragments vary in size, but the largest are *c*. 150 x 100 x 20mm and have curving profiles. Many of the largest fragments were found in a rough circle around the edges of the furnace chamber and were probably still in-situ; several have flecks of copper alloy adhering to them. The fragments were probably the demolished superstructure of the furnace, perhaps with the apparently in-situ fragments deriving from a crucible.

Layer L1155 was sealed by a layer of fairly loose dark brownish-grey clayey silt 0.06m deep (L1150). This was of markedly different appearance to the other fills of the furnace and probably represents an episode of disuse. It was in turn overlain by a compact 'sticky' orangey-yellow clay re-lining of the furnace (L1151). Above this was a sequence of alternating compact yellow clay layers (L1152 and L1154) and lenses of ash and fired clay fragments (L1153 and L1146), representing successive re-linings and firings of the furnace. The upper levels of the furnace had been pushed and spread out eastwards during its demolition, and by the cutting of several later pits. The position of the furnace on the inside of the late medieval building indicates that, at least during the early phases of its use, the building was directly associated with metal working. Although the furnace was not fully exposed within the excavation area, its dimensions seem consistent with fairly small-scale bronze working. It was perhaps used for the manufacture of small tools and personal items rather than the church bells which are known to have been founded elsewhere in this area of the medieval/ early post-medieval city. More than 10kg of furnace lining/ superstructure fragments were recovered from Furnace S1148, mostly from L1155, but also from the later 'firing' layers. Small fragments of Cu alloy were found in L1146 (2; <1g) and L1155 (4; 18g). The relatively small quantities which were present probably reflect a concern to maintain tight control over wastage and recover any metal fragments which could be recycled. A single sherd of pottery (6g), from a coarseware cooking pot, was found in L1151. At the latest, it could be 14th century and contemporary with the earliest use of the building, but it is more likely to be residual.

The upper part of the furnace was cut by a later pit, F1101 (0.74+ x 0.85 x 0.20m). This was roughly circular in plan with steep rounded sides and a flattish base. It contained loose dark brown/ black sandy silt with charcoal inclusions (L1103). Fragments of furnace lining (28; 234g) and slag (16; 124g) were present. The pit was probably associated with the demolition of Furnace S1148. Pit F1101 also truncated the second partition wall between the two rooms in the exposed portion of the building (F1094). The pit was sealed by a shallow (0.04m deep) compacted brownish-orange clay layer (L1102). The subsequent sequence of deposits in the eastern part of the building had been obscured to an extent by the cutting of a later pit, F1062 (see above), through this area. However, it appears that Pit F1101 was followed by an accumulation (0.06 - 0.10m deep) of dark occupation material (L1097). This deposit contained five sherds (86g) of pottery including several late medieval (14th to 15th century) oxidised sherds with splashed green glaze. The occupation layer was overlain by the final floor surface on the east side of the building (L1081), a mid brownish-orange slightly sandy beaten clay layer (0.06m deep) with mortar inclusions. Floor Surface L1081, on the east side of the building, and L1082, on the west side, were the latest surviving interior features of the building. The absence of large-scale demolition layers within the trench would suggest that after its disuse, the building was completely razed and much of the superstructure salvaged for reuse elsewhere. The last floor surfaces within the building, and Wall M1061, were overlain by Metalled Surface L1029, which contained 15th to early 16th century

pottery. The demolition of the building probably dates to the late 15th/ early 16th century, thus giving it a maximum lifespan of not much more than a century.

6 CONFIDENCE RATING

6.1 It is not felt that any factors substantially inhibited the recognition of archaeological features or finds during the project. As with any urban archaeological evaluation, the small areas exposed in the trial trenches made accurate definition and interpretation of some deposits difficult. Some features, such as the probable well/ cess pit in Trench 4 (F1078), could not be fully excavated due to their depth and the confined working space in the trench. The aims of the evaluation, as well as the overriding presumption in favour of preserving significant archaeological remains in-situ, meant that a brick sample could not be taken from either of the arches of the late medieval wall foundation (Trench 4) without causing unacceptable damage. While analysis and dating of these bricks would be of great value for understanding the chronology of the late medieval building, there was sufficient evidence from other associated finds and stratigraphic relationships to date the structure with a good degree of accuracy.

7 DEPOSIT MODEL

7.1 The site is currently in use as a car park. The modern ground surface is a shallow layer of asphalt underlain by a gravel levelling layer (L1001). Together, these are 0.10 - 0.20m deep. Towards the north-east of the site (Trench 2), the asphalt gives way to shallow patchy gravel (L1109).

7.2 In the north-east of the site (Trench 2), the gravel surface was underlain by a localised 1.00m deep dump of modern rubble (L1110). Below this was 0.40m of Victorian made ground (L1111). Victorian made ground was also present beneath the asphalt in the south of the site (Trenches 3 and 4), although here it was only 0.25m deep. In the west of the site (Trench 1), the 19th-century made ground was not present and the modern asphalt was underlain by a shallow 20th-century crushed brick levelling layer (L1070).

7.3 Across most of the site (except Trench 3), the Victorian made ground (and L1070 in Trench 1) sealed a deep garden soil accumulation. It was deepest towards the rear of the site. In Trench 2, it was up to 0.80m deep and probably began to build up in the 17th century (L1112). In Trench 4, several different garden soil horizons were apparent (L1008, L1003 and L1002) and extended to a depth of 1.13m below modern ground level, with the sequence interrupted by a 17th to 18th-century yard surface (L1006). In Trench 1, the garden soil accumulation was around 0.60m deep and probably began to build up in the 18th century.

7.4 In Trench 1, archaeological features and deposits were encountered at 0.81m below modern ground level, sealed beneath the garden soil. In Trench 2, features were sealed beneath the garden soil and were cut into the natural clay at a considerable depth (2.25m) below the modern ground surface. In Trench 3, there was no garden soil build-up and late medieval/ early post-medieval (15th to 16th-century)

archaeological features were encountered immediately below the Victorian made ground, sometimes at just 0.42m below the modern car park. In Trench 4, archaeological levels (a 17th to 18th-century cobbled surface (L1006)) were present at 0.75m below modern ground level.

7.5 Two different natural geological deposits were present on the site. The natural pale yellowy-brown sand and gravel (L1021) was capped by a *c*. 0.30m deep layer of mid to dark brownish-orange clay (L1034). The natural clay was encountered at 0.85m below the modern ground surface in the west of Trench 1. In Trench 2, it was sealed by a deep build-up of garden soil and made ground deposits and was present at 2.25m below ground level. In Trench 3, the clay was 1.10m below the modern car park. In Trench 4, the natural deposits had been heavily disturbed by archaeological features, but an island of natural clay survived to its original level of around 27.65m OD, 1.35m below modern ground level.

7.6 The central part of the site occupies the summit of a slightly raised south-east to north-west aligned ridge. The original slope downwards to the north-east has been obscured to an extent by the build-up of manmade deposits. The west of the site slopes down moderately towards the Ber Street frontage.

8 DISCUSSION

8.1 Summary of the archaeology

8.1.1 The trial trench evaluation revealed a deep, stratified sequence of archaeological deposits. Features were present in all four trenches, although evidence of past activity decreased towards the north-east corner of the site. Occupation on or near the site probably began soon after the Norman Conquest and was indicated by several pits (in Trench 3 and possibly Trench 4) containing 12th-century pottery and other occupation debris. A range of well-preserved 'high' medieval backyard features, including rubbish/ cess pits, burgage plot boundary ditches and wells, attest to intensive occupation in the 13th to 14th centuries. Late medieval and early post-medieval remains, including structures, yard surfaces and evidence of industrial activity, were also present. There do not appear to have been any breaks in occupation on the site since the early medieval period.

8.1.2 As well as a range of well-preserved medieval back-land features which are fairly 'typical' of sites in Norwich city centre, several more significant features were identified. A substantial high-status late medieval building, with surviving internal floors and occupation deposits, was partially revealed in the south of Trench 4. Extensive evidence of late medieval/ early post-medieval (*c*. 14th to 16th-century) metal working was also present in Trenches 1 and 4, with in-situ remains of two probable furnaces in Trench 4.

8.2 Interpretation of the site: archaeology and history

8.2.1 With the exception of eight residual sherds of possible Iron Age pottery in Trench 2 (Pit F1138), the earliest remains on the site probably date to the 12th century. Although it may have originated as a Roman road, Ber Street is thought to have first been built up during the late Saxon period. This is supported by the probable late Saxon origins of two nearby churches, All Saints and St Michael-at-Thorn (the latter destroyed in the Second World War), and by the partial remains of a late Saxon timber building excavated at the street frontage a short distance south of the site (HER 39789). Although no evidence of late Saxon activity was found during the evaluation, the survival of 12th-century rubbish pits (F1250, F1248 and F1245 in Trench 3, and possibly L1149 in Trench 4) containing Thetford-type pottery is significant evidence of early post-Conquest settlement in the area. Given the small area covered by the trial trenches (*c.* 5% of the 1253m² site), it would be unsafe to rule out Saxon remains surviving elsewhere on the site. The existing settlement and street pattern in this part of the city probably experienced considerable disruption following the Norman Conquest, particularly during the construction of the castle, which is known to have involved the demolition of numerous Saxon dwellings.

8.2.2 The trenches contained a range of fairly well-preserved medieval features, including rubbish pits, cess pits, plot boundary ditches (e.g. F1116 and F1115 in Trench 4) and wells (e.g. F1078 in Trench 4). These were concentrated in the south of the site (Trenches 3 and 4). Some contained sizeable pottery and animal bone assemblages with potential to inform on the diet, status and economy of the site and its occupants in the 13th to 14th centuries.

8.2.3 The late medieval building in Trench 4 was probably constructed early in the 15th century, although a late 14th-century date is possible. Its foundations (M1061) were of exceptional size (up to 1.40m high) and were of unusual design, incorporating two brick arches which were probably intended to help distribute the weight of the building over an area of disturbed ground. The scale of the foundations almost certainly implies a building with several above-ground storeys, while the materials and labour involved in constructing it indicate high-status occupants. The building contained a well-preserved sequence of beaten clay floors and occupation layers, as well as internal features such as partition walls. It is unusual in several respects. A small furnace cut through the first floor surface on one side of the building indicates that at least in its early phases of use, it was directly associated with metal working. It may have been part dwelling, part workshop; perhaps the home of a wealthy craftsman or merchant. The position of the building at the rear of the site is also striking: normally, a large, high-status structure would be located on the street frontage. The part of the building revealed in Trench 4 might represent part of a hall house running back from the road. There was little evidence of its above-ground superstructure (although collapsed walls etc may survive beyond the limits of Trench 4), but it is possible that the late medieval worked stone fragments found in Trench 3 were salvaged from the ruins of this building.

8.2.4 The trial trenches also revealed evidence of late medieval to early post-medieval metal working. This area of the city is known to have been associated with bronze smelting and bell founding, with early post-medieval bell-founding pits identified 100m south of the site on the corner of Thorn Lane (HER 39789). Fragments of re-deposited fired clay furnace lining/ superstructure were almost ubiquitous in features across the site, suggesting that this industrial activity was

widespread. As mentioned above, one small furnace was located inside the large ?15th-century building in Trench 4, at a stratigraphic level consistent with use early in the life of the building. This was fairly small (only *c*. 0.70m across) and it seems likely that it was used for small-scale metal working, possibly for manufacture of small tools/ items of personal adornment rather than the bell-founding noted at other sites in the vicinity. Further evidence in support of this might come from the observation that the fragments of furnace lining do not appear to have been exposed to particularly high temperatures (Peachey, this report) and from the assemblage of small finds from the site, which includes numerous small copper-alloy pins and fittings. Later phases of industrial activity in Trench 4, after the demolition of the building, were represented by successive layers of compacted ash and furnace lining fragments, interleaved with clay lenses which are thought to represent episodes of re-lining (Layer L1010 etc.). If, as is suggested, this represents an in-situ part of a later furnace, then its dimensions, covering at least the northern two thirds of the trench, suggest metal working on a greater scale. Although in-situ furnace remains were only present in Trench 4, there were enough re-deposited/ residual furnace lining and copper-alloy slag fragments in Trench 1 to indicate that similar activity was also taking place towards the street frontage. The metal working on the site probably spanned the 14th to late 16th centuries.

8.2.5 There was less evidence of archaeological activity towards the far north-east corner of the site (Trench 2), where a single medieval quarry pit (F1138) was found beneath deep layers of post-medieval garden soil and Victorian/ modern overburden. However, the presence of a human skull fragment (SK1142) compacted in the natural clay might indicate the former presence of graves, truncated by the quarrying activity. If the skull does represent one end of an east to west inhumation truncated by Pit F1138, then it was presumably medieval or earlier. The nearest church to this part of the site is St. John the Baptist, at Timberhill, 60m north-west. It is possible that an early burial ground attached to the church extended in this direction. However, it is equally possible that the skull represents disarticulated, re-deposited charnal material.

8.3 Finds and environmental evidence

8.3.1 A total of 792 sherds (15.7kg) of pottery were found during the evaluation of the site (Thompson, this report). The assemblage spans the early medieval to post-medieval periods and is fairly typical of those recovered from other sites in Norwich city centre. Around a third of the assemblage comprises unsourced local medieval unglazed coarsewares, with moderate quantities of Thetford Ware, glazed Grimston Ware and, from the late medieval/ early post-medieval period, German stonewares. Eight probable Iron Age sherds were present as residual material in the medieval quarry pit (F1138) in Trench 2. These are the earliest finds from the site and hint at the presence of prehistoric features in the far north-east corner of the site. Although much of the pottery is moderately to highly abraded, several pits contained well-preserved sherds. An early post-medieval pit in Trench 3 (F1207) contained a near-complete Frechen Stoneware jug and a large glazed red earthenware cauldron, which is re-constructible (DPs 7-8). One of the earliest features on the site, an early post-Norman Conquest pit in Trench 3 (F1245), contained 20 large, fresh, cross-joining sherds which form the sagging base of a storage jar.

8.3.2 The CBM assemblage includes fragments of probably 15th to early 17th-century brick, peg tile and large quantities of furnace lining (Peachey, this report). Further analysis of the brick, particularly with reference to examples from other later medieval sites in Norwich, and to the fabric of surviving buildings of this period in the city, may help to refine their suggested dating. This will have implications for the chronology of the large medieval building in Trench 4. Detailed study of the furnace lining fragments may enable a more confident reconstruction of the original superstructure and give some indication of the technology that was being used in the bronze working. Five large fragments of medieval worked stone were found reused in a Victorian wall foundation in Trench 3. A scan by a historic buildings expert (Dr Lee Prosser) has identified part of a door frame, with composite roll mouldings, and what may be the base of a capital; the former may be Tudor. Full analysis may help to ascertain whether these fragments could have been salvaged from the substantial late medieval building in Trench 4.

8.3.3 Thirty-five contexts were found to contain slag, totalling 7375g and recovered during excavation and during the processing of bulk samples. This comprised clear evidence for the working of both iron and copper alloys in the vicinity of the site. Amongst the slag assemblage are residues clearly resulting from the smelting of iron. There are also residues amongst the assemblage which may have resulted from copper smelting although these are small in quantity and weight. Cu ores are not naturally occurring in the Norwich area and would have been transported from elsewhere. This may explain why evidence for it at this site is small scale, although smelting associated with the local bell-founding industry may have taken place on a larger scale. Other Cu residues recovered from this site may represent copper working rather than smelting.

8.3.4 Some 2000 fragments (18kg+) of animal bone were recovered from the four trial trenches (Morris, this report). Preservation is very good, highlighting the positive conditions for survival of organic remains on the site. The good preservation means that there is considerable potential for recovering information relating not only to the species present, but also to age at death, butchery practices, and metrical traits of animals. This applies to both the assemblage recovered during the trial trench evaluation and to animal bone recovered during any further intrusive archaeological investigation on the site.

8.3.5 Nineteen miscellaneous objects were recorded as Small Finds. These are overwhelmingly made of copper-alloy. It seems reasonable to conjecture that some are stray/ discarded products of the bronze working that was taking place on site during the late medieval/ early post-medieval period. The group includes eight copper-alloy pins or pin fragments and several buckles/ brooch fasteners. The Small Finds might indicate that the bronze working on site was small-scale and geared towards producing personal items and small tools rather than anything larger. However, these small objects would have been far more likely to be lost and thus make their way into the archaeological record. Full specialist analysis will follow; it may shed light on the nature of the manufacturing which was taking place on site in the 14th to 16th centuries.

8.3.6 The 54 bulk soil samples (20 - 40 litres in volume) from the site have been processed and the resultant flots sent to an environmental specialist (Alex Livarda) for

analysis. As well as the usual range of questions relating to the diet and economy of the site's medieval and early post-medieval inhabitants, analysis of the samples taken from industrial deposits (e.g. the furnaces in Trench 4) may enhance understanding of the technology/ processes used in the bronze working.

8.4 Preservation of the archaeology

8.4.1 The archaeology was generally well-preserved, with little modern truncation. Even where 18th/ early 19th-century cellaring had removed 1.8m of deposits in the east side of Trench 1, parts of medieval archaeological features survived underneath the cellar floor. Archaeological preservation on the site has been aided by the build-up of a deep (0.60m+) post-medieval garden soil (present in Trenches 1, 2 and 4). Towards the back of the site, this probably began to accumulate in the 17th century. However, it should be noted that even where this deposit was not present and late medieval/ early post-medieval features (e.g. Pit F1207) were directly overlain by Victorian made ground (Trench 3), preservation was still very good. See *Deposit Model*, above, for specific details of the depths at which archaeological deposits were encountered.

8.4.2 Although no waterlogged deposits were encountered during the evaluation, there are some indicators that conditions could be conducive to the survival of organic remains. The presence of clay layers and lenses, often sealing earlier features (e.g. some of the medieval levelling layers (e.g. L1108) in Trench 4), might aid water retention. Some of the 12th to 14th-century rubbish pits at the base of the stratigraphic sequence in Trench 4 (e.g. F1156 and F1143) had clearly been used for cess disposal and the strong petrol-like odour encountered during excavation suggests the presence of anaerobic conditions where this organic matter had not been able to properly decay.

8.5 Research potential

The principal research questions relating to the site are:

- The early medieval (*c.* 12th to 14th-century) site: urban development, diet and economy. The well-preserved 'backyard' features and associated finds have potential to shed light on life in this part of medieval Norwich. The presence of features such as successive burgage plot boundaries may also be able to inform on questions of urban development (processes and chronology). For instance, the large 15th-century building partially revealed in Trench 4 almost certainly straddles the present boundary between the site and the plot to the south, showing that the present plots are not fossilised medieval boundaries. Although no early/ 'high' medieval structural remains were encountered in the trial trenches, the scale of occupation-related features and finds indicate potential for remains of medieval dwellings to be present (although these were probably located at the street frontage and will have been destroyed by the later buildings).

- The late medieval building (late 14th to 15th-century): the building exposed in Trench 4 is of unusual size, construction and location (at the rear of the burgage plot, away from the street frontage), and, unusually, contains a sequence of surviving floors and occupation layers. It was clearly a high-status building, with a direct association with the bronze working industry. It continues beyond

Trench 4 to the east, south and west and might form part of a hall running towards the Ber Street frontage. Relatively few later medieval buildings on this scale have been excavated.

- The metal working activity (late 14th to 16th-century): the site contains surviving industrial features with the potential to shed light on the organisation, scale, social context, technology, and end products of this industry.

9 DEPOSITION OF THE ARCHIVE

Archive records (with an inventory) will be deposited with the finds from the site at Norwich Castle Museum. The archive will be quantified, ordered, indexed, cross-referenced and checked for internal consistency. In addition to the overall site summary, it will be necessary to produce a summary of the artefactual and ecofactual data.

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11 BIBLIOGRAPHY

Atkin, M., Carter, A. and Evans, D.H. 1985 *Excavations in Norwich 1971-1978 Part II.* East Anglian Archaeology 26, Norwich Survey

Ayers, B. 1994 *Book of Norwich.* BT Batsford Ltd/English Heritage, London

Ayers, B. 2004 'The urban landscape' in Rawcliffe, C. and Wilson, R. (eds.) *Medieval Norwich.* Hambledon & London, London, 1-28

Brooks, P. 2006 *Street by Street: Norwich*. Derby Breedon Books, Derby

Brunskill, R.W. 1997 *Brick Building in Britain.* Victor Gollancz, London

Davies, J.A. 1996 'Where Eagles Dare: the Iron Age of Norfolk', *Proceedings of the Prehistoric Society* 62, 63-92

Evans, D.H. and Atkin, M. 2002 'General discussion' in Atkin, M. and Evans, D.H. *Excavations in Norwich 1971-1978 Part III.* East Anglian Archaeology 100, Norwich Survey, 235-246

Green, B. and Young, R.M.R 1981 *Norwich, The Growth of a City. Revised Edition.* Norwich

Penn, K. 2000 *Excavations on the Norwich Southern Bypass, 1989-91 Part II: The Anglo-Saxon Cemetery at Harford Farm, Caistor St. Edmund, Norfolk.* East Anglian Archaeology 92. Archaeology and Environment Division/ Norfolk Museums Service

Percival, J.W. 2002 'Neolithic and Bronze Age occupation in the Yare Valley: excavations at Three Score Road, Bowthorpe, 1999-2000', *Norfolk Archaeology* 44 Part 1, 59-88

Williams, A. and Martin, G.H. (eds.) 1992 *Domesday Book: A Complete Translation.* Alecto Historical Editions/ Penguin Classics

Website 1: www.advertisingantiques.co.uk/Default.aspx?tabid=1140

APPENDIX 1 CONCORDANCE OF FINDS

Feature	Context	Segment	Trench	Description	Spot Date	Pottery	CBM (g)	A.Bone (g)	Other
1001			4	Made Ground	18th - 19th	(6), 317g			
1003			4	Layer	18th Century	(22), 437g		307	Oyster Shell (2), 9g Clay Pipe Stems (7), 52g Clay Pipe Bowls (8), 140g
1004	1005		4	Well Fill	18th Century	(13), 399g	3153	30	Slag (1), 5g Fe Nails (2), 14g Oyster Shell (1), 12g Clay Pipe Stem (1), 3g
1006			4	Layer	17th - 18th	(1), 68g		14	Baked Clay (1), 5g
1008			4	Layer	Late 17th	(41), 891g	224	76	**SF1:** Cu Alloy Slag (3), 56g **SF2:** Cu Alloy Pin Fragment (1), <1g Cu Alloy Objects (4), 58g Slag (5), 31 Fe Nail (1), 1g Window Lead (2), 7g Glass Bottle Fragment (1), 30g Clay Pipe Stems (11), 54g Clay Pipe Bowls (5), 74g
1009			1	Cellar Floor			2529		Clay Pipe Stems (2), 3g
1010		B	4	Burnt Layer	15th - Late 16th 15th Century	(4), 118g (5), 58g	230 234	5 144	Kiln Lining (69), 863g Slag (2), 64g Fe Nail (1), 11g Cu Alloy Fragment (1), <1g Oyster Shell (1), 3g
1011			1	Cellar Backfill	19th - 20th	(1), 50g			Fe 'Nut Brown Tobacco' Sign (1), 2190g Cu Alloy Clock (1), 307g

1013			1	Layer	16th Century	(15), 311g	56	38	Kiln Lining (12), 192g Slag (8), 105g Fe Objects (5), 340g Cu Alloy Fragments (5), 7g Glass Bottle Fragment (1), <1g
1014	1036		1	Well Fill	Mid 14th - Early 16th	(4), 54g	53	7	Kiln Lining (48), 1169g Kiln Lining (12), 461g Slag (1), 23g
1016	1017 1028		4	Posthole Fill	14th - 15th	(3), 51g	31	66	Fe Nails (3), 41g
1022	1023		1	Pit Fill	14th - 15th	(2), 5g			Fe Nails (4), 46g
1024	1025		1	Ditch Fill	15th - 16th	(6), 27g	428	42	Baked Clay (2), 440g Slag (1), 119g Oyster Shell (11), 8g Cockle Shell (1), <1g
1026			1	Layer	Mid 15th - Late 16th			<1	Mortar (1), <1g Kiln Lining (15), 190g Cu Alloy Fragments (6), 21g Oyster Shell (1), <1g
1027			4	Layer	15th - 16th	(13), 104g	146	801	Fe Nails (13), 154g Oyster Shell (1), 13g
1029			4	Layer	15th/Early 16th	(5), 76g		202	Slag (1), 17g Oyster Shell (11), 46g Fe Nail (2) 35g
1035	1037		1	Culvert Fill			2639		
1043	1044		1	Ditch Fill	12th - 13th/14th	(1), 9g		20	Fe Nail (1), 11g Oyster Shell (1), 9g Clay Pipe Stem (1), <1g Fe frag (2) 32g
1045	1046		1	Ditch Fill			310	<1	

1047	1048		1	Posthole Fill				9	
1053			4	Burnt Layer				<1	Kiln Lining (38), 521g
1055			4	Layer	16th Century	(2), 17g		11	Kiln Lining (32), 348g
1056	1039 1040		1	Ditch Fill	15th - Early 16th 15th - Early 16th	(11), 88g (33), 568g	96 1755	202 1718	**SF4:** Cu Alloy Brooch Fastener (1), 4g Oyster Shell (5), 27g Kiln Lining (9), 312g Slag (2), 128g Fe Bar (1), 60g Cu Alloy Fragments (2), <1g Fe frag (5) 62g Oyster Shell (19), 92g
1057	1041		1	Pit Fill	Late 15th - Mid 16th	(19), 380g	1063	689	Kiln Lining (34), 761g Slag (1), 5g Oyster Shell (2), 5g Cu frag (2) 5g ?Window Glass Fragment (1), <1g Struck Flint (1), 14g
1058	1065 1068		1	Ditch Fill	15th Century 14th - 15th	(5), 52g (3), 17g	55	92	Oyster Shell (1), 11g
1060			4	Layer				64	Kiln Lining (2), 52g Fe Nail (1), 23g Oyster Shell (2), 9g
1061			4	Wall Foundation			1817		
1062	1063		4	Pit Fill	17th - 18th	(1), 9g	927	7	**SF5:** Cu Alloy Pin (1), <1g **SF6:** Cu Alloy Pin (1), <1g Glass Bottle Fragment (1), 9g Clay Pipe Stem (1), 7g
1064	1065 1071		4	Pit Fill				36 8	Fe Nail (1), 3g

									Oyster Shell (1), 5g
1075			4	Layer	12th - Mid 13th/14th	(8), 62g	464	531	Slag (18), 659g Oyster Shell (15), 40g ?Window Glass Fragments (5), <1g
1078	1118		4	Pit Fill	15th - Early 16th	(5), 40g	180	250	Slag (4), 256g Oyster Shell (36), 140g Struck Flint (1), 6g
	1122				14th - 15th	(6), 122g	42	144	Fe Nails (2), 20g Oyster Shell (4), 20g Fe Frag (2) 20g Burnt Flint (1), 6g
	1123				13th - 15th	(5), 38g	8	80	
	1125				13th - 14th	(14), 160g	10	118	
	1126				12th - 13th/14th	(1), 28g		26	Kiln Lining (3), 28g
1080			4	Packing material					Slag (2), 35g Oyster Shell (1), 3g Glass Fragment (1), <1g
1081			4	Layer				24	Fe Nail (1), 27g
1082			4	Layer				20	Slag (3), 23g
1084	1085		4	Pit Fill	13th - 14th/15th	(1), 5g	302	110	Slag (21), 592g Fe Nail (1), 7g Oyster Shell (8), 50g
1086			4	Layer			22	<1	Slag (1), 22g
1088				Layer	Late 13th - 15th	(1), 22g	3633		
1089				Layer				48	
1090	1091			Construction Cut Fill					Kiln Lining (10), 88g
1094	1106			Construction Cut Fill	13th - 14th/15th	(2), 9g			
1095				Wall			6043		
1096				Layer			603		
1097			4	Layer	14th - 15th	(5), 86g	326	38	

1098	1099 1100			Pit Fill	13th - 15th	(1), 22g	308		Fe Nail (1), 15g
1101	1102 1103		1	Linear Feature Fill	14th - 15th	(1), 9g			Kiln Lining (28), 234g Slag (16), 124g Charcoal (10), 30g
1104			4	Layer					Cu Alloy Fragments (4), 6g Charcoal (1), <1g
1105				Layer	14th - 15th	(3), 13g	2463	80	Slag (7), 205g **SF3:** Cu Alloy ?Ring Fragment (1), <1g Burnt Bone (1), <1g
1107			4	Layer	14th - 15th	(6), 64g		1287	Burnt Bone (2), 22g Kiln Lining (4), 62g Slag (42), 1331g, Fe Object (1) 171g Oyster Shell (9), 46g
1108			4	Layer	Late 12th - 14th	(4), 80g	655	44	Slag (2), 10g Fe frag (2) 108g Oyster Shell (4), 5g
1111			2	Layer	19th Century	(10), 128g			Clay Pipe Stems (3), 4g Clay Pipe Bowl (1), <1g
1112			2	Layer	Mid - Late 18th	(48), 711g		22	**SF7:** Cu Alloy Pin (1), 1g **SF8:** Cu Alloy ?Coin (1), <1g Oyster Shell (1), 30g Glass Bottle Fragments (5), 276g Clay Pipe Stem Fragments (4), 18g Clay Pipe Bowls (5), 38g
1113			2	Layer	17th - 18th	(7), 418g			
1115	1130		4	Ditch Fill				8	Oyster Shell (1), 8g

	1132				14th - 15th	(5), 64g	22	54	Fe Nail (2), 18g
1116	1117		4		13th Century	(19), 617g	68	483	Fe Nail (1), 10g Oyster Shell (1), 10g
1138	1139		2	Pit Fill	14th - 15th	(18), 170g		268	Burnt Bone (1), 2g Fe Sheeting (9), 76g ?Window Glass Fragments (3), <1g
	1140				Late 14th - 15th	(13), 88g	48	437	Slag (2), 56g Fe Frag (2) 54g Oyster Shell (1), 8g
	1141				15th Century	(28), 326g	26	1616	Fe Nails and Sheeting (17), 168g **SF9:** Cu Alloy Pin (1), <1g **SF11:** Cu Alloy ?Toilet Objects (2), <1g Oyster Shell (8), 30g
	1142							192	
1143	1144		4	Pit Fill	13th - 14th	(4), 42g	10	96	Slag (1), 18g
1145			4	Layer					Mortar (1), 8g Kiln Lining (6), 64g Slag (3), 3g
1146			4	Hearth					Kiln Lining (14), 166g Slag (2), <1g
1147			4		12th - 14th	(1), 8g	3304	30	Burnt Bone (1), 4g
1148	1150		4	Furnace Fill				18	Kiln Lining (51), 709g
	1151				12th - 14th	(1), 6g			Kiln Lining (5), 54g
1149			4	Layer	11th - Mid 12th/13th	(8), 34g	1069	329	Fe Nails (5), 94g **SF10:** Cu Alloy Sheet (1), <1g **SF12:** Fe Fragments (6), 36g Cu Alloy ?Buckle (1), <1g Oyster Shell (1), <1g Whelk Shell (1), 10g

1155			4	Furnace					Kiln Lining (323), 9467g Slag (4), 15g Cu Frag (3) 3g Oyster Shell (1), 6g
1156	1157			Pit Fill	13th/Mid 13th - 14th	(32), 443g	44	495	Fe Objects (3), 80g
1158	1159		4	Pit Fill	12th - 13th	(3), 32g	14	22	
1160	1178 1183 1190		4	Pit Fill	Late 14th - 15th Late 14th - 15th Late 14th - 15th	(7), 126g (8), 54g (10), 188g	7321 1949 104	248 225 5	Oyster Shell (2), 10g Slag (27), 2297g Oyster Shell (3), 11g Fe Nail (1), 7g
1169				Layer	14th - 15th	(16), 116g	80	241	**SF15:** Cu Alloy Sheet (1), 12g Oyster Shell (2), 12g Fe Horseshoe Fragments (3), 301g
1170				Layer					Kiln Lining (6), 114g
1180				Layer			92	36	Fe Nail (1), 50g
1185			4	Layer					Baked Clay (1), 11g Fe Object (1), 27g
1186	1161 1176 1177 1187		4	Pit Fill	13th - 14th/15th 13th - 14th/15th	(2), 26g (5), 28g	745 2903 2884	206 425 88	Kiln Lining (1), 96g Fe Objects (3), 264g Fe Sheet (1), 1g **SF13:** Lead ?Statuette (2), 30g Oyster Shell (6), 44g Mussel Shell (7), 10g Slag (1), 15g Oyster Shell (3), 14g Slag (1), 9g Oyster Shell (2), 14g Slag (16), 699g
1188				Doorway			26952		
1191	1195			Arch Fill	Late 12th - 15th	(3), 30g		457	Slag (1), 11g

	1196				13th - 14th	(14), 148g		62	Oyster Shell (4), 18g Burnt Bone (1), <1g
1192	1194			Arch Fill	15th Century	(4), 44g	3214	21	Slag (2), 60g Fe Frag (3) 50g Oyster Shell (5), 32g
1198			3	Reused Stone Wall Foundation					Worked Stone (5), 65000g
1200				Layer	Mid 13th - 14th/15th	(1), 1g	2859	<1	Oyster Shell (3), 24g
1201	1202			Pit Fill	18th - Early 19th	(1), 7g	3034		Glass Fragment (1), <1g
1203	1204		3	Pit Fill	Mid 15th - Mid 16th	(7), 122g	54	242	Kiln Lining (4), 20g Burnt Bone (1), <1g Slag (1), 12g
	1227						3	10	Slag (2), 19g
	1228				15th - Early 16th	(1), 7g		34	Slag (1), 12g Fe Frag (1), 3g
1205	1206		3	Pit Fill			3044		Slag (1), 42g
1207	1208		3	Pit Fill	16th Century (Mid?) 16th Century (Mid?)	**SF16:** (41), 2624g (25), 2206g	2547	1027	**SF18:** Cu Alloy Buckle (1), <1g Cu Alloy Fragment (1), 23g Oyster Shell (13), 60g Fe Nail Fragments (5), 154g Kiln Lining (6), 20g Glass Bottle Fragments (10), 46gg Charcoal (14), 44g Slag (1), 131g Fe Nail (1), 7g
1209				Made Ground	15th - Early 16th	(14), 224g		317	**SF19:** Cu Alloy Pin (1), <1g Oyster Shell (2), 7g Clay Pipe Stem Fragment (1), 3g

1210			3	Layer	13th - 14th	(22), 234g	358	100	Oyster Shell (1), 1g Fe ?Nail Fragments (2), 64g Struck Flint (1), <1g Charcoal (1), <1g
1219	1220		3	Pit Fill	15th/Early 16th	(9), 152g	68	96	**SF17:** Cu Alloy Pin (1), <1g Baked Clay (2), 54g Slag (2), 17g Cu Alloy Pin (1), <1g Cockle Shell (1), <1g Oyster Shell (4), 22g
1221			3	Layer	13th - 14th	(25), 282g	110	460	Oyster Shell (1), 3g
1222			3	Burnt Layer			8	24	
1223	1225			Brick Lined Service Trench Fill	19th - 20th	(1), 1g	124	19	
1224	1226			Brick Lined Service Trench Fill	14th - Mid 16th	(1), <1g	8624		Fe Nail (1), 9g
1229	1230		3	Pit Fill				38	Fe Frag (1), 3g
1231	1232			Linear Feature Fill	15th - Mid 16th	(7), 188g	4744	277	Oyster Shell (5), 14g Cu Alloy Objects (8), <1g Cu Alloy Wire (1), 4g
1233	1235		3	Post Pit Fill	Mid 14th - 15th	(8), 90g	1284	140	Fe Nail (1), 15g Clay Pipe Stem Fragment (1), 3g Wood Fragments (3), 38g
1236	1237 1238		3	Pit Fill	15th - Early 16th 15th - Early 16th	(3), 46g (62), 1007g	513 3304	340 1932	Oyster Shell (3), 20g Silver Half Penny (1), <1g Oyster Shell (1), 7g Cu Alloy Fragment (1), <1g Fe Nail Fragments (4), 32g Fired Clay (1), 62g Kiln Lining (1), 102g
1239	1240		3	Pit Fill	12th - 13th/14th	(11), 116g		212	

1243	1244		3	Pit Fill	13th - 14th/15th	(8), 74g	68	86	
1245	1246 1247		3	Pit Fill	11th - Mid 12th 11th - 12th	(19), 1175g (1), 13g		18	
1248	1249		3	Pit Fill	12th - 14th	(2), 11g		2	
1250	1251		3	Pit Fill	11th - Mid 12th	(2), 62g		70	

APPENDIX 2 SPECIALISTS' REPORTS

The Struck Flint
Andrew Peachey

The evaluation recovered two fragments of struck flint (20g). Both fragments are from the same type of raw material: chalk-derived, dark grey flint that occurs naturally in the chalk belt that runs through central Norfolk (Orna and Orna 1984, 3).

Pit F1052 (L1041) contained a large tertiary flake (14g) that was struck from a long-blade producing core, while Pit F1078 (L1118) contained an uncorticated flake with a hinged termination, possibly representing a mis-hit from a similar core. The limited quantity and residual nature of these fragments restricts conclusions although these fragments probably belong to the Neolithic period.

Bibliography

Orna, B. & Orna, E. 1984 *Flint in Norfolk Building*. Running Angel, Norwich.

The Pottery
By Peter Thompson

The trial trench evaluation recovered 792 sherds, weighing 15.706kg. The pottery assemblage spans the early medieval to post-medieval periods, with the largest concentration attributable to the 15th and 16th centuries. The sherds were all examined and recorded in a Microsoft Excel database, which has been included as part of the site archive. The wares and fabrics present are listed below in chronological order, according to sherd number and weight (Table 2). The assemblage is in mixed condition, but overall is moderately to quite heavily abraded; the average sherd size per fabric is tabulated below (Table 2). The range of wares is fairly typical of what has previously been found in medieval and early post-medieval Norwich and the more interesting/ informative assemblages are described by feature below.

Fabric/ware	Sherd number	Percentage of sherd total (%)	Fabric weight (g)	Mean sherd weight (g)
Sand and flint *(Iron Age?)*	8	1	68	8.5
Thetford *(Late 9th-late 12th)*	28	3.5	1,239	44.2
St Neots *(late 9th-late 12th)*	4	0.5	32	8
Yarmouth-type *(11th-12th)*	4	0.5	32	8
Early medieval sandy ware *(11th-12th)*	3	0.4	20	6.6
Medieval Developed St Neots-type *(12th-13th)*	1	0.1	20	20

Quartz and limestone *(12th-13th/14th)*	1	0.1	13	13
Local medieval unglazed coarseware *(12th-14th)*	206	26	2,694	13
Grimston-type coarse ware *(12th-mid 13th)*	52	6.6	534	10.2
Glazed Grimston *(late 12th-14th)*	46	5.8	607	13.2
Unsouredcd miscellaneous medieval glazed *(late 12th-14th)*	24	3	617	25.7
Medieval oxidised *(late 12th-14th)*	19	2.4	403	21.2
Late medieval coarse ware *(late 14th-early 16th)*	47	5.9	407	8.6
Late Grimston *(late 14th-early 16th)*	8	1	93	11.6
Unsourced late medieval glazed wares *(late 14th-early 16th)*	5	0.6	80	16
Siegburg stoneware *(mid 14th-mid 16th)*	7	0.9	130	18.5
'Tudor Green' *(late 14th-15th)*	20	2.5	75	4.1
Late medieval oxidised *(late 14th-mid 16th)*	43	5.5	745	17.3
Late medieval transitional *(15th-16th)*	117	14.8	3,590	30.6
Langerwehe/Raeren stoneware *(15th-16th)*	20	2.5	477	23.8
Ely Fine ware? *(16th)*	4	0.5	20	5
Frechen stone ware *(mid 16th-18th)*	5	0.6	1003	200.6
Low countries red ware *(15th-16th)*	10	1.3	272	40.2
Dutch/ tin glazed earthenware *(late 15th-17th)*	2	0.3	19	9.5
Green glazed Border ware *(mid 16th-17th)*	2	0.3	12	6
Yellow glazed Border ware (*mid 16th-17th*)	1	0.1	7	7
English Delftware *(late 16th-18th)*	20	2.5	487	24.35
Post-medieval red earthenware *(late 16th-19th)*	54	6.9	1,498	27.7
Westerwald stoneware *(late 16th-19th)*	2	0.3	51	25.5

Staffordshire marbled slip ware *(late 17th-18th)*	5	0.6	81	16.2
Staffordshire mottled ware (*late 17th-18th*)	1	0.1	23	23
London stoneware *(late 17th-19th)*	6	0.7	149	24.8
Staffordshire white salt glazed stone ware *(18th)*	3	0.4	21	7
Creamware *(mid 18th-late 19th)*	3	0.4	17	5.6
Refined white earthenware *(mid 18th-modern)*	2	0.3	62	31
Transfer Printed ware *(late 19th- modern)*	9	1.1	108	12

Table 2: The wares/ fabrics by sherd number and fabric weight

Pit F1138 (Trench 2) contained the earliest pottery, comprising eight thick, highly-abraded and undiagnostic residual sherds. These are in mixed flint, quartz and sand fabrics, sometimes also containing sparse grass. They could be either mid to late Iron Age or middle Saxon, as such fabrics were produced in both periods. On balance, the sparse to moderate very coarse flint inclusions would point to an Iron Age date, although, as mentioned, flint was sometimes present in Saxon fabrics.

Three features contained Saxo-Norman pottery of 10th to mid 12th-century date. Pit F1245 (L1246) (Trench 3) held 20 sherds of Thetford Ware (1.152kg), in good condition and all from the same rounded base and lower profile of a storage jar. In Norwich, these vessels were predominantly flat-based and sagging or rounded bases are generally thought to be late characteristics (McCarthy and Brooks 1988, 162). A sherd of St Neots Ware was the only other pottery present in this context, while the lower fill of the same pit (L1247) contained a Thetford-type jar rim of Jennings type 6 (Jennings 1983, 75). A post-Conquest date is probable for the assemblage (*c*. AD 1050-1150). Pit F1250 (Trench 3) contained a similar sherd of Thetford Ware to L1246, while Layer L1149 (Trench 4) contained several small sherds of Thetford-type fabric together with a sherd in coarse sub-rounded quartz sand with sparse to moderate flecks of shell, which is probably a Yarmouth Ware datable to the 11th to 12th centuries.

Green-glazed Grimston Ware comprises almost 7% of the site assemblage. It was imported from the King's Lynn area, attesting to trade between the region's more important commercial centres (Jennings and Rogerson 1994, 117). Several features contained highly-decorated glazed Grimston sherds of 13th to 14th-century date. Pits F1156 and F1160 (Trench 4) contained sherds with iron slip and applied scales, Pit F1242 (L1210) (Trench 3) contained a twisted rod handle and a medieval garden soil in Trench 3 (L1221) contained one sherd with a roulette-decorated applied iron-slipped clay strip, and another with applied circular pads with stab decoration. Pit F1138 (Trench 2) also contained a glazed Grimston face from a highly-decorated jug. Face jugs were most prevalent between the mid 13th and 14th centuries, but three associated oxidised sherds with patchy brown or yellow/ green glaze are probably

15th-century. Late Grimston glazed sherds indicative of the 15th to early 16th centuries are also present, for example, in Pits F1057 (Trench 1) and F1138 (Trench 2). These generally have a glossier glaze and appear alongside early imported stonewares.

Unglazed sherds in grey quartz sandy fabrics, similar to the glazed Grimston Wares, and appearing in broadly equal numbers, are probably also from Grimston (Table 2). The largest pottery group present is made up of local medieval unglazed coarsewares (LMU), a generic term for unsourced coarse wares spanning the medieval period. They account for nearly one third of the site total. Some of these are successors to unglazed Grimston Wares (which in turn replaced Thetford Wares), which went out of production in the mid 13th century (Little and Lentowicz 1994, 91). The site produced several bowl forms with developed, almost T-shaped or hammerhead, rims, which are found at Norwich in LMU and broadly date between the 13th and 15th centuries (Jennings 1979, 41). A steep-sided bowl with thickened well-developed rim and finger decoration to the top edge, from Pit F1156 (L1157) (Trench 4), is of a type previously found in Norwich, and can be dated by its association with highly-decorated Grimston Ware to the 13th to 14th century. Ditch F1116 (Trench 4) contained a deep bowl with developed rim, similar to an example in Grimston Ware from King's Lynn, dated to the mid 13th century (Clarke and Carter 1977, fig. 84.18; Little with Lentowicz 1994, 90).

One of the probable wells/ cess pits in Trench 4 (F1078) contained 44 sherds, from six fills. One of the uppermost fills (L1122) included an unglazed squared jar rim in quite good condition, with an applied horizontal thumb-decorated strip beneath and a similar vertical strip running down the body. This upper profile is similar in form to a glazed Grimston bunghole cistern from Grimston, dated to the *c.* 14th to 15th century (Little and Lentowicz 1994, 88, 92 and 94). The lower fills of the well/ cess pit contained green-glazed Grimston Wares and dark grey sandy ware cooking pot sherds in keeping with a late 12th to 14th-century date. The exception was an orange-buff sherd with orange-yellow glaze from one of the lowest fills (L1196), which would suit a 15th-century date. This is out of character with the rest of the assemblage and is almost certainly intrusive.

Twenty undiagnostic, small, fine and thin white sherds with apple-green glaze are probably late 14th to 15th-century imported 'Tudor Green' Surrey/ Hampshire Border Wares, although it is possible that some might be Ely Fine Wares, which are in a similar fabric and glaze. One 'Tudor Green' sherd was present in Ditch F1056 (L1039) (Trench 1). This ditch contained 44 sherds, including a sherd of imported Langerwehe stoneware indicated by its roulette decoration. Pit F1236 (Trench 3) was another probable 15th-century feature, which contained a comparatively large quantity of pottery (62 sherds). A sherd of post-medieval Green Glazed Border Ware might suggest a late 16th to early 17th-century date (the *floruit* of importation of these products into Norwich (Jennings 1979, 129)). However, it is likely that this sherd is intrusive, as the remainder of the pottery from the feature appears to be late medieval and includes a greyware candle holder and a developed bowl rim.

Pit F1207 (Trench 3) contained one of the largest quantities of pottery from the site, comprising 62 sherds (4.388kg) datable to the 16th century. It includes two almost-complete vessels. One is a Late Medieval Transitional (LMT) cauldron, which upon reconstruction was found to have been discarded because of a broken handle. Sooting

on the underside shows its use as a cooking vessel. Another partial LMT flat vessel, with at least two side handles and an applied foot, is from a dripping dish specifically used for catching the juices from roasting meat (MPRG 1998 5.3.6). Two sherds of imported Low Countries red ware, including a clear-glazed decorative lid and a sherd of Dutch (or possibly Spanish) tin-glazed earthenware with hand-painted polychrome decoration in blue, yellow and green, attest to trading links with the Continent. The second almost-complete vessel, a Frechen salt-glazed stoneware drinking jug from the Rhineland, provides the closest dating. The form is similar to examples in the Museum of London Collection and to forms from Norwich (Museum of London Ceramics and Glass Collection Accession Nos. 23713 & 11486; Jennings 1979, 117). These vessels were imported between the mid 16th and 18th centuries and the Ber Street example is almost certainly early, as the uniform brown glaze present was replaced by the more characteristic 'tiger' glaze in the later 16th century. The globular form of the Ber Street jug was also superseded by more ovoid profiles in the 17th century. Negative evidence to support this dating comes from the absence of clay pipe in Pit F1207, which one might expect to find in an assemblage of this size by *c*. 1600 (Oswald 1975, 6). The pottery assemblage would therefore suit a date centred on the third quarter of the 16th century.

The earliest garden soil horizon in Trench 4 (L1008) produced a slightly ambiguous group containing residual glazed Grimston Ware and early post-medieval earthenware and stonewares, but also a small sherd of probably intrusive creamware of late 18th to 19th-century date. The presence of white tin-glazed earthenware, Staffordshire mottled or 'lustre' ware, Frechen and London-type stoneware, and yellow-glazed Surrey Border Ware would all match a late 17th to 18th-century date, although the Border Ware ceased production around AD 1700. This layer also included an internally glazed post-medieval red earthenware perforated base indicating use as a colander or strainer. A sherd of pink buff stoneware with thin external brown salt-glazed wash could be a Siegburg Ware, but its applied decorative rose plant motif is more commonly found on Cologne stoneware datable to the first half of the 16th century (Gaimster 1997 31-2). The deep garden soil accumulation in Trench 2 (L1112) contained 47 sherds including London stoneware, Staffordshire marbled slip ware and Staffordshire white salt-glazed stoneware, indicating an unambiguous 18th-century date.

Bibliography

Clarke, H. and Carter, A. 1977 'The pottery' in *Excavations in King's Lynn 1963-70*. Society for Medieval Archaeology Monograph Series 7

Gaimster, D. 1997 *German Stoneware 1200-1900. Archaeology and Cultural History* British Museum Press

Jennings, S. 1979 *Eighteen Centuries of Pottery From Norwich.* East Anglian Archaeology Report 13

Jennings, S. 1983 'The pottery' in Ayers, B. and Murphy, P. (eds.) *Waterfront Excavation and Thetford Ware Production, Norwich*. East Anglian Archaeology Report 17

Jennings, S. and Rogerson, A. 1994 'The distribution of Grimston Ware in East Anglia and beyond' in Leah, M. (ed.) *The Late Saxon and Medieval Pottery Industry of Grimston, Norfolk: Excavations 1962-92*. East Anglian Archaeology Report 64, 116-118

Little, A. with Lentowicz, I. 1994 'The pottery' in Leah, M. (ed.) *The Late Saxon and Medieval Pottery Industry of Grimston, Norfolk: Excavations 1962-92*. East Anglian Archaeology Report 64, 84-100

McCarthy, M. and Brooks, C. 1988 *Medieval Pottery in Britain: AD 900-1600.* Leicester University Press
MPRG 1998 *A Guide to the Classification of Medieval Forms*. Medieval Pottery Research Group Occasional Paper No. 1

Oswald, A. 1975 *Clay Pipes for the Archaeologist.* British Archaeological Report 14

The Ceramic Building Materials
By Andrew Peachey

The trial trench evaluation produced a total of 1020 fragments (121,739g) of late medieval to post-medieval CBM, generally in a slightly to moderately abraded condition. The bulk of the assemblage is comprised of two types of brick and kiln/ furnace lining, with sparse quantities of tile also present (Table 3). For the purposes of the evaluation, the CBM was subject to a detailed scan to identify form types and quantified by fragment count and weight (g), with all data entered into a Microsoft Excel spreadsheet that forms part of the site archive.

CBM type	Fragment count	Weight (g)
17th-19th century brick	18	26724
15th - early 17th century brick	94	67094
Peg tile	114	9286
Glazed floor tile	1	393
Miscellaneous CBM	50	1587
Kiln/ furnace lining	742	16655
Total	*1020*	*121739*

Table 3: Quantification of CBM types (includes bricks taken as masonry samples)

The bulk of the assemblage, *c*. 55% by weight, is accounted for by late medieval to post-medieval brick with dimensions of approximately 220 x 105-110 x 45-50mm. These bricks have a smooth base and slightly rounded to rounded arrises and frequently exhibit striations on their upper face. Faces may be slightly creased to smooth. These bricks occur in at least three fabrics, probably produced locally or in the Norfolk/ Suffolk region. The fabrics are of varying quality. Bricks with these characteristics could have been produced in the 15th to early 17th centuries. Fragments from this type of brick are common in the assemblage but are present in particular quantities from Blocked-in Doorway M1188 (16 examples; 26,952g), Partition Wall F1095 (6 fragments; 6043g) and Pits F1160 (14 fragments; 8877g) and F1186 (9 fragments; 6478g).

Sparse examples/ fragments of later post-medieval brick are also present in the assemblage. These bricks have dimensions of 220 x 110 x 60-65mm and have a smooth base, sharp, regular to slightly irregular arrises and smooth faces. These bricks occur in at least two fabrics, probably of local manufacture. Bricks with these characteristics were probably produced from the 17th to 19th centuries. Examples of this type of brick were recovered from Soakaway M1004, Cellar Floor L1009, Culvert S1035, Drain M1224, Pit F1231, Pit F1201, Posthole F1233 and Well/ Pit F1236 (L1238).

In addition to the brick types, the assemblage also contains sparse quantities of tile in varying fabrics. The tile is almost entirely late medieval/ post-medieval peg tile which occurs in a fragmentary state. The only extant dimension is a thickness of 14-16mm. Small concentrations of peg tile were contained in Occupation Layer L1105 (25 fragments; 2225g), Ditch F1056 (16 fragments; 1805g) and Pit F1057 (15 fragments; 1040g), but it is otherwise distributed as relatively small and isolated fragments. The only fragment of tile that is not peg tile is a single fragment of glazed floor tile from Pit F1160. This fragment is 25mm thick with a white (tin?) glaze and is also of post-medieval date.

Fragments of kiln/ furnace lining form a major component of the assemblage, accounting for *c*. 13.7% of the assemblage by weight. The kiln/ furnace lining comprises friable clay tempered with sparse medium sand and sparse organic material, probably chaff and straw/ grass (now charred/ burnt out). The bulk of fragments exhibit a clearly oxidised orange-red 'interior' surface that fades to a dark grey/ black 'exterior'. Clearly these fragments have been fired or baked; however, not to a particularly high temperature. Perhaps expectedly, the highest concentration of these fragments occurs in Furnace S1148 L1155 (323 fragments; 9467g), while smaller concentrations were contained in Industrial Layers L1010 and L1053, Construction Cut F1014 and Pit F1057. Further scattered fragments of kiln/ furnace lining occur frequently throughout the assemblage.

The Slag
By Andrew A. S. Newton

Introduction

Slag was recovered from 35 contexts. It was identified visually on morphological grounds and recorded on an excel spreadsheet.

Results

FEATURE	CONTEXT	FEATURE TYPE	No. Frags	WEIGHT
1004	1005	Well	1	5g
	1008	Layer	4	31g
	1010	Burnt Layer	2	6g
	1013	Layer	8	105g
1014	1036	Well	1	23g
1024	1025	Ditch	1	119g

	1029	Layer	1	17g
1056	1040	Ditch	1	99g
			1	29g
1057	1041	Pit	1	6g
	1075	Layer	18	659g
1078	1118	Pit	3	214g
	1080	Packing Material	1	31g
			1	3g
	1082	Layer	3	23g
1084	1085	Pit	17	578g
	1086	Layer	1	22g
1101	1103	Linear	16	124g
	1105	Layer	7	205g
	1107	Layer	42	1331g
	1108	Layer	2	10g
1138	1140	Pit		
1143	1144	Pit	1	16g
	1145	Layer	3	3
	1146	Hearth	2	1g
	1155	Furnace	4	15g
1160	1183	Pit	27	2297g
			67	606g
1186	1161	Pit	1	15g
1186	1177		1	9g
1186	1187		16	696g
1191	1195	Arch	1	11g
1192	1194	Arch		
1203	1204		1	12g
	1227			
	1228		1	12g
1205	1206	Pit	1	42g
1207	1208	Pit	1	131g

Table 4: Quantity and weight of slag recovered by context

L1005 Lightweight burnt anthracitic material- coke. Possibly represents fuel from Fe smelting activity attested by the slag recovered from other contexts.

L1008 Residue from copper working. Three brittle fragments of very Cu rich material with small fragments of baked clay and charcoal impressed in to surfaces. One piece of dark grey/black vitrified material.

L1010 Possibly copper slag. Impressions of grass and sticks across surface may be indicative of fuel within the furnace. However, seemingly high Cu content, 'cokey' feel to much of the material forming these fragments and fairly evenly distributed small stones and small fragments of CBM may suggest that these coalesced lumps are the result of deliberate or accidental burning rather than copper working.

L1013 Black lava-like slag from processing of Cu or Cu alloys, very glassy and vitrified with some pieces more charcoal-like in appearance. All eight pieces from this context contain Cu to varying degrees.

F1014 L1036 Single piece of undiagnostic slag with green Cu staining suggesting that it came from copper or copper alloy working

F1024 L1025 Iron smelting slag. Fairly low Fe content suggesting efficient smelting process. Small pieces of charcoal are evident in various places across surface. Does not appear to be broken from a larger piece and is too small to be considered a "furnace bottom".

L1029 ?Cu slag. Very vitrified and glassy in appearance. Alternatively could be a small piece of blast furnace slag but green staining makes Cu slag more likely.

F1056 L1040 Iron smelting slag with possible furnace lining still attached.

F1056 L1040 Vitrified and quite glassy in appearance. Green Cu staining indicates that this is a slag produced during the working of copper or one of its alloys.

F1057 L1041 Dark grey cinder-like fragment of Cu slag with some glossy surfaces and abundant blue green Cu staining.

L1075 17 pieces undiagnostic Fe slag. Abundant small to medium stones adhere to slag.

F1078 L1118 Undiagnostic Fe slag. The largest piece of slag from this context was black in colour with a vitrified, glassy "lava-like" upper surface and a greyer, more granular lower surface. Small stones were apparent, impressed in to all surfaces. The remaining two pieces of slag from context L1118 were very similar in appearance to the lower surface of the larger piece, being grey-brown in colour and somewhat granular in texture. Occasional pieces of charcoal adhered to the outer surfaces of these pieces and Fe staining was evident, though none of this slag was magnetic.

L1080 One piece of undiagnostic Fe slag. One piece of lighter material that may be Cu slag.

L1082 Three fragments of mid grey to black probable iron slag. Surfaces generally dull and rough but some evidence for smooth glossy, glass-like interior visible at broken edges. Possibly fragments of slag cake from iron smelting

F1084 L1085 This context produced three different types of Fe slag. Three small fragments (27g) comprised a light grey brown material with rough, granular surfaces with occasional Fe staining and sparse small stones impressed into surfaces. Slightly magnetic. Five fragments (115g), dark grey with occasional red brown patches, displayed smooth, rippled (lava-like) ?upper surfaces with rougher lower surfaces. This material may comprise fragments of tap slag. The majority of the material from this context (8 fragments; 436g) was similar in colour to the possible tap slag but did not display the smooth lava-flow-like surfaces; instead its surfaces were rougher and more charcoal like to the touch. This material was dense and clearly contained a significant Fe content as most fragments were quite strongly magnetic. Medium sized stones adhered to some of these fragments.

L1086 Cinder-like Cu slag. Dark grey to black with occasional green Cu patches.

F1101 L1103 Copper working slag. Possibly from smelting. Fourteen fragments of homogenous dark grey to black lightweight material- moderately porous- with occasional green oxidised Cu staining. Two pieces of smooth, dense material, dark grey shiny, almost metallic surfaces.

L1105 Cu/Cu alloy slag. This material comprises five pieces of slag possibly derived from the smelting of copper. Slag appears to retain a high Cu content. Generally very dark grey in colour. Larger pieces comprise agglomerations of slag with small stones, chalk fragments, charcoal and baked clay, the latter possibly representing kiln lining.

L1105 Cu slag. Light purplish grey in colour with occasional bands and patches of oxidised Cu. Rough surfaces but surface morphology of the larger piece clearly demonstrates that the material was viscous when at high temperature.

L1107 Large quantity of slag produced by the iron smelting process. All 42 pieces fairly homogenous. Surface morphology of several pieces suggests that this may have been tap slag, though it cannot be stated with any certainty that all of this slag originated from the same furnace or indeed the same smelt.

L1108 One piece black, brittle very iron rich material. One small piece of non-magnetic red brown to light grey material. Both pieces comprise undiagnostic Fe slag.

F1143 L1144 Single small piece of undiagnostic iron slag. Quite magnetic. Dark in colour with occasional small stones adhering to surface. Possibly broken from a run or prill of slag.

L1145 Three small pieces of dark grey to grey brown, with blue-green patches, Cu slag.

L1146 Two very small pieces of residue from Cu/Cu alloy working.

L1155 Four fragments of Cu slag Mid grey to blue green rough surfaced material with some glassy patches and patches of baked clay/ceramic possibly from furnace walls.

F1160 L1183 Large quantity of iron smelting slag. Some pieces retain charcoal impressed into their surfaces other pieces display small pieces of baked clay adhering to them; possibly representing the interior lining of the furnace. Although these 27 separate pieces cannot be identified as having been broken from a single piece it seems likely that they may represent a slag cake from a single furnace all dumped in to the same feature.

F1160 L1183 Sample 33 Sixty-seven fragments of fairly homogenous dense Fe slag. Slag ranges in colour from dark red-brown to black. Fragments are variously magnetic indicating a moderate Fe content. The globular, lava-like morphology of the fragments indicates that they came from a slag-flow, possibly indicating that this material represents tap slag. It appears quite likely that all of these fragments were broken from the same piece of slag.

F1186 L1187 Ironworking slag. Probably a smelting slag. Lava-like upper surfaces suggests tap slag or slag pooled and solidified. Small stones adhere to lower surfaces.

F1186 L1161 Dark red to orange brown rough-surfaced amorphous fragment of material. Moderately magnetic. Clearly derived from ironworking but not possible to identify from which particular process it is derived.

F1186 L1177 Similar material to that recovered from fill L1161 of the same feature. Numerous small stones adhere to this fragment.

F1191 L1195 Agglomeration of material including stones and charcoal with some Fe content (material is very slightly magnetic) presumably derived from iron smelting. May represent part of furnace lining.

F1203 L1204 Grey to red brown fragment of slag with rough surfaces to which moderate charcoal and baked clay adheres. Slightly magnetic. Form of fragment suggests that it may be a fragment of a run or prill of smelting slag that possibly formed within the furnace.

F1203 L1228 Very Cu rich material agglomerated around black coke-like material. Amorphous with small stone adhering to surface and surface impressions that may represent organic fuel material

F1205 L1206 Undiagnostic Fe slag. Dark reddish brown to yellow brown in colour. Darker areas indicate area of higher Fe content. Rough irregular surfaces.

F1207 L1208 Moderate to abundant charcoal adhering and impressed into one surface suggests that this is a piece of smelting slag coalesced within the furnace.

Discussion

The slag recovered indicates that copper and iron working was being recovered in the vicinity of the Ber Street site during the late medieval and post-medieval periods. There is sufficient evidence to indicate that the working of iron included iron smelting. No complete slag-cakes where identified suggesting that much of the slag recovered from the site was found as deliberately dumped refuse material.

The Human Bone
By Dr James Morris

The human remains (SK1142) were recovered from Layer L1113 in Trench 2. The remains consist of 54 fragments of skull. The majority of the fragments are relatively small, at most around 20-30mm in length. It was possible to identify eight fragments as originating from the occipital bone and four from the temporal. The rest of the fragments are from the partial bones. No facial bones are present. As the fragments were recovered in close association and no repeating elements can be identified, it is likely that they represent the fragmented posterior aspect of an individual skull. The skull is fully developed and from an adult individual, but due to the condition of the fragments it is not possible to ascertain further ageing or sexing information.

The fragments are poorly-preserved and are eroded to grade 4 (all the bone surface is affected, the general profile is maintained and the depth of modification is not uniform) (McKinley 2004). The edges of the fragments are rounded, which would suggested they have been subjected to some movement within a soil matrix. Therefore, the skull is unlikely to be a primary deposit. It may represent the disturbed remains of a nearby burial.

Due to the limited information available from the human remains recovered, no further work is recommended at this time.

Bibliography

McKinley, J. 2004 'Compiling a skeletal inventory: disarticulated and co-mingled remains' in McKinley, J. and Brickley, M. (eds.) *Guidelines to the Standards for Recording Human Remains*. IFA Paper No. 7. British Association for Biological Anthropology and Osteoarchaeology and Institute of Field Archaeologists, Reading, 14-17

The Animal Bone
By Dr James Morris

Introduction

The trial trench evaluation resulted in a hand collected assemblage weighing 18,850g and comprising approximately 2,067 fragments. An initial scan was carried out to assess the general nature of the assemblage, its preservation, and potential areas for further investigation. The majority of the assemblage came from contexts dating to the high (*c*. AD 1250 - 1400) and late (*c.* AD 1400 - 1500) medieval periods.

Methods

The faunal remains from each context were scanned in line with MAP2 (English Heritage 1991; 2002). Each fragment was identified to species. When it was not possible to identify the species, the bones were recorded as unidentified. As the purpose of the scan was to ascertain the assemblage's potential for further analysis, bird and fish bones were not identified to species and were simply recorded as 'BIRD' or 'FISH'.

For an assessment of this nature, element information was not recorded. However, the number of fragments with available taphonomic, butchery, ageing or metrical information, were noted. All data was entered into a Microsoft Access database, which will be included in the site archive.

Results - preservation

The preservation of the majority of the assemblage is very good. A small amount of erosion and fragmentation (when two or more inter-fitting fragments from the same bone are present) was noted. A small number of elements from all periods have canid

gnawing present. An unidentified medium-sized mammal rib (sheep/goat or pig), from Pit F1236 (L1238) (Trench 3), has been gnawed by a cat.

During the scan, it was noted that the condition of the majority of the bones recovered from Foundation Trench F1172 (L1169) (Trench 4) is poor compared to the rest of the assemblage, with many of the elements highly eroded and canid-gnawed. However, highly porous neonatal sheep/goat bones were also present within this layer, which would suggest that the soil conditions were conducive to bone survival. Therefore, the highly-eroded and gnawed elements are likely to represent material which was primarily deposited above ground, before being secondarily deposited within this layer.

Copper staining was noted on elements from a number of contexts including Burnt/ Industrial Layer L1010 (Trench 4), Metalled Surface L1029 (Trench 4), Ditch F1056 (L1040) (Trench 1), Pit F1057 (L1041) (Trench 1), Pit F1138 (L1141) (Trench 2), Made Ground L1209 (Trench 3), Garden Soil L1221 (Trench 3) and Posthole F1233 (L1235) (Trench 3). This was caused by the close proximity of copper-alloy artefacts and/ or metalworking waste, which may have resulted from the bronze working taking place on the site.

The general condition of the assemblage and the presence of neonatal elements indicate that the site has excellent bone preservation conditions.

Results - species present

Overall, the largest proportion of the assemblage came from 'high' medieval contexts. In particular, large amounts of animal bone were present in Made Ground/ Occupation Layer L1107 (Trench 4), Pit F1138 (L1141) (Trench 2) and Pit F1236 (L1238) (Trench 3). Overall, domestic mammals dominate the assemblage, with only a small number of wild mammal, bird and fish bones present (Table 4). Cattle were the most common species during both the high and late medieval periods, followed by sheep/goat and pig. Such a pattern is also observable in the assemblages from Castle Mall (Albarella *et al.* 1997) and Dragon Hall (Murray and Albarella 2005).

Species	Saxo-Norman	High medieval	Late medieval	Post-medieval	*Total*
Cow	5	285	230	20	*540*
Sheep/Goat	10	170	140	10	*330*
Pig		125	20		*145*
Horse		5	5	5	*15*
Dog			5		*5*
Cat		3			*3*
Fallow deer		1			*1*
Rabbit			5		*5*
Fox		1			*1*
BIRD		31	6		*37*
FISH		15			*15*
Unidentified	10	510	425	25	*970*
Total	*25*	*1146*	*836*	*60*	*2067*

Table 5: Summary of the number of elements recorded per species for each period.

As well as the main domestic animals often encountered on urban archaeological sites of this period, the presence of a number of other species was noted. Individual cat elements were recorded from several high medieval contexts: Pit F1138 (L1141) (Trench 2), Pit F1156 (L1157) (Trench 4) and Foundation Trench F1172 (L1195) (Trench 4).

Fallow deer is represented in the high medieval period by a fragment of antler beam recovered from Pit F1236 (L1238) (Trench 3). It has saw marks at both the proximal and distal ends, indicating how it was separated from the rest of the antler. Saw marks are also present on the medial and caudal aspects, which could indicate an aborted attempt to work this piece. Worked bone was also recovered from Pit F1138 (L1139) (Trench 2). It consists of the proximal end and shaft of a sheep/goat tibia. Holes have been drilled into the medial and lateral aspects of the shaft, just below the proximal epiphysis, and the distal end of the shaft had been worked on the anterior aspect into a point. The distal aspect of the shaft is polished, indicating that it may have been used for an activity such as weaving.

A fox mandible was recovered from Pit F1248 (L1249) (Trench 3). To the author's knowledge, this would be one of the first examples of fox remains from a medieval context in Norwich. Fox remains dating to the post-medieval period were recovered from 75-76 Heigham Street (Weinstock 2002). It is possible that the mandible represents the processing of a fox for fur (Baxter and Hamilton-Dyer 2003).

Dog elements were identified in a number of late medieval contexts. All the remains consist of isolated fragments, although it is possible that they represent disturbed dog burials, which are not uncommon in the late medieval period (Morris 2008, 280). A small number of rabbit elements were also identified in high medieval contexts (Table 4). Rabbit remains have also been recovered on other sites within Norwich and indicate that they were occasionally consumed and/ or processed for fur.

Bird remains were identified in both high and late medieval contexts. The majority of the remains from both periods are from domestic fowl or goose. One exception is a fragment of swan carpo-metacarpal recovered from Well/ Cess Pit F1078 (L1196) (Trench 4). Fish remains were also recovered from a number of high medieval contexts. All the fish remains consist of large vertebral or skull fragments and appear to be from cod, although further work is required to confirm this. As the animal remains were hand collected only and sieving did not take place on the site, it is likely that the remains of smaller fish species/ elements will have been missed (Payne 1972).

Results - further information

Due to the excellent preservation conditions, further information is available from the assemblage. Cattle, sheep/goat and pig mandibles are present with tooth wear data, although the majority of the ageing information is in the form of fusion data (Table 5). Butchery marks were observed on a number of elements, the majority either high or late medieval in date. All the butchery marks noted during the scan were present on either cattle, sheep/goat or pig elements. The good preservation conditions also mean that metrical data is available from a number of elements.

Category	Late Saxon	High Medieval	Late Medieval	Post-medieval	Total
Tooth wear		14	5		*19*
Fusion date	4	190	122	15	*331*
Butchered	1	31	42	5	*79*
Measurable		80	35		*115*

Table 6: Summary of further information available from the assemblage

Summary of potential

The preliminary scan of the assemblage indicates that it has the potential to add to our knowledge of the urban environment and economy of Norwich, in line with the research framework suggested by Ayers (2000). In relation to other faunal assemblages from Norwich, the Ber Street assemblage is of similar size to those recovered from Fishergate (Jones 1994), Dragon Hall (Murray and Albarella 2005) and 75-76 Heigham Street (Weinstock 2002). It is highly recommended that further analysis be carried out on the current assemblage. In particular, analysis of the body elements present may shed further light on the possible butchery activities taking place in this part of the medieval/ early post-medieval city (Brooks 2006, 24).

Any further archaeological work on the site will be highly likely to produce a well-preserved animal bone assemblage. Due to the good preservation conditions, if further archaeological work does take place, it is recommended that targeted sieving is carried out on site to aid recovery of small elements from fish, small mammals and amphibians. Any further archaeological work of a substantial nature will be likely to produce a large and important faunal assemblage.

Bibliography

Albarella, U., Beech, M. and Mulville, J. 1997 'The Saxon, medieval and post-medieval mammal and bird bone from Castle Mall, Norwich', English Heritage, AML report 72/97

Ayers, B. 2000. 'Anglo-Saxon, medieval and post-medieval (urban)' in Brown, N. and Glazebrook, J. (eds.) *Research and Archaeology: a Framework for the Eastern Counties, 2. research agenda and strategy*. East Anglian Archaeology Occasional Papers 8, Norwich, 27-32

Baxter, I. and Hamilton-Dyer, S. 2003 'Foxy in furs? A note on evidence for the probable commercial exploitation of the red fox (Vulpes vulpes) and other fur bearing mammals in Saxo-Norman (10th - 12th century AD) Hertford, Hertfordshire, U.K.' *Archaeofauna* 12, 87-94

Brooks, P. 2006 *Street by Street: Norwich*. Derby Breedon Books, Derby

English Heritage 1991 *Management of Archaeological Project*s. English Heritage, London

English Heritage 2002 *Environmental Archaeology. A Guide to the Theory and Practice of Methods, From Sampling and Recovery to Post-Excavation*. English Heritage, London

Jones, G. 1994 'Mammal and bird bone' in Ayers, B.S. (ed.) *Excavations at Fishergate, Norwich 1985.* East Anglian Archaeology 68, Norwich, 37-43

Morris, J. 2008 Re-examining Associated Bone Groups from Southern England and Yorkshire, *c*. 4000 BC to AD 1550. PHD thesis, Bournemouth University

Murray, E. and Albarella, A. 2005 'Mammal and avian bone' in Shelley, A. (ed.) *Dragon Hall, King Street, Norwich: Excavation and Survey of a Late Medieval Merchant's Trading Complex.* East Anglian Archaeology Report 112, Norwich, 158-167

Payne, S. 1972 'Partial recovery and sample bias: the results of some sieving experiments' in Higgs, E.S. (ed.) *Papers in Economic Prehistory.* Cambridge University Press, Cambridge, 49-64

Weinstock, J. 2002 'The medieval and post-medieval bone remains' in Atkin, M. and Evans, D.H. (eds.) *Excavations in Norwich 1971-1978 Part III.* East Anglian Archaeology Report 100, Norwich, 220-230

Plant Remains

Alexandra Livarda

Introduction

During excavations at '4-8 Ber Street, Norwich' extensive environmental sampling was carried out for the recovery of plant remains and other organic material to investigate their potential for the interpretation of the site. Spot dating, where available, indicated that the date of the samples ranged between the 11th and the late 16th century AD, with most dating to the late medieval period.

Sampling and processing methods

A total of fifty-four bulk samples were collected on a judgement-based sampling strategy from a variety of contexts, including pits, ditches, hearths, furnaces and different layers (Table 1). The size of the samples ranged between 10 and 40 litres. Processing was carried out by staff at Archaeological Solutions, who floated the samples using a 1mm and 0.25mm aperture mesh for the retention of the residues and the flots respectively. Most samples were air-dried but a selection was kept wet to preserve waterlogged material.

Thirteen samples from a variety of contexts and periods (Table 1) were fully assessed. A stereoscope with magnifications between x7 and x45 was used for their scanning. The archaeobotanical remains were recorded by category (cereal grain, chaff and other seeds) and the abundance estimated (+ = scarce <10; ++ = moderate 10-50; +++ = frequent >50) on the basis of the minimum number of characteristic plant parts. Plant names follow Stace (1997). Charcoal fragments and other organic material were also noted, estimating their abundance.

Results

Charred plant remains were found in all scanned samples, apart from the furnace (Sample 27, Feature 1155), in variable amounts. Cereal grains were the most common components, represented mainly by barley (*Hordeum vulgare* L.) and free-threshing wheat (*Triticum aestivum/turgidum*). Rye (*Secale cereale* L.) and oat (*Avena* sp.) were also identified in some samples, but in low numbers. Chaff was found occasionally, in the form of some rather poorly preserved wheat (*Triticum* sp.) rachis fragments and straw nodes.

Pulses were present in one fourth of the samples. Those that were well preserved were identified as pea (*Pisum sativum* L.) and broad bean (*Vicia faba* L.). Other food plants included hazelnut (*Corylus avellana* L.) and beet (*Beta vulgaris* L.). A fruit stone and seeds of possibly some other food plants/condiments were noted in some more samples but their identification, which would be time-consuming, was not attempted at this stage.

A variety of wild species occurred in most samples in low to moderate amounts. They included species occurring in arable fields, grassy, disturbed and waste places, such as corn gromwell (*Lithospermum arvense* L.), brome grass (*Bromus* sp.), rye grass (*Lolium* sp.) and other grasses (Poaceae), docks (*Rumex* spp.), wild radish (*Raphanus raphanistrum* L.), knotgrasses (*Polygonum* sp.), goosefoot seeds (*Chenopodium* spp.), thistles (*Carduus/Circium* spp.), bedstraw (*Galium* sp.), campions (*Silene* sp.) and plantain (*Plantago* sp.). Wetland plants were represented by a small range of sedges (*Carex* spp.). Finally, some indeterminate species of the pink (Caryophyllaceae) and the daisy (Asteraceae) family were noted in the assemblage.

Charcoal fragments were abundant in almost all samples. Small mammal and fish bones were found in about half of the samples while beetle remains, terrestrial snails and some bone fragments of larger mammals were only occasional findings. Uncharred seeds, mainly of elder (*Sambucus nigra* L.), goosefoot and nettle (*Urtica* sp.), were only rare occurrences in most samples.

Discussion/Summary

The material assessed had a rather homogenous character throughout the medieval period. Thus, a more or less similar range of cereals, other food and wild species was recorded in samples from all phases. Barley and free-threshing wheat were the main cereals consumed at the site. Chaff was scarce and present only in two samples of the late medieval phase. Rye and oat were only occasionally present and, therefore, may have been contaminants of the main crops. The diet was complemented with legumes, nuts and vegetables that could be cultivated locally or occur naturally in the surrounding environments. Most wild species may have been brought on site with the cereals and removed during some crop processing stage for the preparation of its consumption. Alternatively, or additionally, some wild species may have been part of the natural vegetation and, as such, they may have been incorporated into the occupation layers and later into the fills of the various archaeological deposits.

No significant organic remains were retrieved from the furnace, apart from a few charcoal fragments, and thus, this line of evidence cannot contribute to the understanding of processes related to bronze working.

A summary of the assessment results by sample can be found in Table 1.

Bibliography

Stace, C. 1997. *New Flora of the British Isles*. Cambridge: Cambridge University Press

Table 1: 51618 4-8 Ber Street, Norwich

Assessment of flots for archaeobotanical material. Cgr = cereal grain, Cf = chaff, Se = other seeds and shells, Oth = uncharred seeds, Cha = charcoal, Sn = snails, Be = beetle, Fsh = fish bone, SmB = small mammal bone, LmB = large mammal bone, FTW = free-threshing wheat, + = scarce, ++ = moderate, +++ = frequent.

Sample	Size (l)	Feature	Context	Trench	Description	Spot date	Flot (ml)	Cgr	Cf	Se	Oth	Cha	Sn	Be	Fsh	SmB	LmB	Comments
2	40	1024	1025	1	Ditch Fill	15th-16th	30	++		++	+	+++		+	+	+		Barley, oat, legumes, wild radish and other wild seeds incl. thistles, sedges and grasses.
6	20	1056	1041	1	Ditch Fill	15th-16th	35	+		+	+	+++			+			Cereal grains incl. barley and wild species, such as grasses, docks and plantain.
10	10	1101	1103	4	Linear Fill	14th-15th	50	+		+		+++						Sample dominated by slag. Few cereal grains and wild grasses.
12	20	1105		4	Layer	14th-15th	65	+			+	+++	+					Sample dominated by slag. Occasional cereal grains of barley and FTW.
17	20	1078	1128	4	Pit Fill		20	+		+	+	+++		+	+			Cereal grains incl. barley and wild species as docks and goosefoot seeds.
18	10	1115	1130	4	Ditch Fill	14th-15th	25	+++	+	++	+	++	+		+	+		Cereals (grains and rachis) incl. barley and FTW. Legumes and wild species, such as docks, wild radish, grasses and seeds of the pink family.

Table 1: 51618 4-8 Ber Street, Norwich (continued)

Sample	Size (l)	Feature	Context	Trench	Description	Spot date (AD)	Flot (ml)	Cgr	Cf	Se	Oth	Cha	Sn	Be	Fsh	SmB	LmB	Comments
20	20	1116	1117	4	Ditch Fill	13th	45	++		+	+++	+++			+	+++	+	Cereals incl. barley, FTW and rye. Hazelnut shell frags. and wild species incl. grasses.
22	20	1138	1141	2	Pit fill	15th	65	++	+	+	+	+++			+	+		Cereals, mainly barley but also FTW and oat, some chaff, fruit stone, beet, wild species incl. docks and grasses.
26	20	1146		4	Hearth		25	+			+	+++						Occasional cereal grains incl. barley and oat. Uncharred elder and goosefoot seeds.
27	20	1155		4	Demolished Furnace		30				+	++						Charcoal fragments and uncharred elder seeds.
41	40	1219	1220	3	Pit Fill	15th/early 16th	50	++		++		+++				+	+	Cereals incl. barley, wheat and poss. rye. Legumes and wild species, such as grasses and sedges.
53	40	1248	1249	3	Pit Fill	12th-14th	45	++		++	++	+++				+		Cereals incl. barley, wheat and oat. Hazelnut, poss. beet, grasses, knotgrasses and other wild species.
54	30	1250	1251	3	Pit Fill	11th-mid 12th	40	++		++	++	+++						Cereals incl. barley, FTW and oat. Wild radish, grasses and other wild species.

DIGITAL PHOTOS

DP1 Trench 1: Cellar Floor L1009, view N

DP2 Trench 1: medieval Ditches F1045, F1043 and F1024, view W

DP3 Trench 1: Ditches F1058 and F1056 (foreground), Pit F1057 (middle ground on left) and Culvert S1035 (back left), view N

DP4 Trench 2: Quarry Pit F1138 mid-excavation, view S

DP5 Trench 2: Skull/ ?Truncated Grave 1142, view S

DP6 Trench 3: mid-excavation, view W

DP7 Trench 4: Burnt Layer/ Industrial Feature 1010, view N

DP8 Trench 4: Burnt Layer 1010 Slot A, view W

DP9 Trench 4: Wall M1061 north-facing elevation, view S

DP10 Trench 4: Well/ Cess Pit F1078, view E

DP11 Trench 4: Bronze Smelting Furnace F1148 (showing earliest clay lining L1164) mid-excavation, view S

DP12 Trench 4: Ditch F1115 (full-ex), Pit F1143 (mid-ex), Ditch F1116 (full-ex) and Pit F1158 (pre-ex), view E

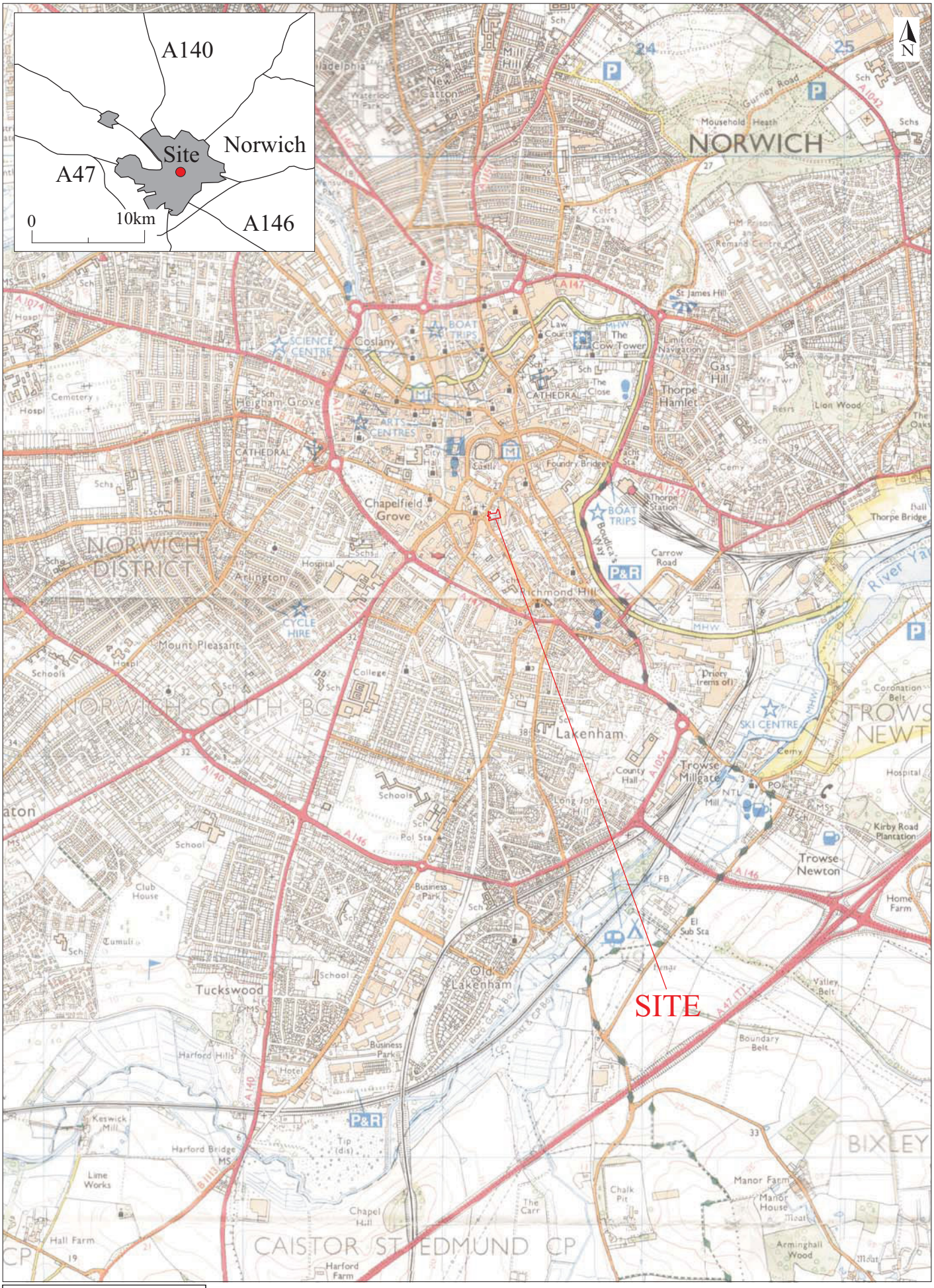

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Fig. 1 Site location plan

Scale 1:25,000

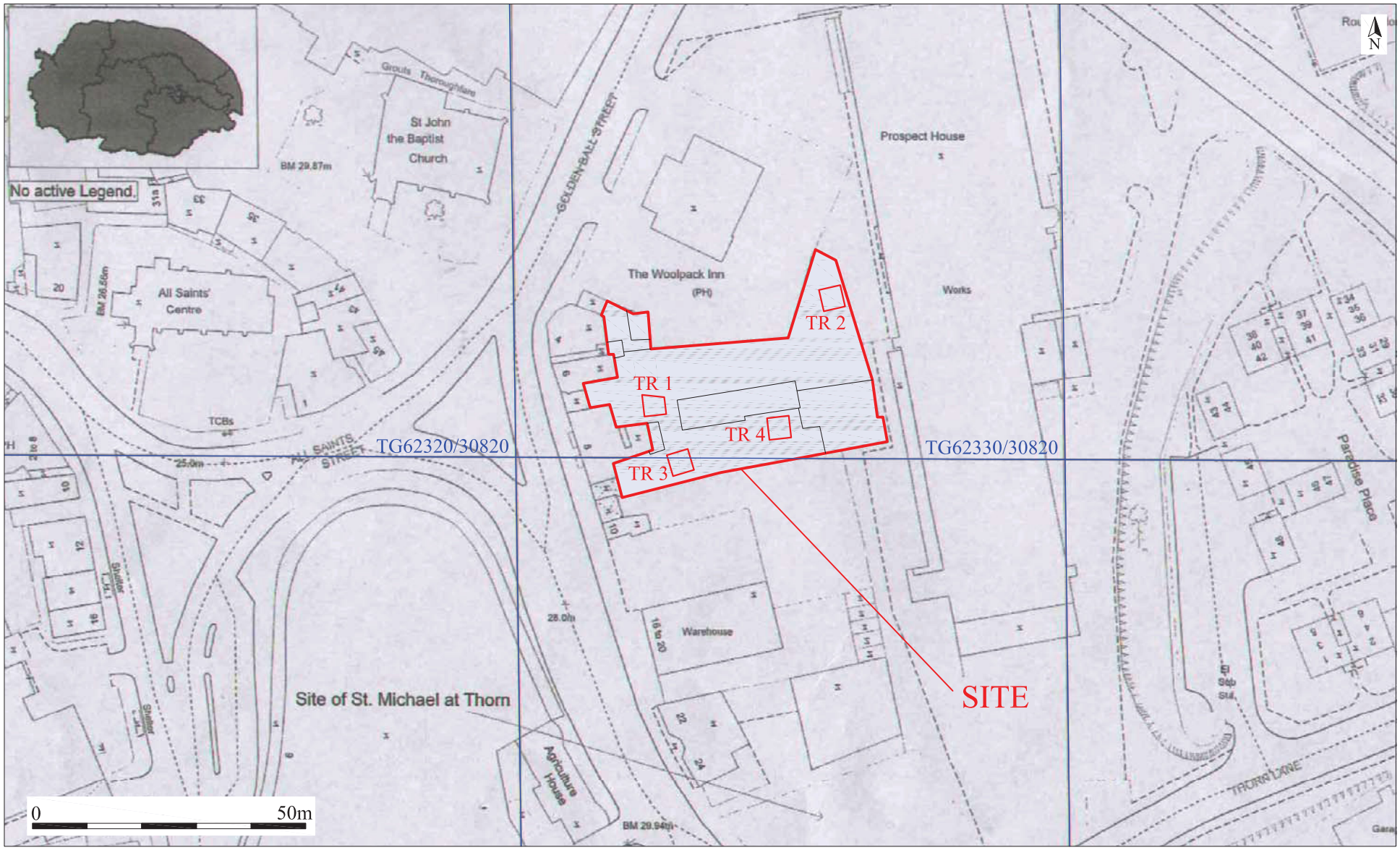

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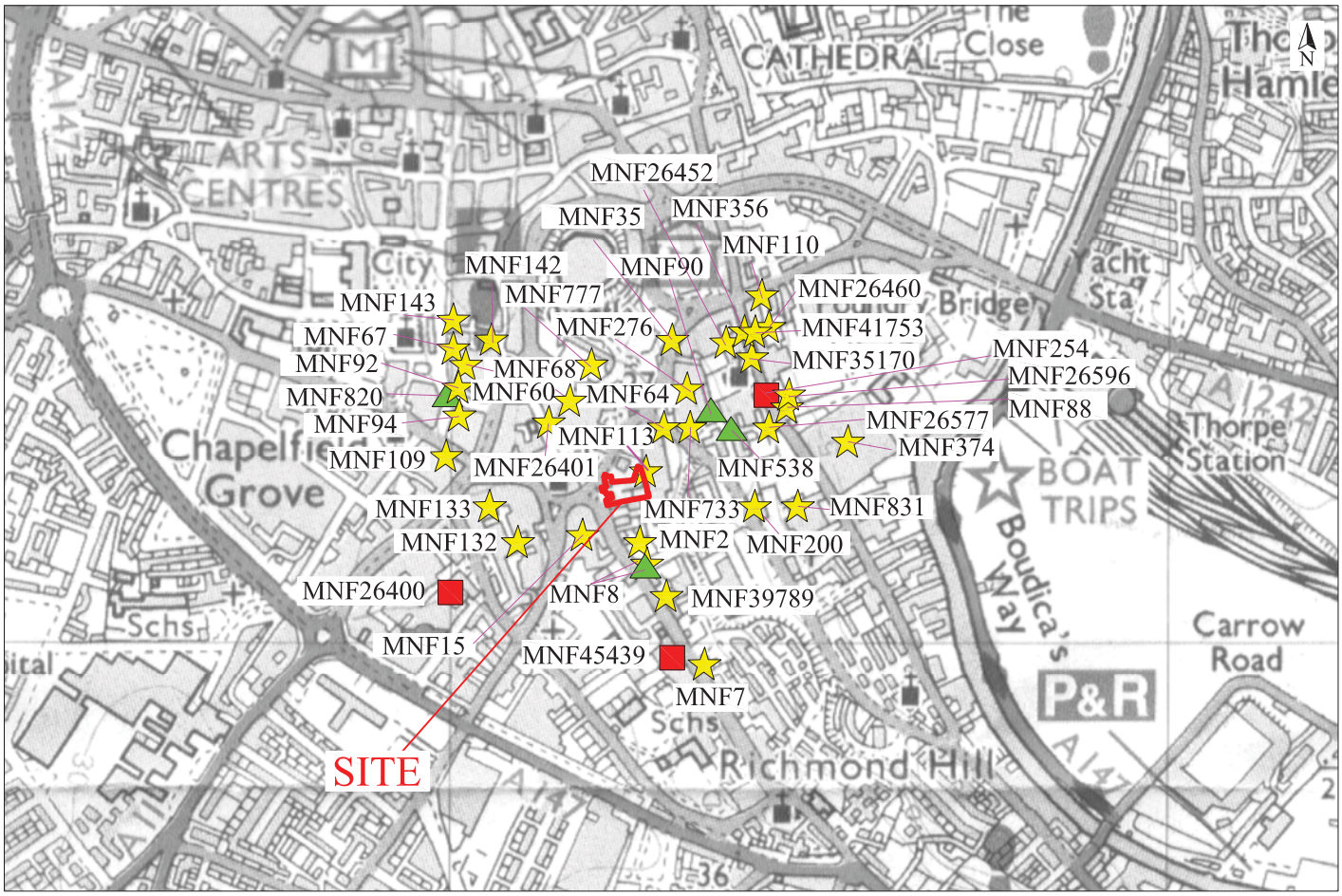
Fig. 2 Trench location plan

Scale 1:1000 at A4



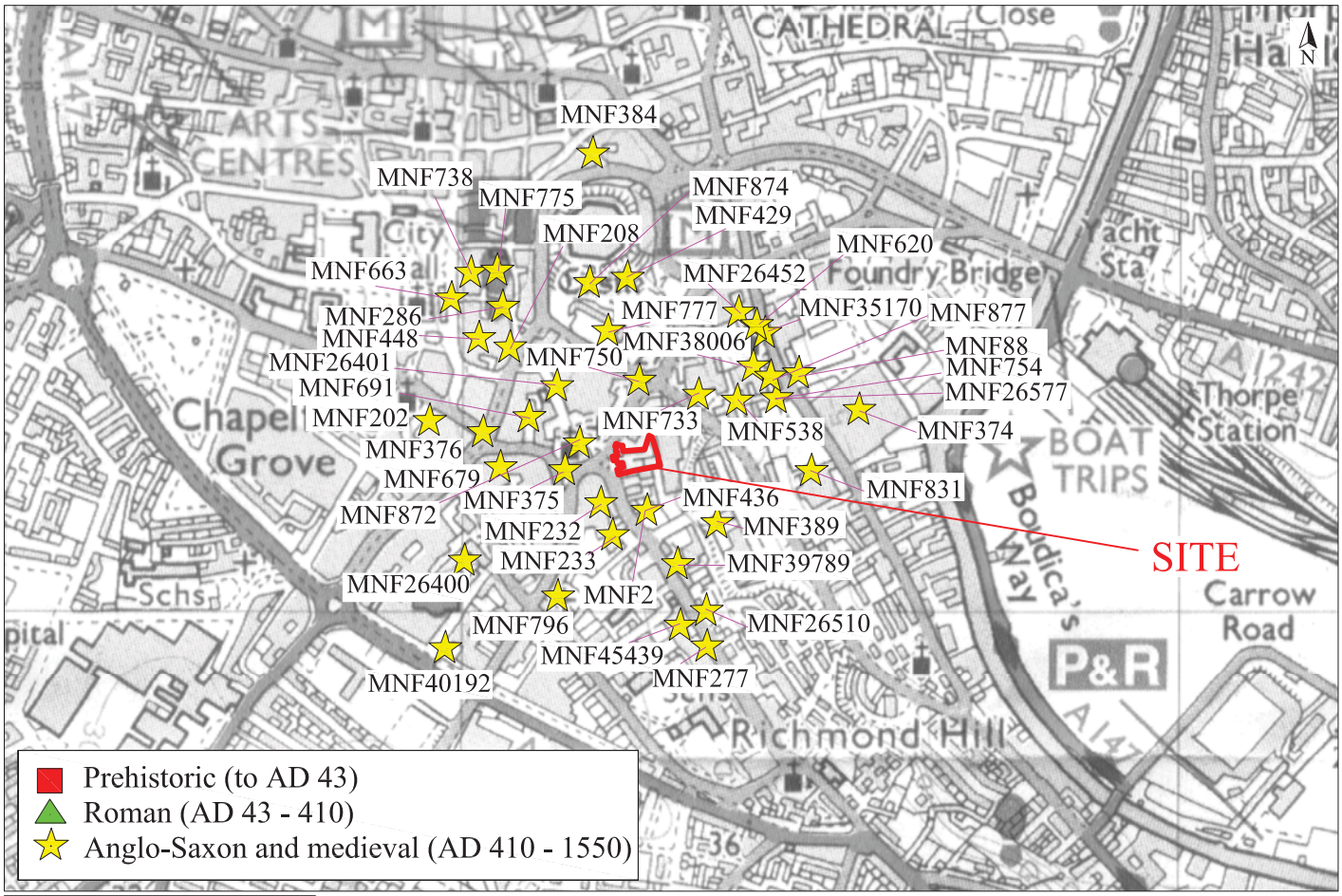


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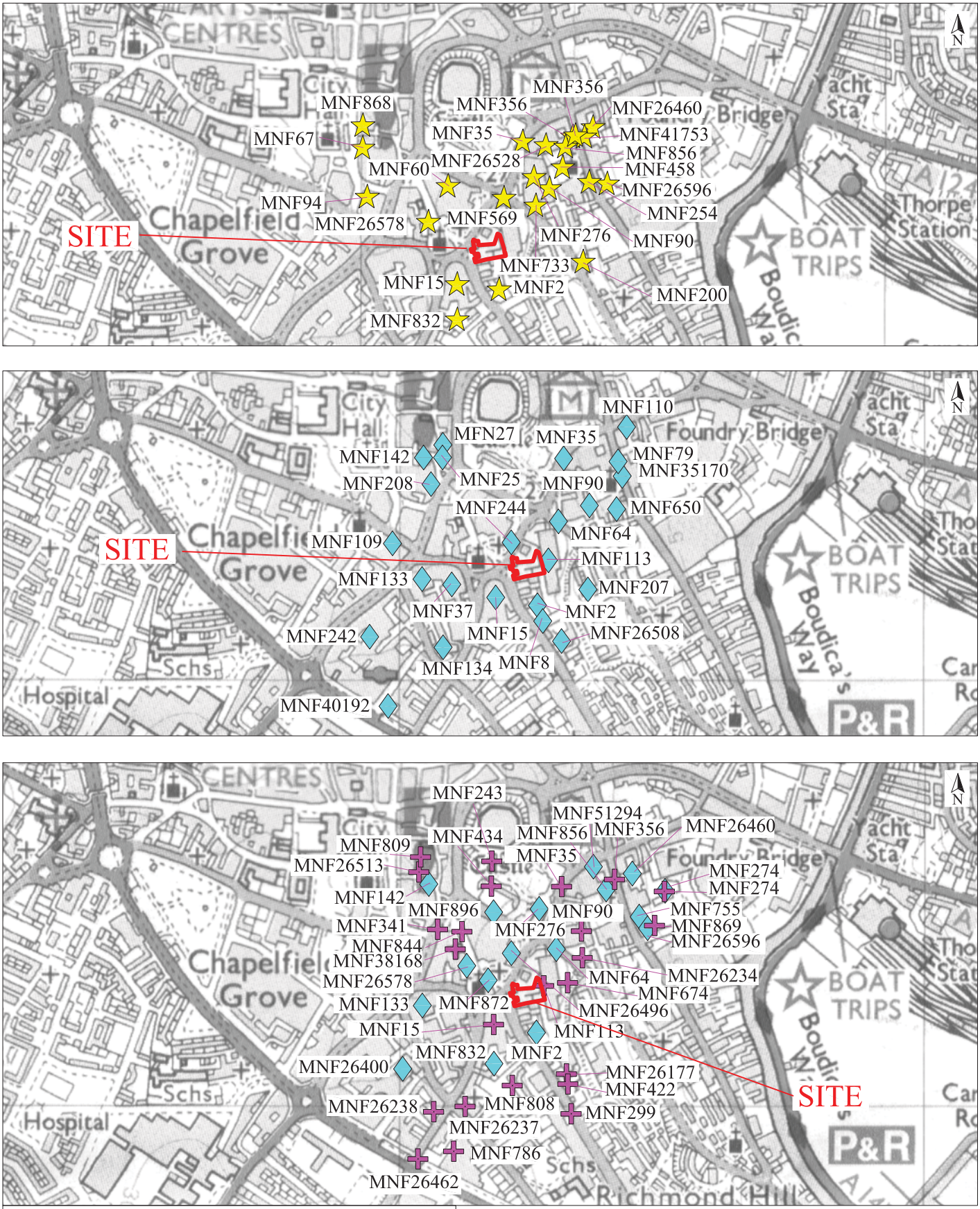
Fig. 3 HER Data

Scale 1:10,000 at A4



- Anglo-Saxon and medieval (AD 410 - 1550)
- Post-medieval (AD 1550 - 1900)
- Undated

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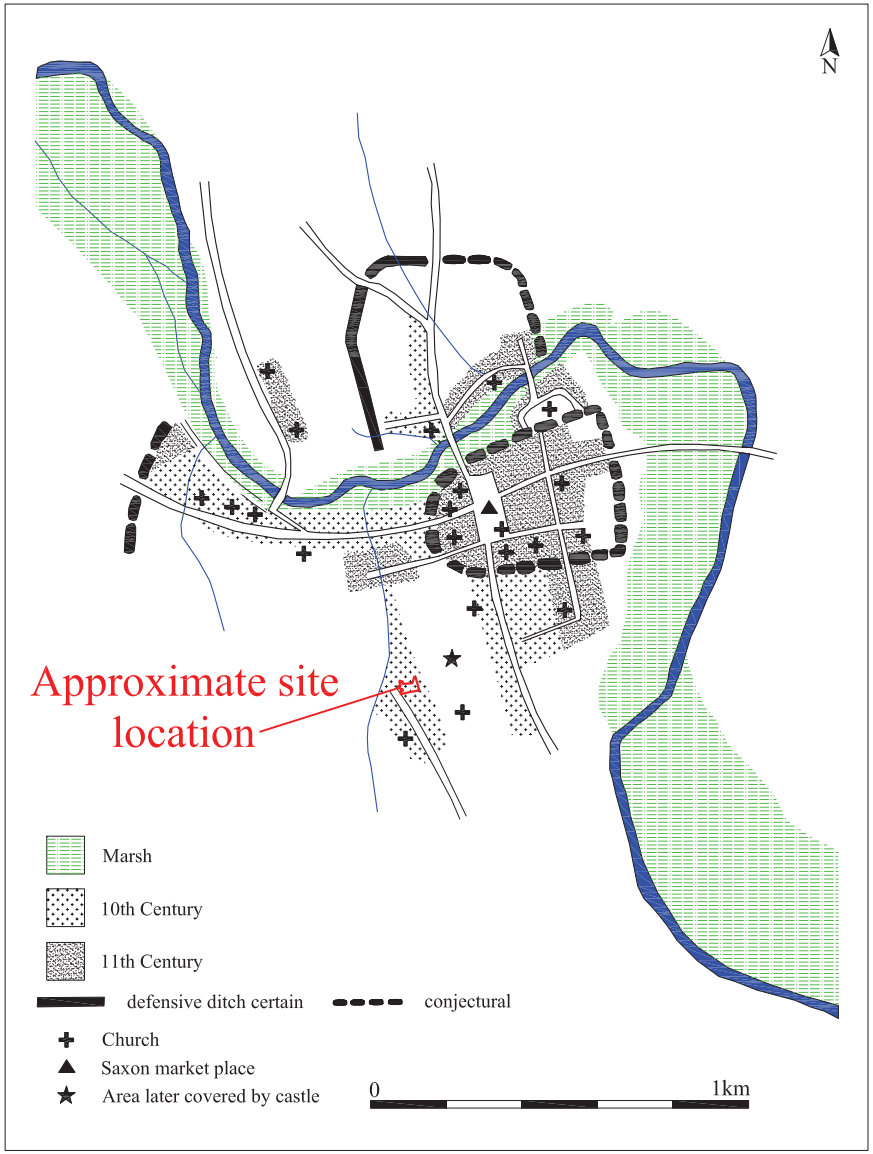
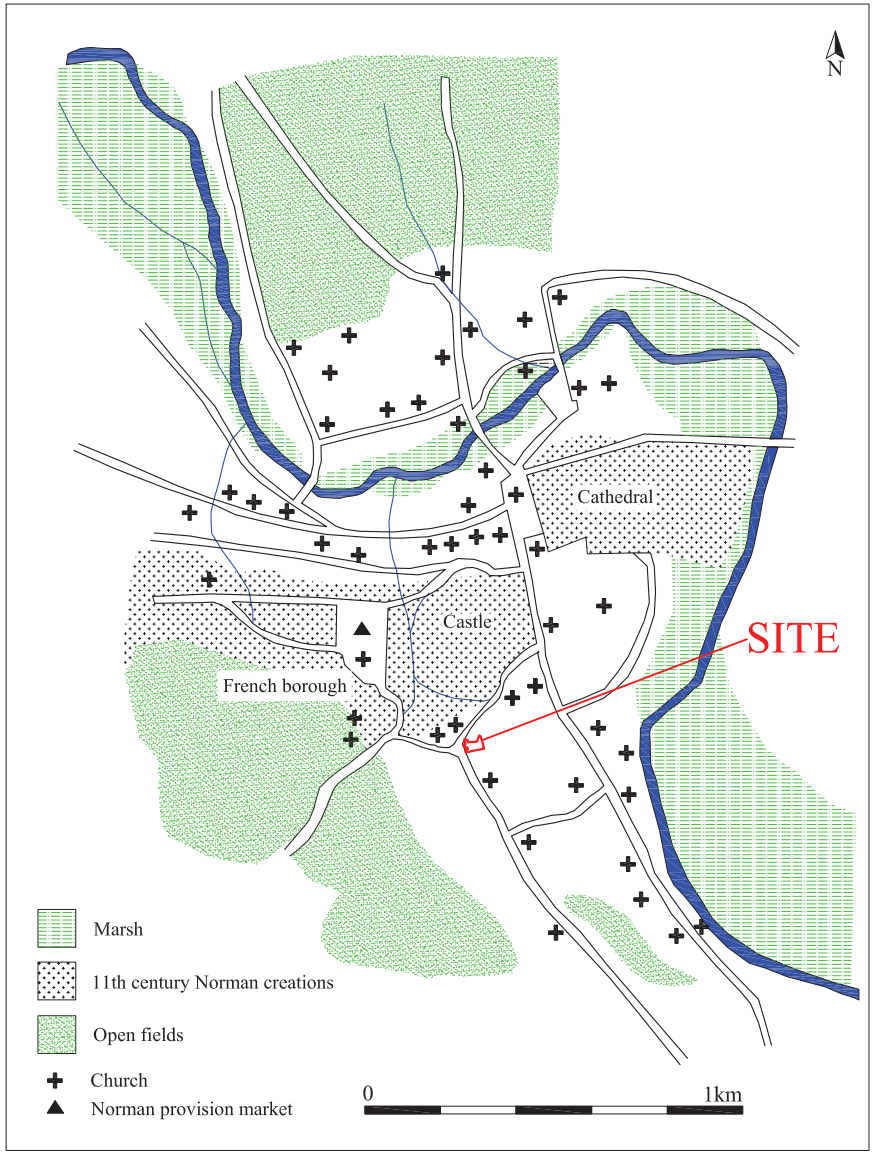
Fig. 3a HER Data

Scale 1:10,000 at A4



The Late Saxon town



The Norman town

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Fig. 4 Saxon & Norman predicted maps of settlement, based on Young & Young, 1981

Scale 1:20,000 at A4

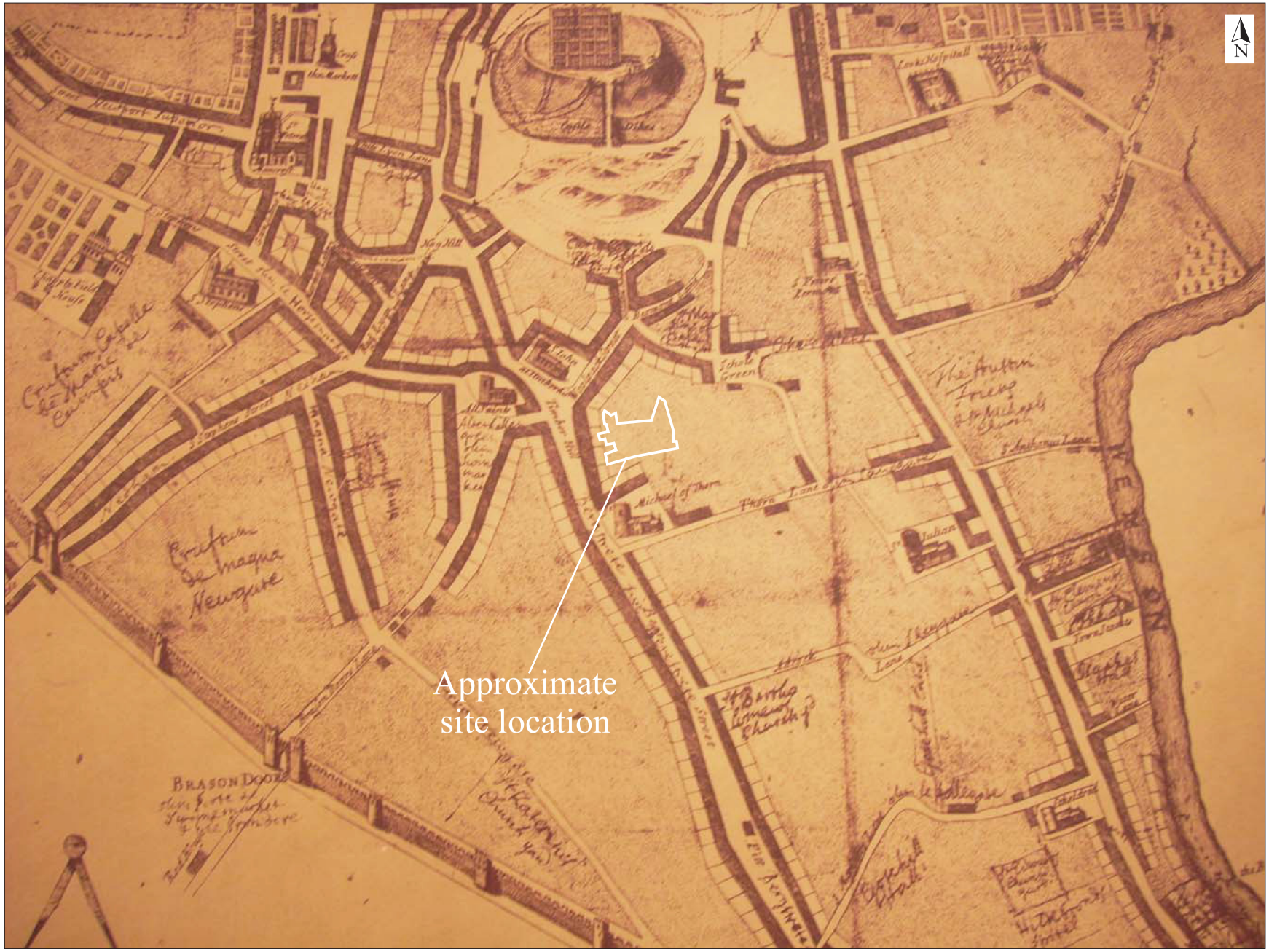

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Fig. 5 A new map of the ancient famous city of Norwich, 1696
Not to scale

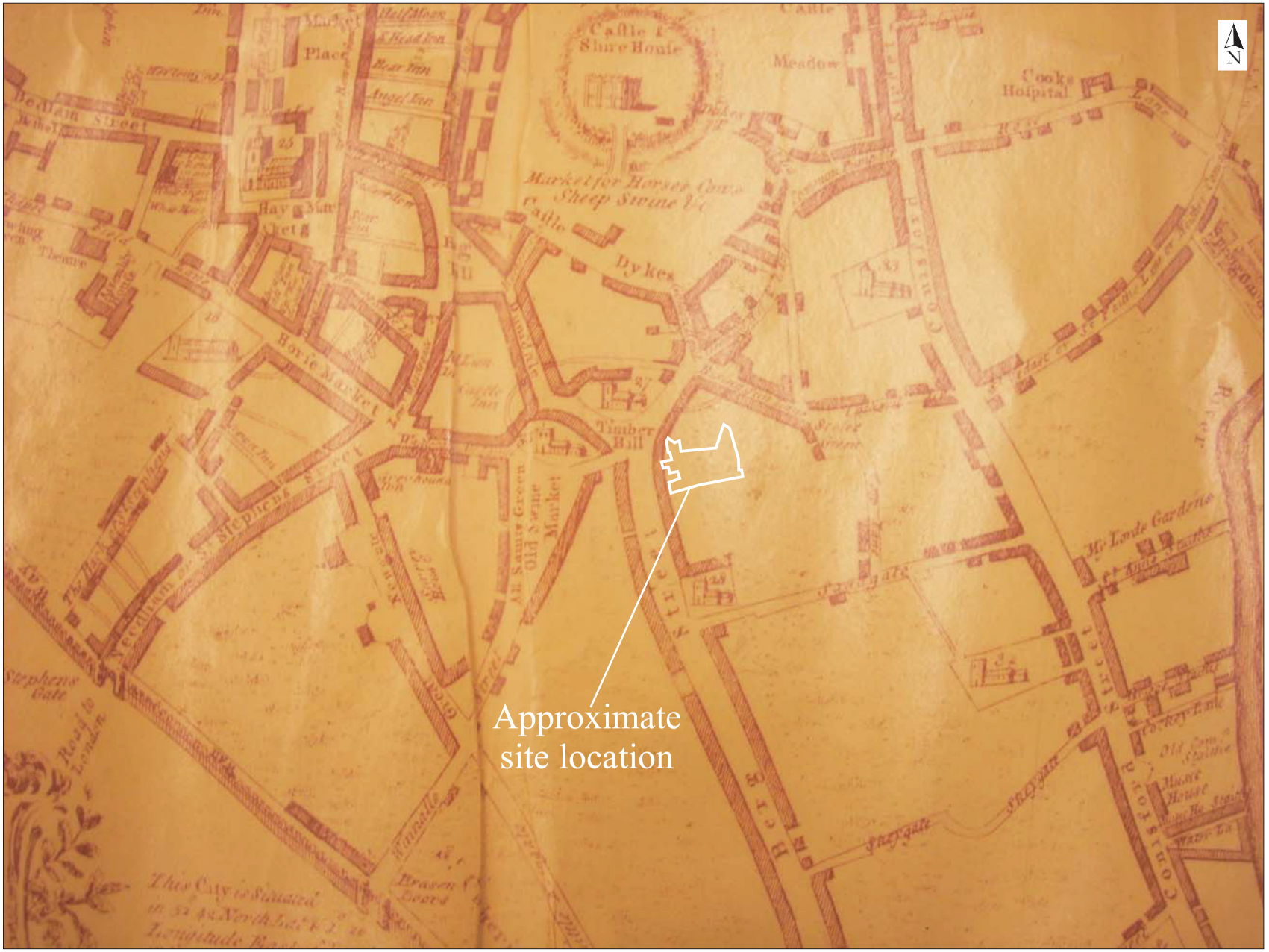

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Fig. 6 The city and county of Norwich, 1766

Not to scale

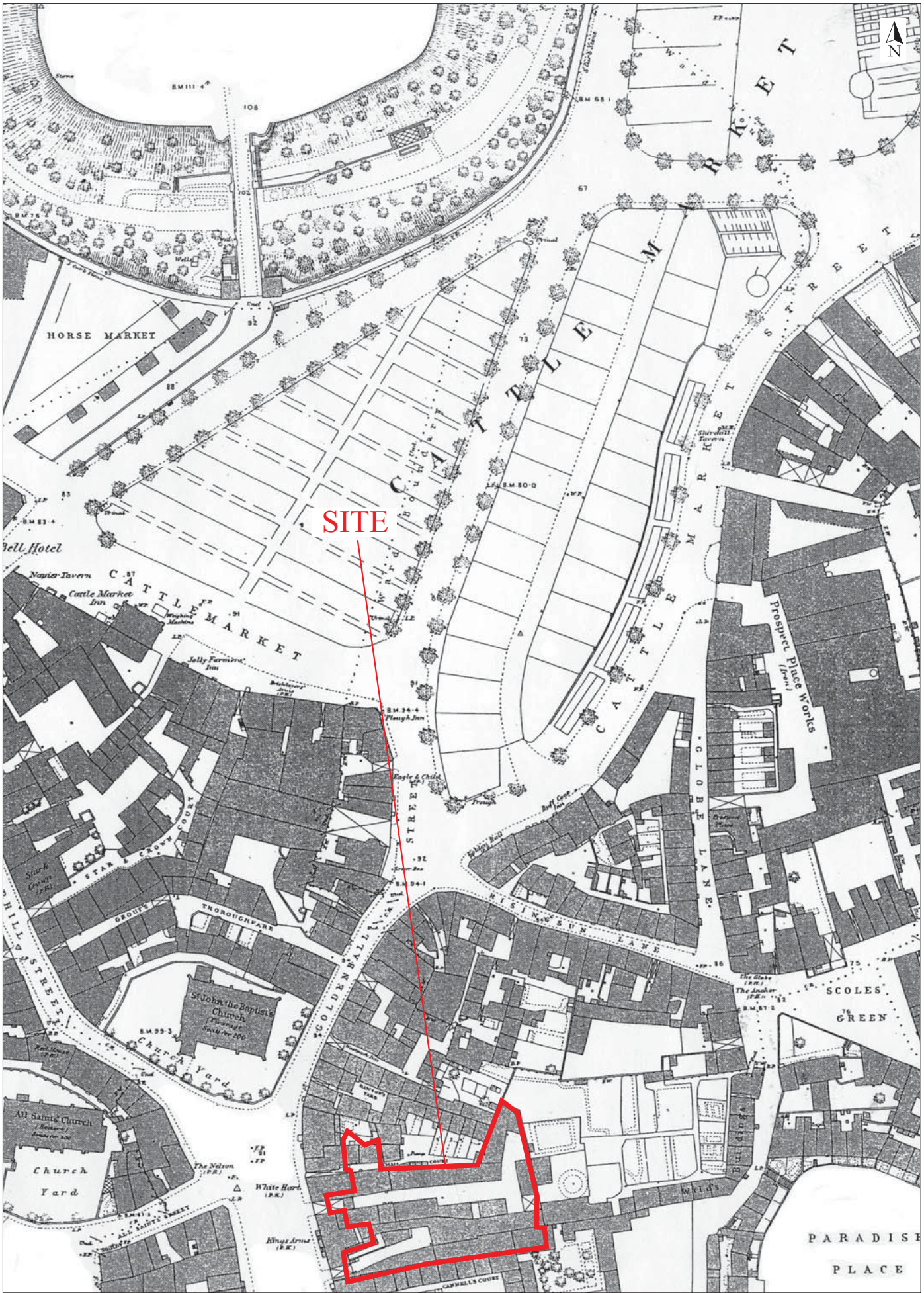

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Fig. 7 1883-5 OS map

Scale 1:1250 at A4

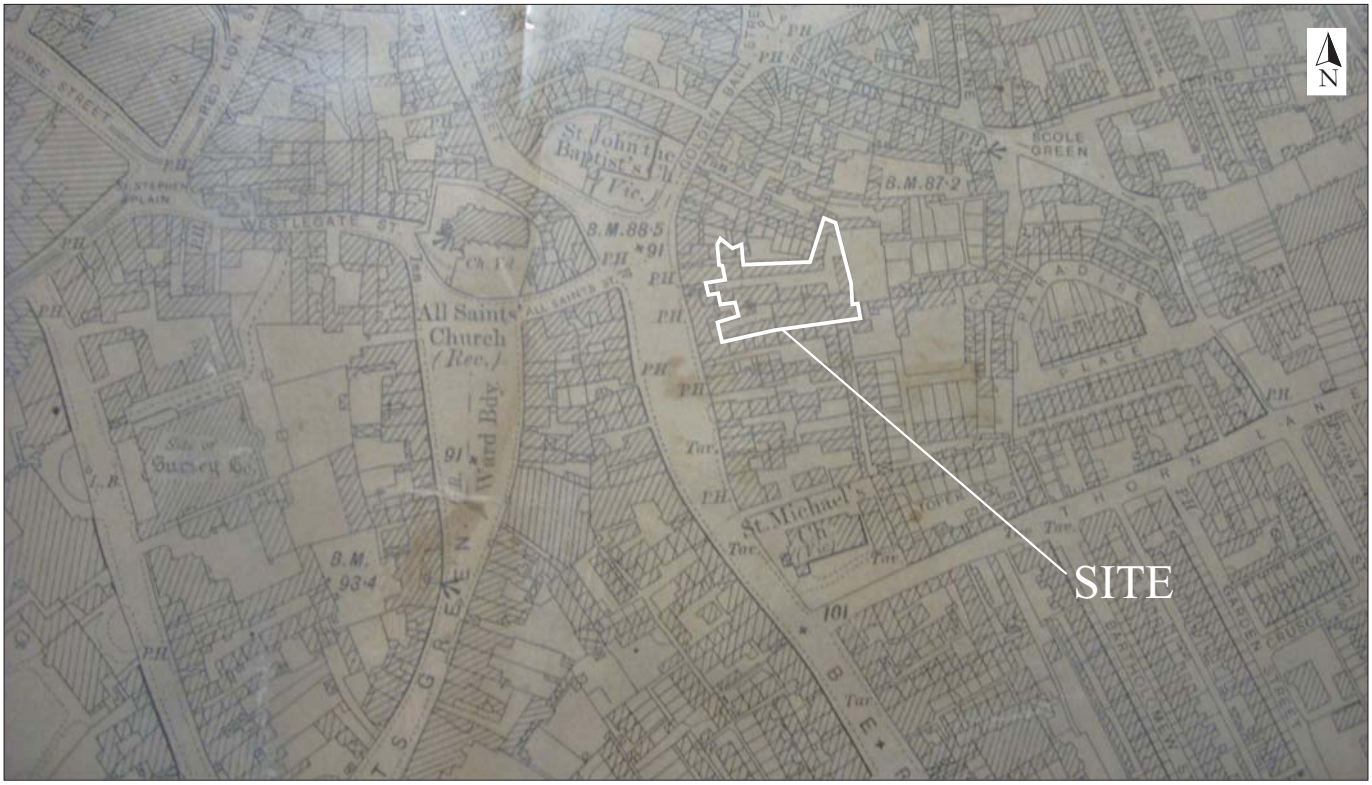

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Fig. 8 2nd edition OS map, 1905

Not to scale

Reproduced from the 1914 Ordnance Survey 25" to 1 mile map with the permission of Her Majesty's Stationery Office. © Crown copyright
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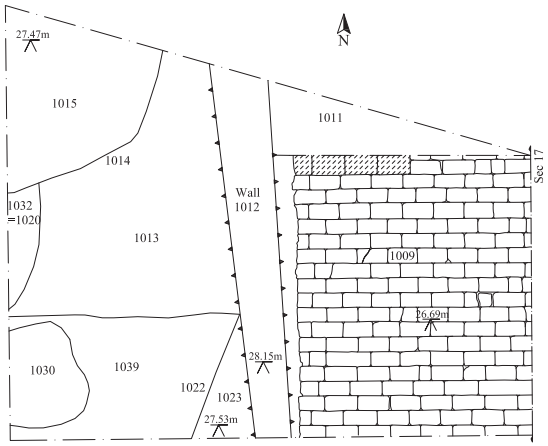
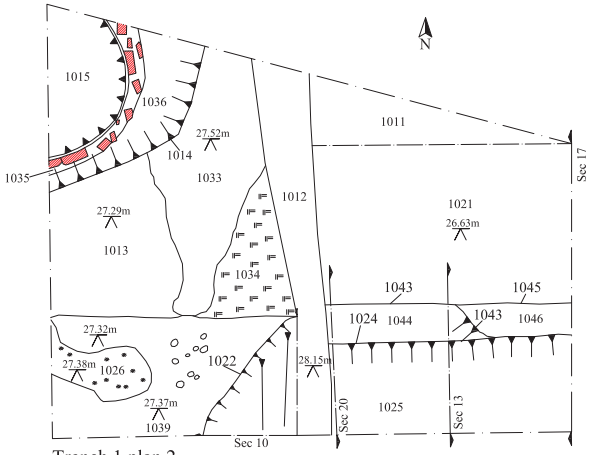
Fig. 9 3rd edition OS map, 1914

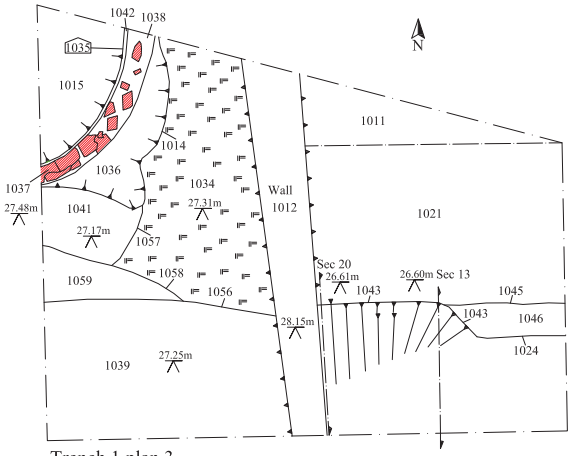
Not to scale



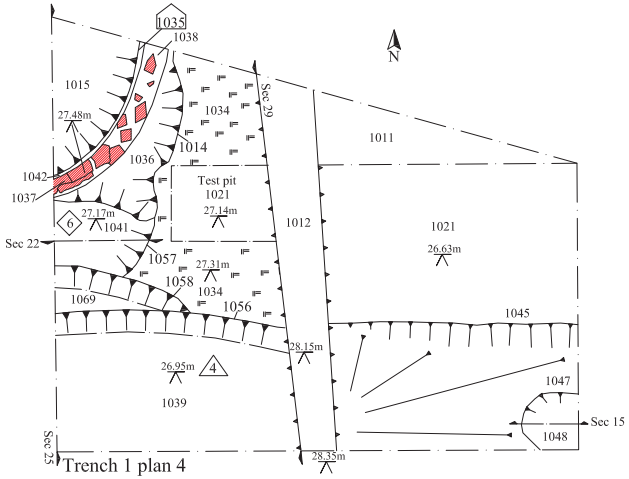
Trench 1 plan 1



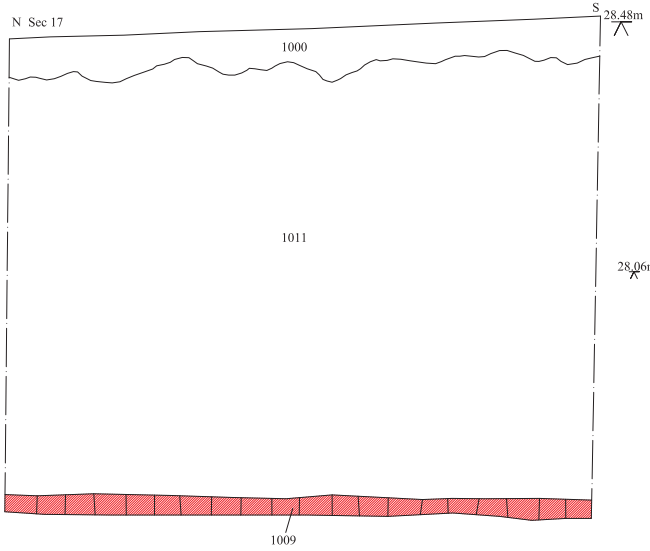
Trench 1 plan 2

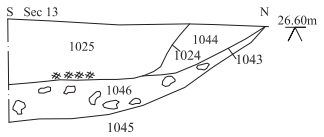


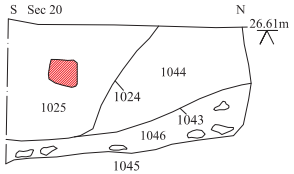
Trench 1 plan 3

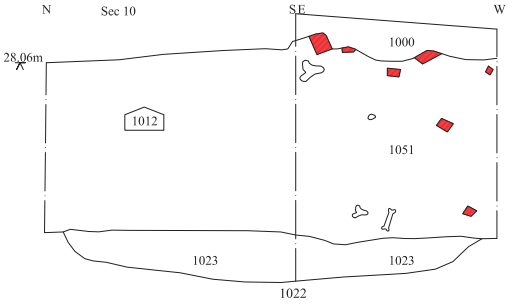


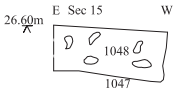
Trench 1 plan 4

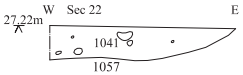


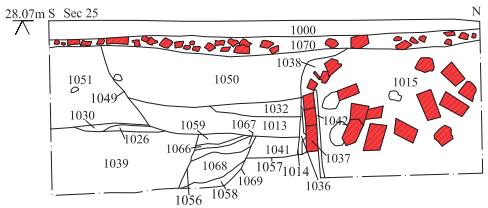


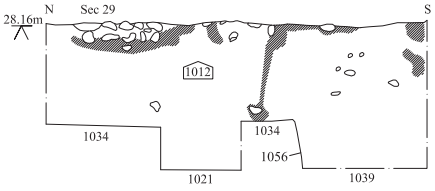












0 1:40 3m

0 1:20 2m

Brick
Mortar
Charcoal
Clay
Tile

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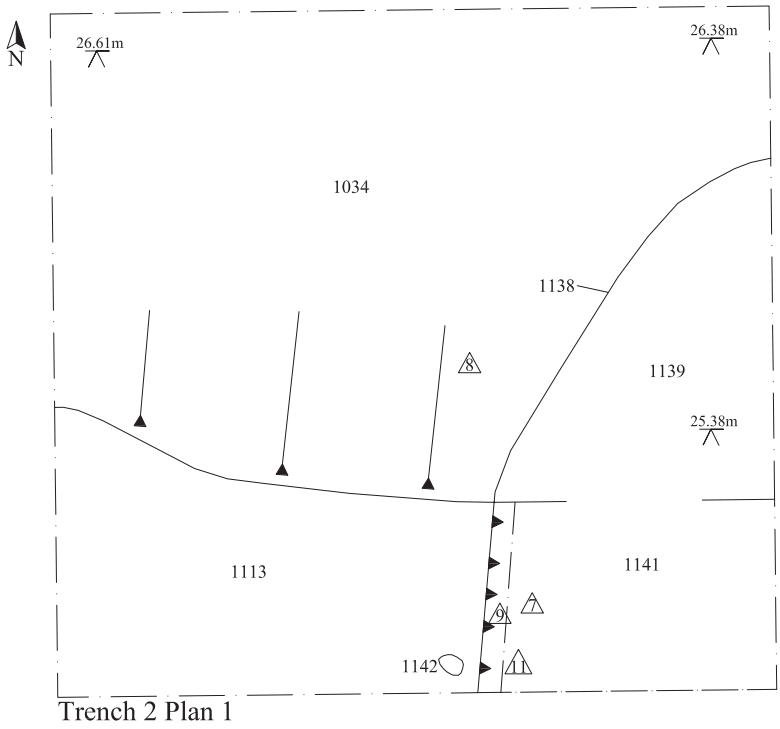
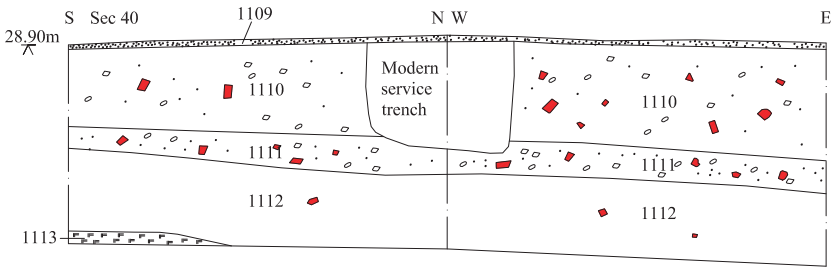
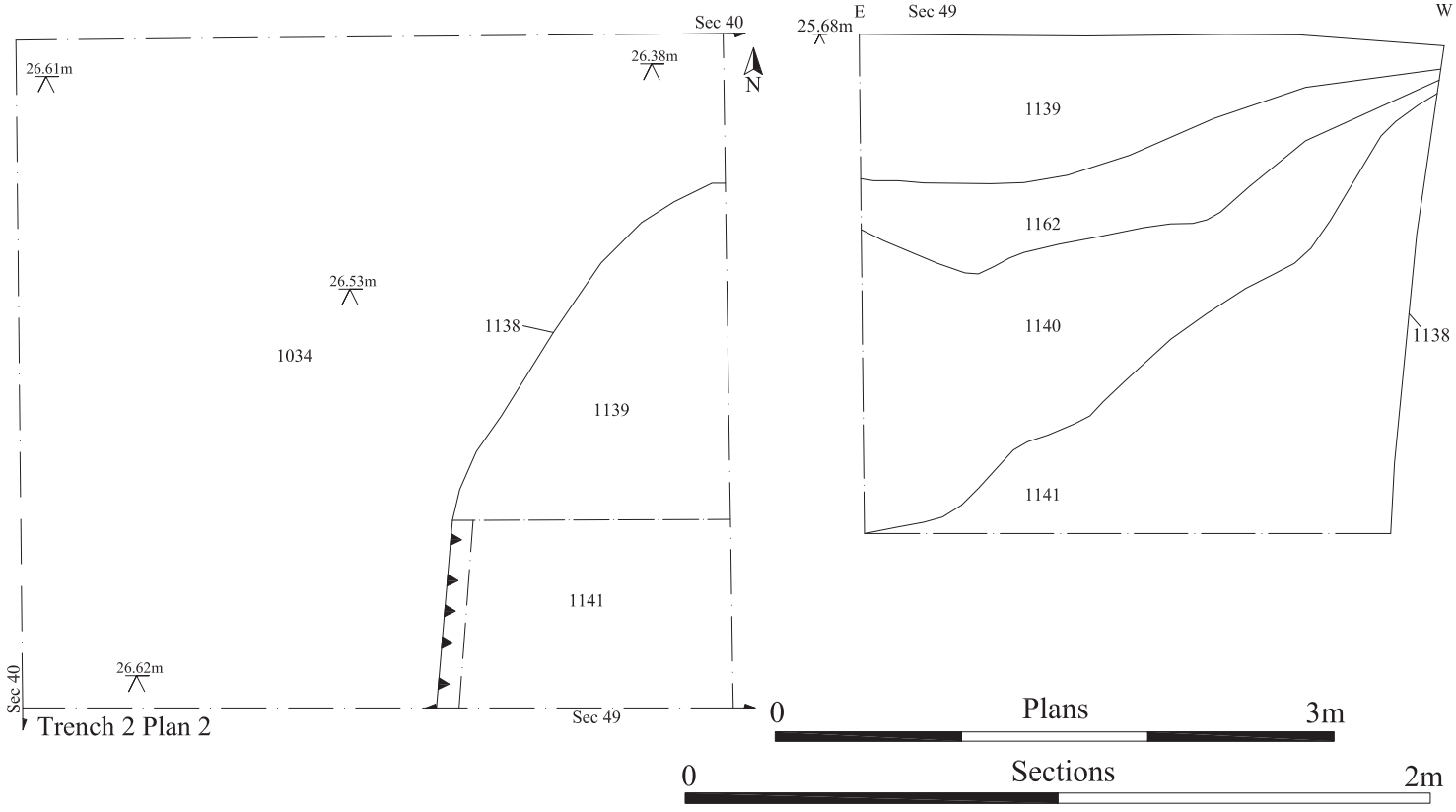
Fig. 10 Trench 1 plans & sections

Scale plans and sections 25 & 29 at 1:40; other sections at 1:20







Brick

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Fig. 11 Trench 2 plans & sections

Scale plans at 1:40; Sec 40 at 1:80 and Sec 49 at 1:20

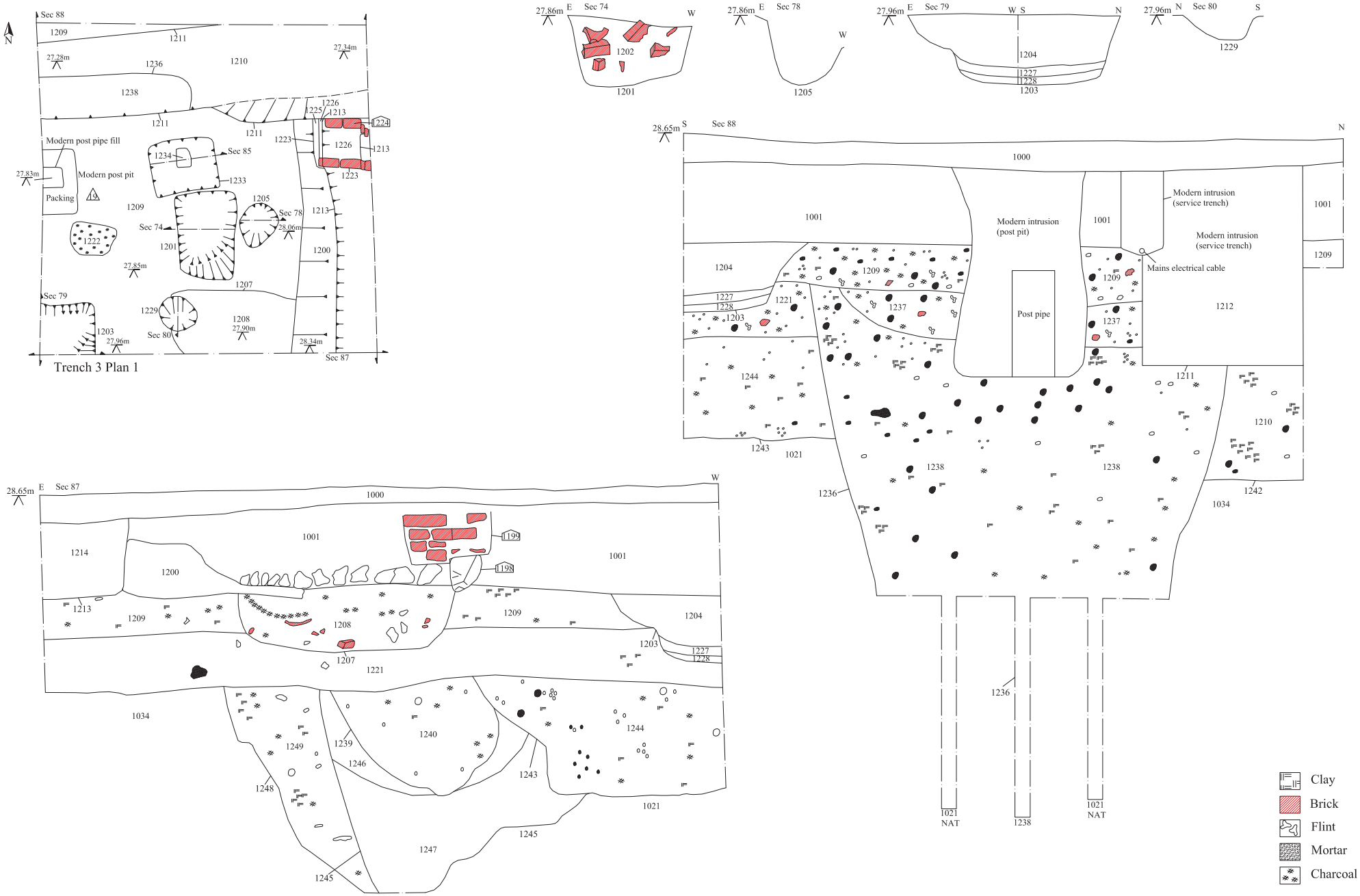

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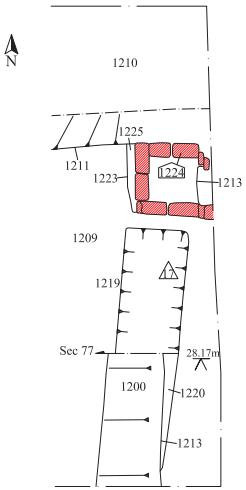
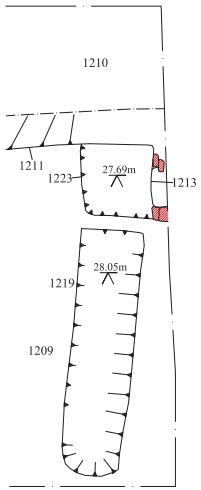
Fig. 12 Trench 3 plans & sections

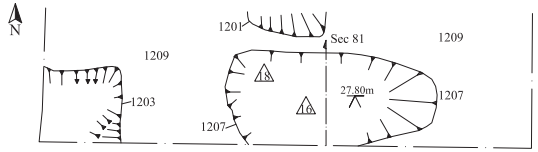
Scale 1:40 and 1:20



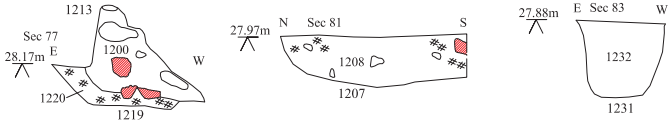
Trench 3 Plan 2
(underlies SE corner of trench)

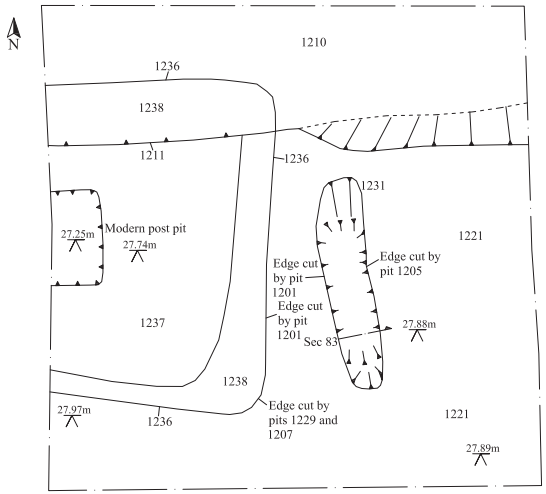


Trench 3 Plan 3
(underlies SE corner of trench)

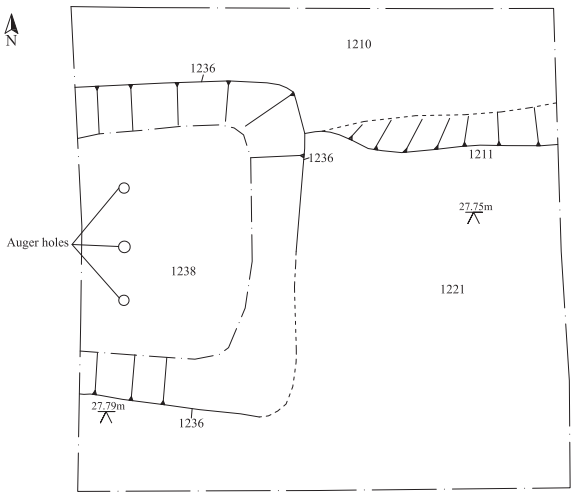


Trench 3 Plan 4 (underlies south side of trench)

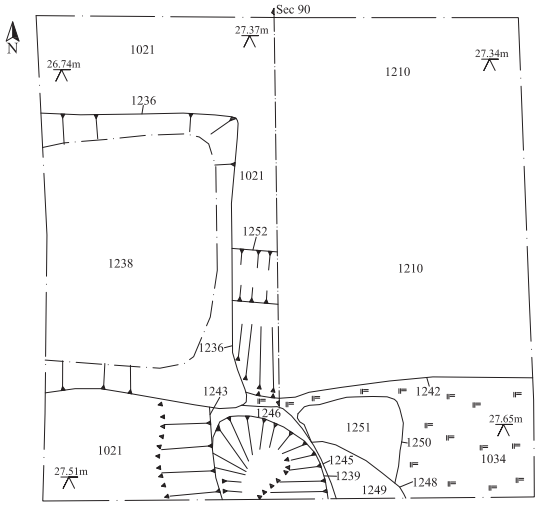




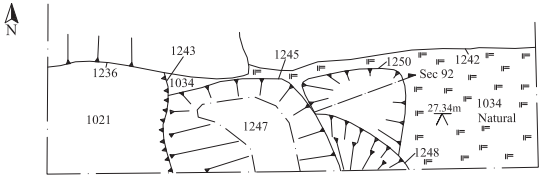
Trench 3 Plan 5



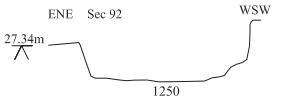
Trench 3 Plan 6

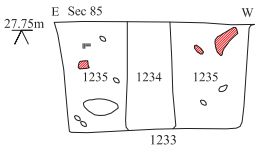


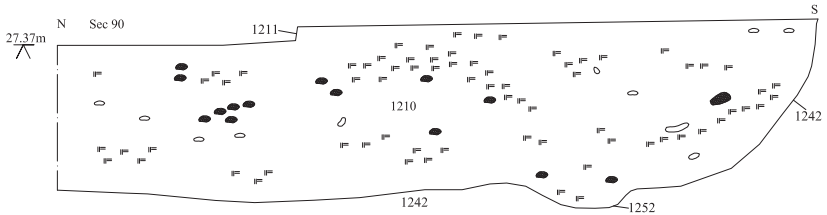
Trench 3 Plan 7



Trench 3 Plan 8 (overlays south side of trench)







Clay
Brick
Flint
Mortar
Charcoal

0 Plans 3m

0 Sections 2m

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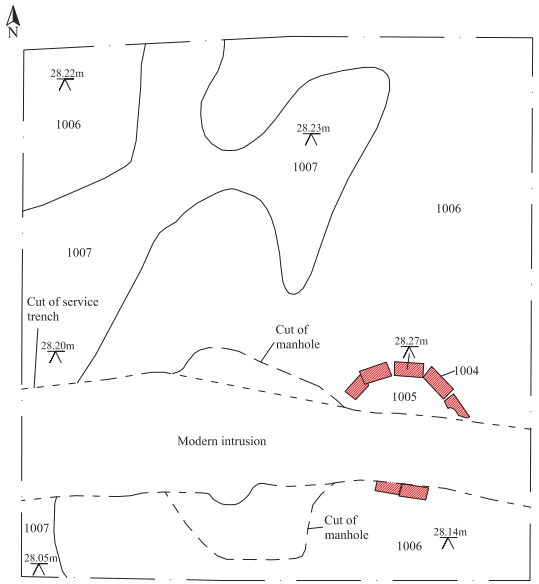
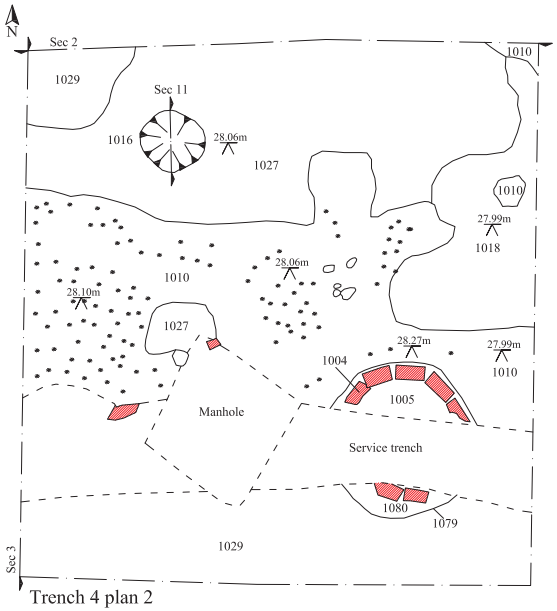
Fig. 13 Trench 3 plans & sections

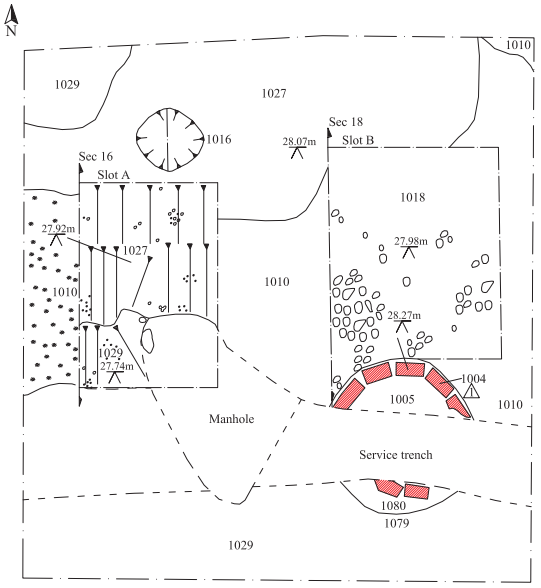
Scale 1:40 and 1:20



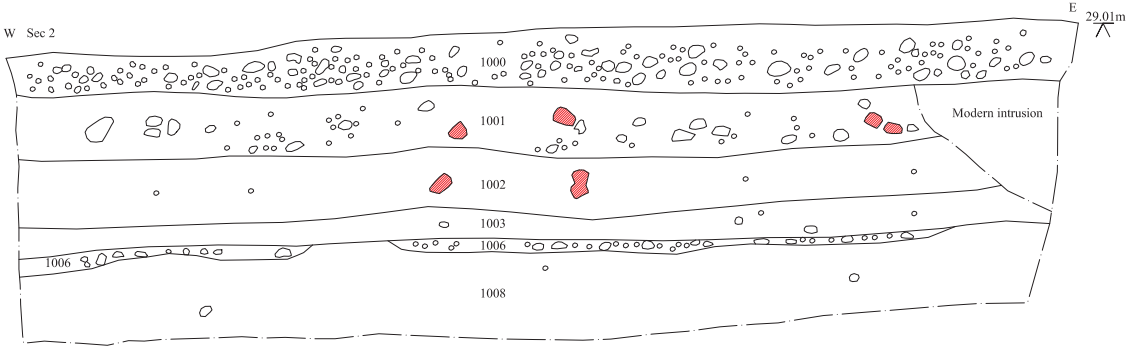
Trench 4 plan 1

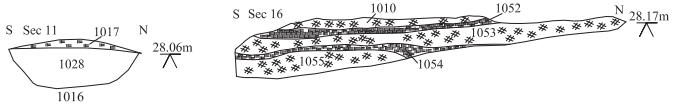


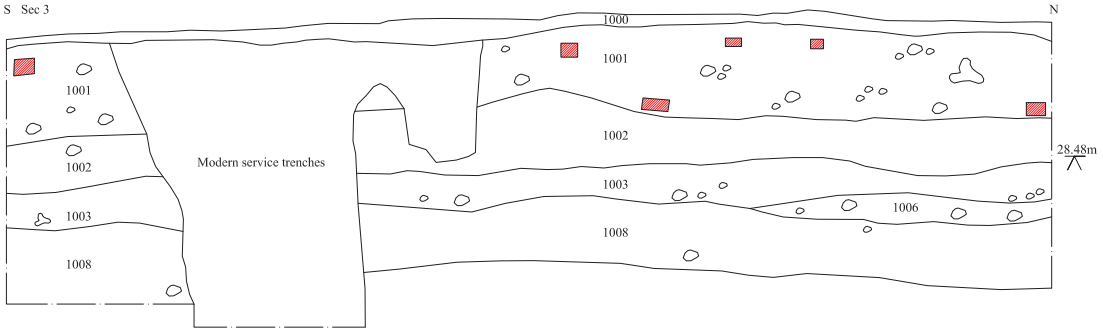
Trench 4 plan 2



Trench 4 plan 3







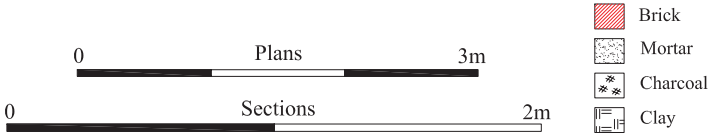


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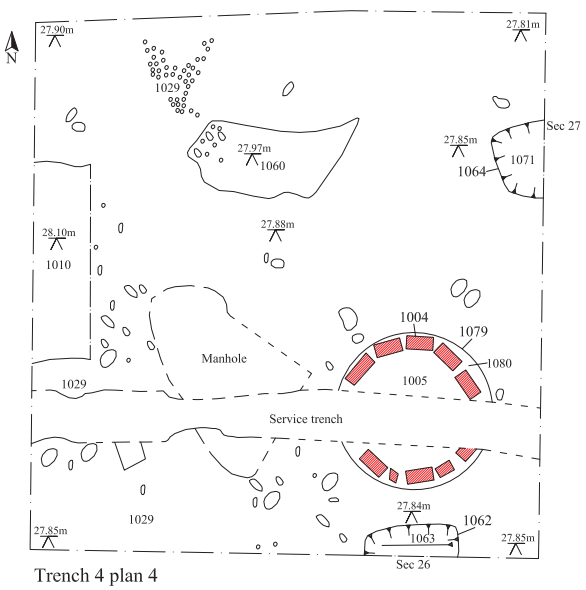
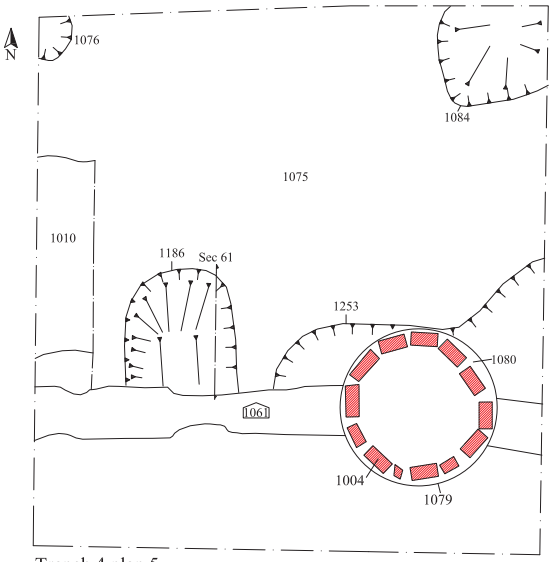
Fig. 14 Trench 4 plans & sections

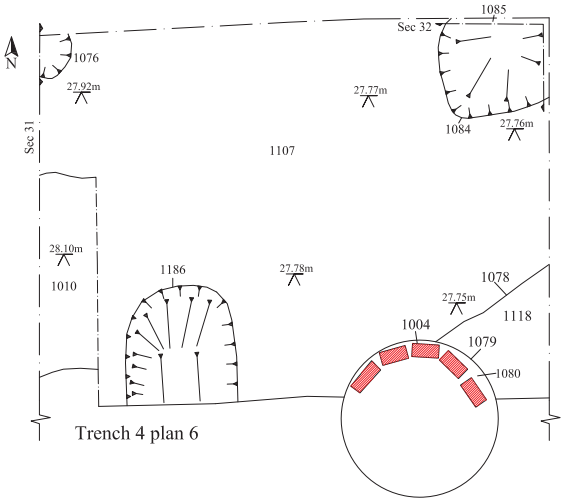
Scale 1:40 and 1:20



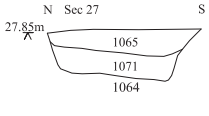
Trench 4 plan 4

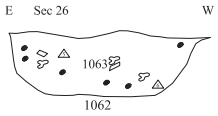


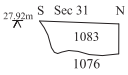
Trench 4 plan 5

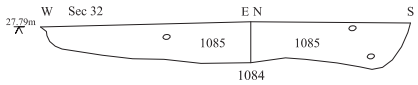


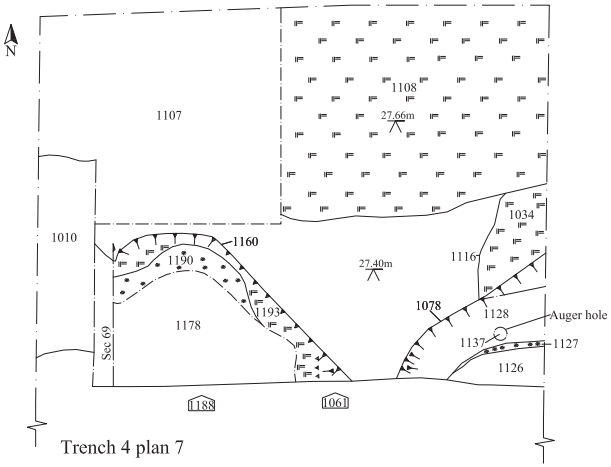
Trench 4 plan 6



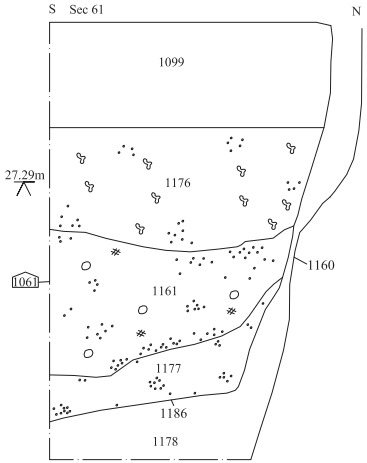


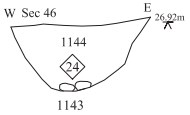


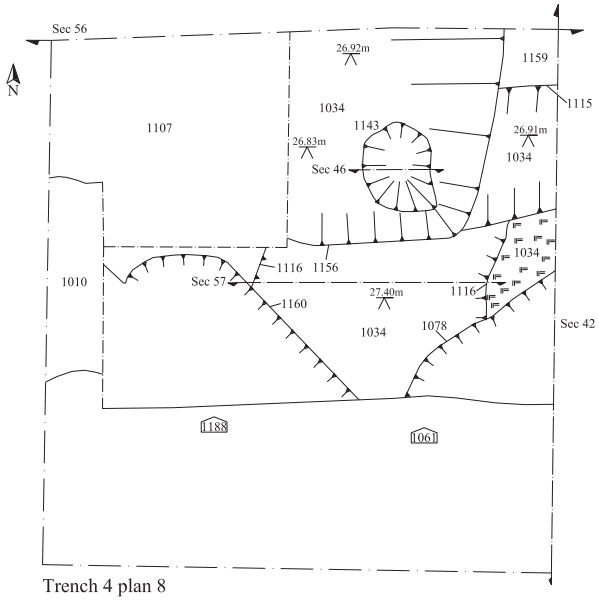




Trench 4 plan 7







Trench 4 plan 8

Brick
Flint
Mortar
CBM
Clay

0 Plans 3m

0 Sections 2m

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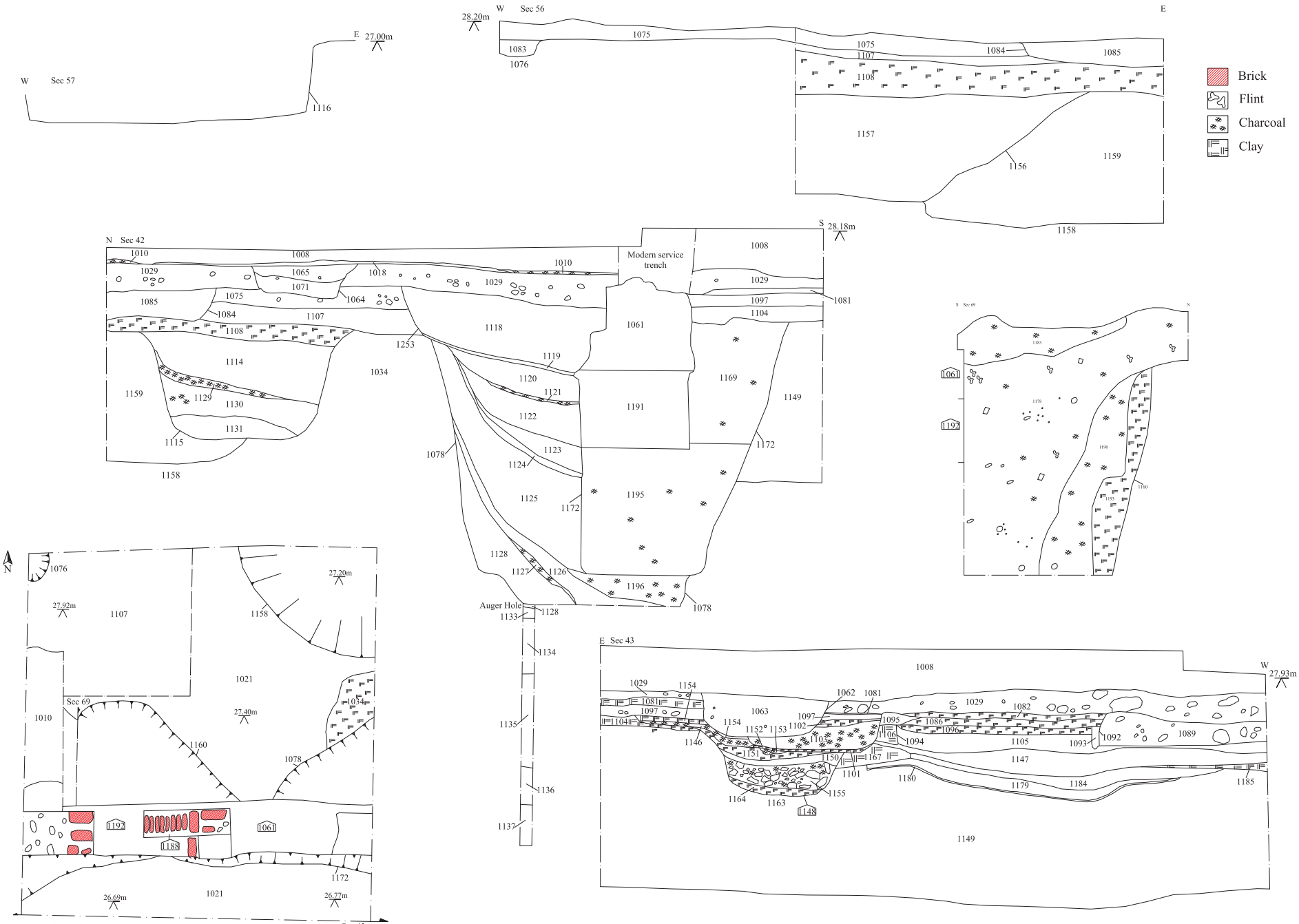
Fig. 15 Trench 4 plans & sections

Scale 1:40 and 1:20



Trench 4 plan 9

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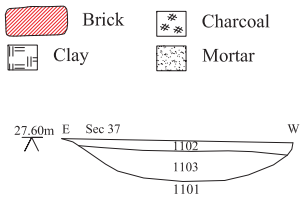
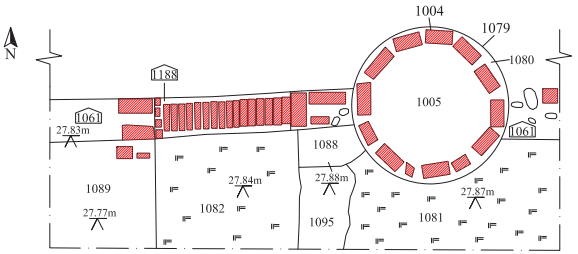
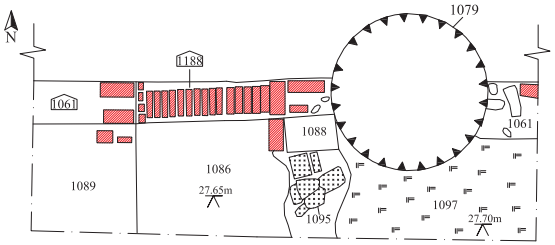
Fig. 16 Trench 4 plans & sections

Scale 1:40 and 1:20

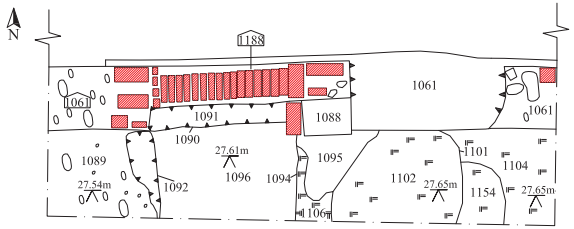




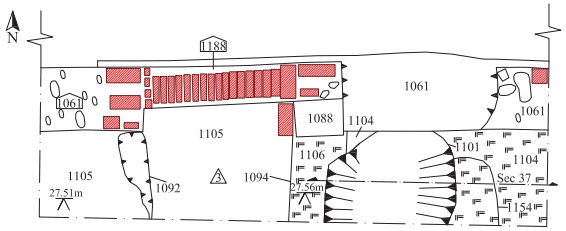
14th lowest plan of south end of T4



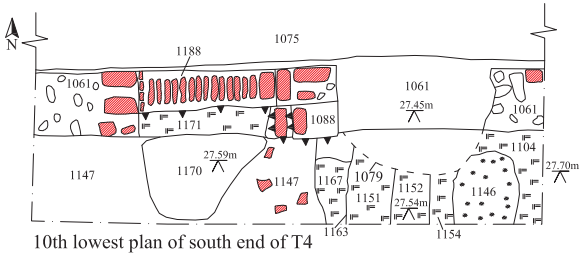
13th lowest plan of south end of T4



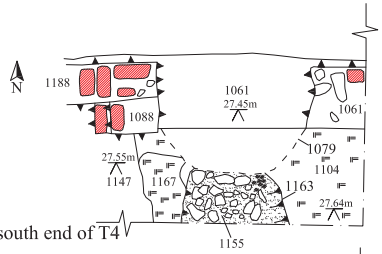
12th lowest plan of south end of T4



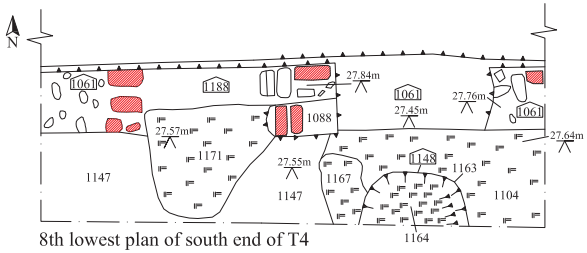
11th lowest plan of south end of T4



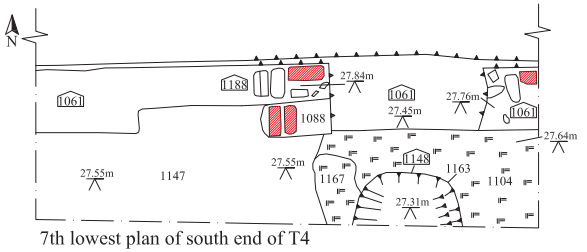
10th lowest plan of south end of T4



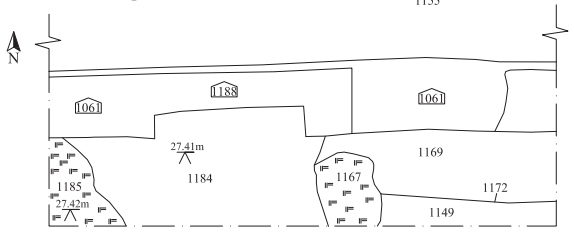
9th lowest plan of south end of T4



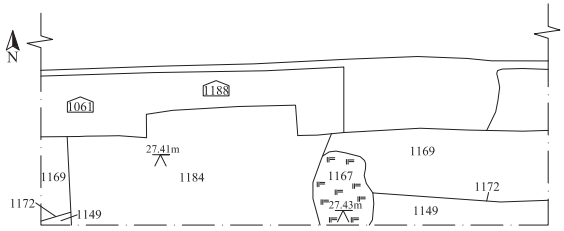
8th lowest plan of south end of T4



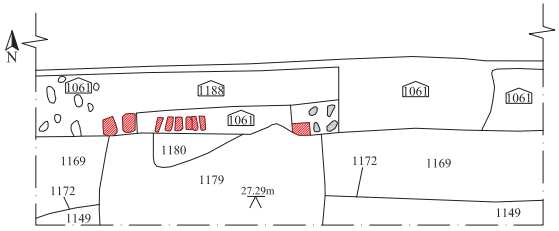
7th lowest plan of south end of T4



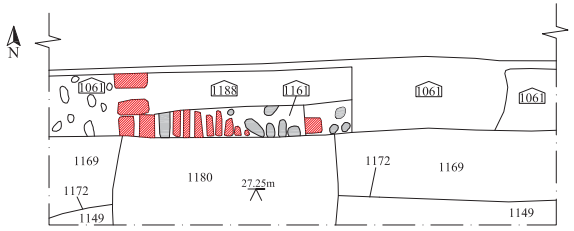
6th lowest plan of south end of T4



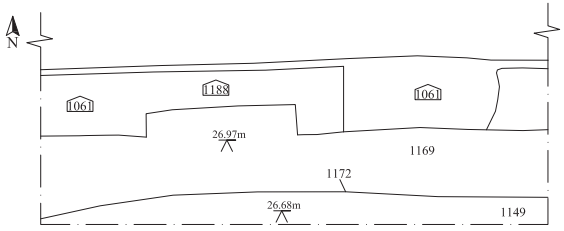
5th lowest plan of south end of T4



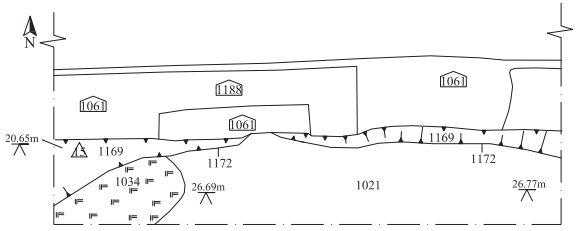
4th lowest plan of south end of T4



3rd lowest plan of south end of T4



2nd lowest plan of south end of T4



Lowest level plan of south end of T4

0 Plans 3m

0 Sections 2m

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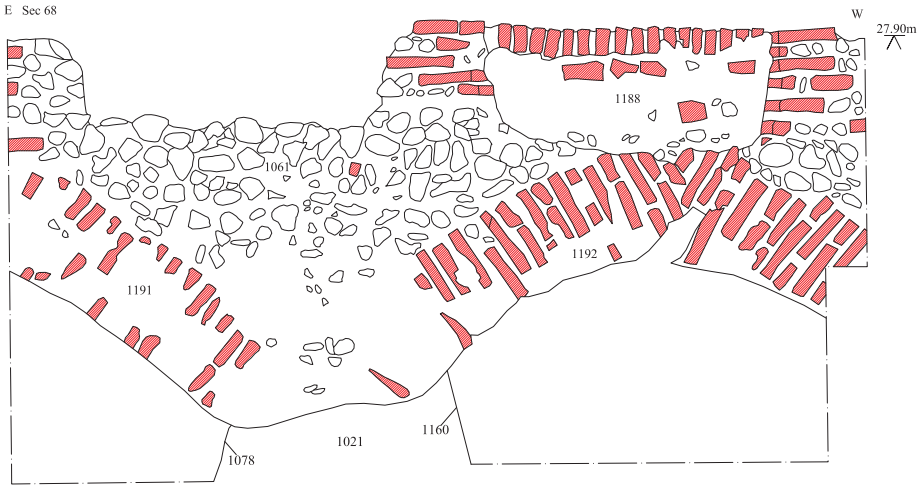
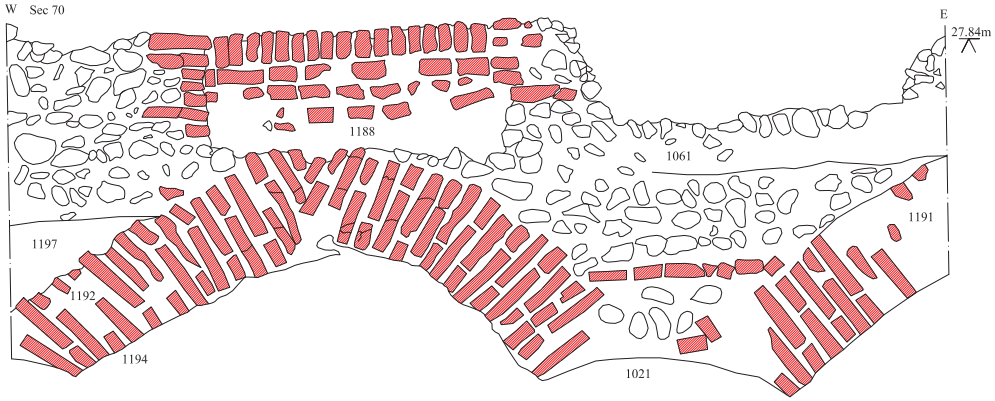
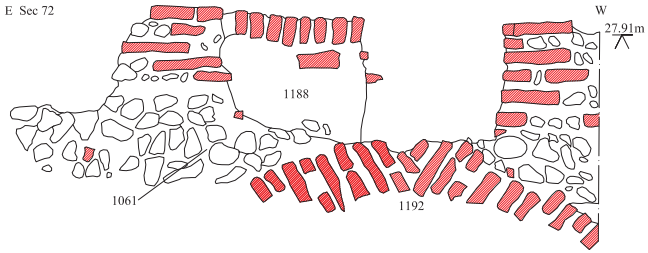
Fig. 17 Trench 4 south end

Scale 1:40 and 1:20

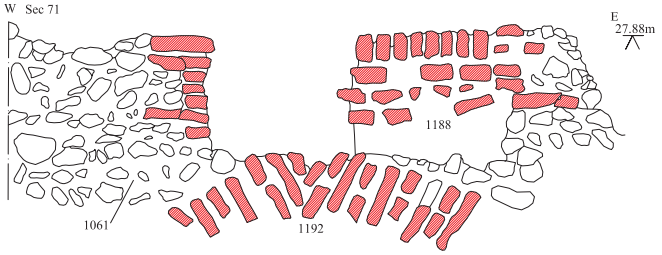




Overlay for Sec 68



Overlay for Sec 70



Brick

Clay

0 Sections 2m

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Fig. 18 Trench 4 sections

Scale 1:20