Archaeological Excavations at Kempston Manor, 1994

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SUMMARY

Archaeological evaluation and subsequent excavation as part of a mitigation strategy under PPG 16 revealed the remains of buildings dating to the medieval period adjacent to the site of Kempston Manor. Although not the main manorial structures, the buildings excavated indicate the presence of the manor in the 10th century and give some indication as to how this might have shifted to the north in the 13th century.

INTRODUCTION

Archaeological excavations between January and October 1994 were carried out on a site adjacent to the present Kempston Manor (TL 0264 4769) in advance of office construction for the Institute of Legal Executives. The work was undertaken in two stages, the first, comprising an initial evaluation in January 1994 (BCAS 1994/4), was followed in October by full excavation along the footings of the proposed development.

All archaeological recording was funded by the Institute of Legal Executives and programmed to integrate with the project timetable of their sub-contractors Willmott Dixon. The archaeological evaluation and subsequent excavation were designed to conform with the requirements of the brief and specification issued by the County Heritage Officer following the imposition of a PPG 16 condition attached to the planning consent by Bedford Borough Council.

THE REPORT

This report comprises evidence gathered from both trial trench evaluation (BCAS 94/3) and from further excavation. In the report these conventions have been used: context numbers where referring to fills are expressed (**) and where cuts as [**].

GEOLOGY AND TOPOGRAPHY

Kempston is situated on the south bank of a prominent bend in the River Great Ouse which flows north towards the county town of Bedford. The site under discussion lies on the western side of Kempston, 150m south of the present river course, on the first gravel terrace at 30m OD.

The river valley is characterised by gravels which originated as glacial outwash. South of the channel these gravels are sealed by loamy drift on which argillic brown earth soils have formed. The soil profile encountered at the site included two episodes of alluvial deposition separating the loamy drift soils from the brown earths. The alluvium was present in prehistoric features and as patches of silts up to 150mm thick across the site. The episodes of flooding, and later mixing by worm activity, had removed any remains of buried soil horizons beneath the alluvium. Elsewhere in the Ouse Valley identifiable rises in the water table occurred in the early to mid Holocene (Robinson 1992), in the late Iron Age at Bromham (Tilson 1973) and Warren Villas (Dawson forthcoming) and in the late Roman period (Dawson 1994).

In the uppermost levels of the Kempston site brown earth had accumulated to a thickness of 750mm from the early-mid Saxon period until the 17th century, and this sealed a large proportion of features on site. A lower horizon of brown earth did not display the normal clear wavy or tongued boundary expected between soil horizons but was mixed, probably by worm action. This characteristic may indicate an early spade cultivated horizon associated with infield cultivation around the manor (R McPhail *ex lit*).

Truncation of the upper levels of the brown earth indicates the site was levelled, probably during the construction of a council depot in the 20th century. It was subsequently sealed beneath several layers of rubble material up to 540mm deep.

HISTORICAL BACKGROUND

Modern Kempston is part of the urban fringe south west of Bedford. The town saw considerable expansion in the 19th century becoming an urban district in 1895 (Godber 1984, 495).

Before the Norman Conquest Kempston and

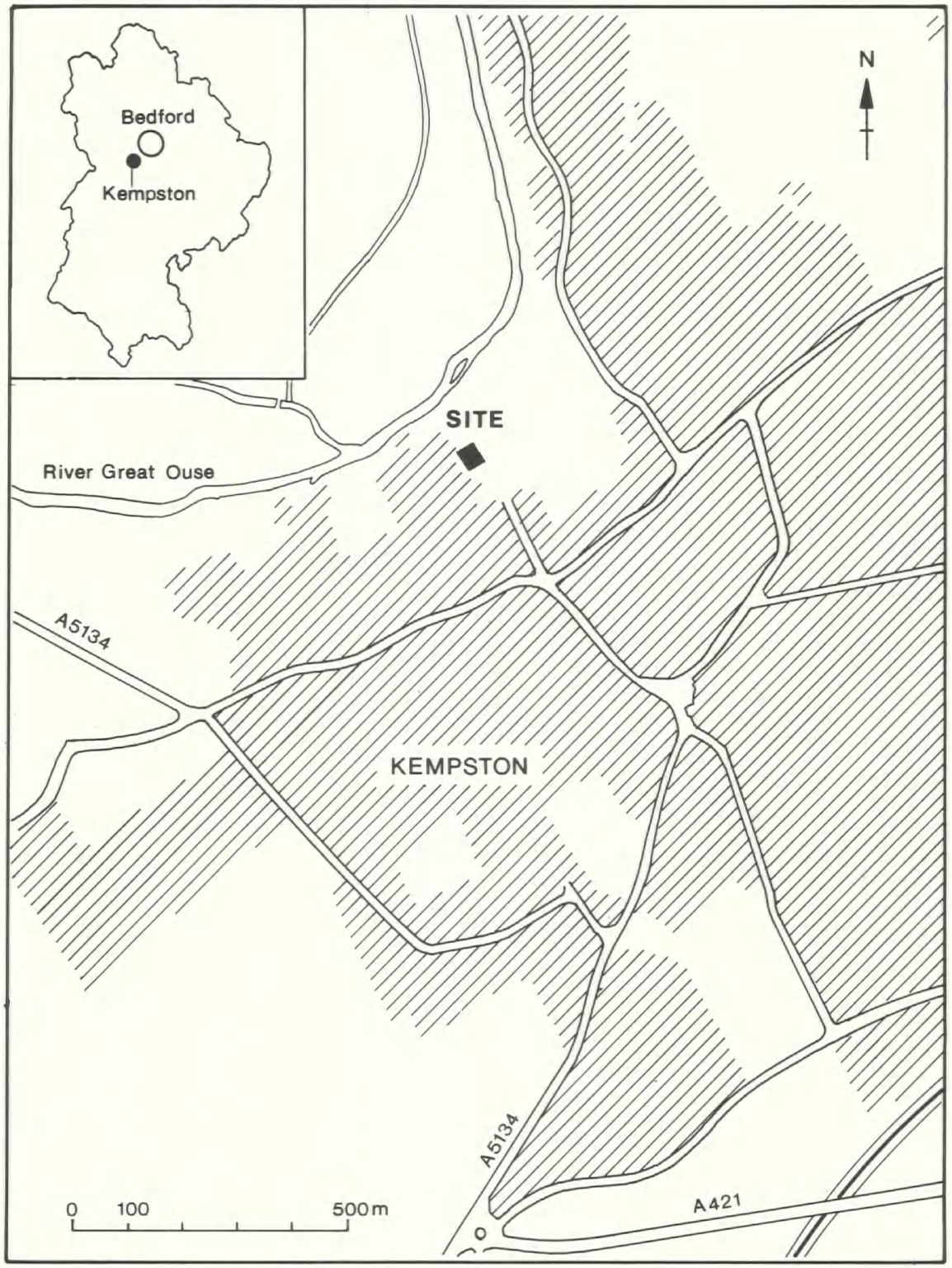

Fig 1 The location of excavations at Kempston Manor

Potton were noted estate centres of the earldom of Tostig. Tostig had been banished by Edward the Confessor in 1065 and the Kempston estate passed to Tostig's brother Gyrth. The estate at Potton went to Earl Waltheof who later married Countess Judith, William the Conquerer's niece. In 1086 Countess Judith held manors at both Kempston and Potton, and although Potton is referred to as Judith's 'sproprio' or main manor, Domesday records nevertheless indicate Kempston to have been a valuable holding.

In 1237 the lord of the manor, John Le Scot, died childless. To resolve the problem of succession the manor was divided between his three sisters; the site of the present manor is considered the main one, having gone to the eldest sister. Later known as Kempston Daubeny, Kempston Brucebury and Kempston Greys, the seniority of Kempston Daubeny suggests this site was formerly that of Countess Judith's manor house.

During the medieval period the manor site was probably continuously occupied, but the eighteenth century saw a decline in the status of Kempston Daubeny. In 1815 the medieval buildings were demolished and replaced by the present house (Wood 1984).

The area excavated lies to the west of the present manor house and is classified on a Rating Survey map of 1848 as an area of gardens and yards (CRO). Today a substantial 17/18th century brick garden wall still surrounds the site.

THE EXCAVATIONS

The scope of excavations at Kempston Manor was determined by the PPG 16 condition on the planning consent which required that `before development take place an agreed programme of works was to be undertaken to mitigate the effects of development on the archaeological resource'. The first step in the mitigation process was the completion of an assessment to evaluate the quantity and quality of survival at the site. The recent use of the site as a works depot precluded the use of either field artefact collection or geophysical survey. Trial trench evaluation led to the discovery of medieval remains including structural evidence suggesting the remains of the Saxo-Norman manor. The potential importance of the evidence thus recognised led to the design of an excavation strategy to investigate those remains likely to be affected by the construction of the proposed offices.

The layout of the excavation trenches (Fig 2) reflects the nature of the development and includes three areas of evaluation.

THE STRUCTURAL EVIDENCE

Archaeological investigation identified six periods of activity at the site from the Mesolithic to post medieval.

Period 1 – Mesolithic (Fig 4)

The earliest evidence of human activity is represented by an irregular pit [580] on the NW side of the site. It had been dug into the natural subsoil and lay sealed beneath a layer of alluvium. The fill of this pit produced an assemblage of mesolithic worked flint including debitage and tools. Similar pits have been recorded during excavations at the Ursula Taylor School, Clapham and interpreted as mesolithic working areas indicative of short stay, task-specific activities (Dawson 1988). Several further concentrations of worked flints were recorded from the site as surface finds from the interface between the brickearth and alluvium, from within the alluvium, and as residual material in later features.

Period 2 – Later prehistoric (Fig 4)

This period is first represented by a ditch [545], [562], [746] located on the SW side of the excavation sealed beneath alluvial silts. Oriented NW – SE the ditch curved gently eastwards as it progressed SE and was visible for a length of 9m. The profile varied from a V-shape in the NW (510mm deep) to a shallower U-shape in the SE (250mm deep). This ditch line was re-established, probably after flooding, by a shallower U-shape ditch [513], [517], [560]. Generally 600-610mm wide, this widened in common with the earlier ditch for a short stretch half way along its length.

The ditch fills comprised both alluvial material and edge-derived deposits. Flints of late Neolithic/early Bronze Age origin from ditch [545] and two Mesolithic/early Neolithic blades from ditch [517] suggest the erosion of surrounding plough soils, perhaps during periods of flooding. These ditches may have served as drainage channels and boundaries.

Period 3 – Early-Mid Saxon (Fig 5)

Two gullies located in the SE corner of the site and oriented NNW-SSE were between 360mm – 510mm wide with shallow U-shape profiles, 80mm – 120mm deep. The northern-most gully [410] had a curved terminus to the south and was at an oblique

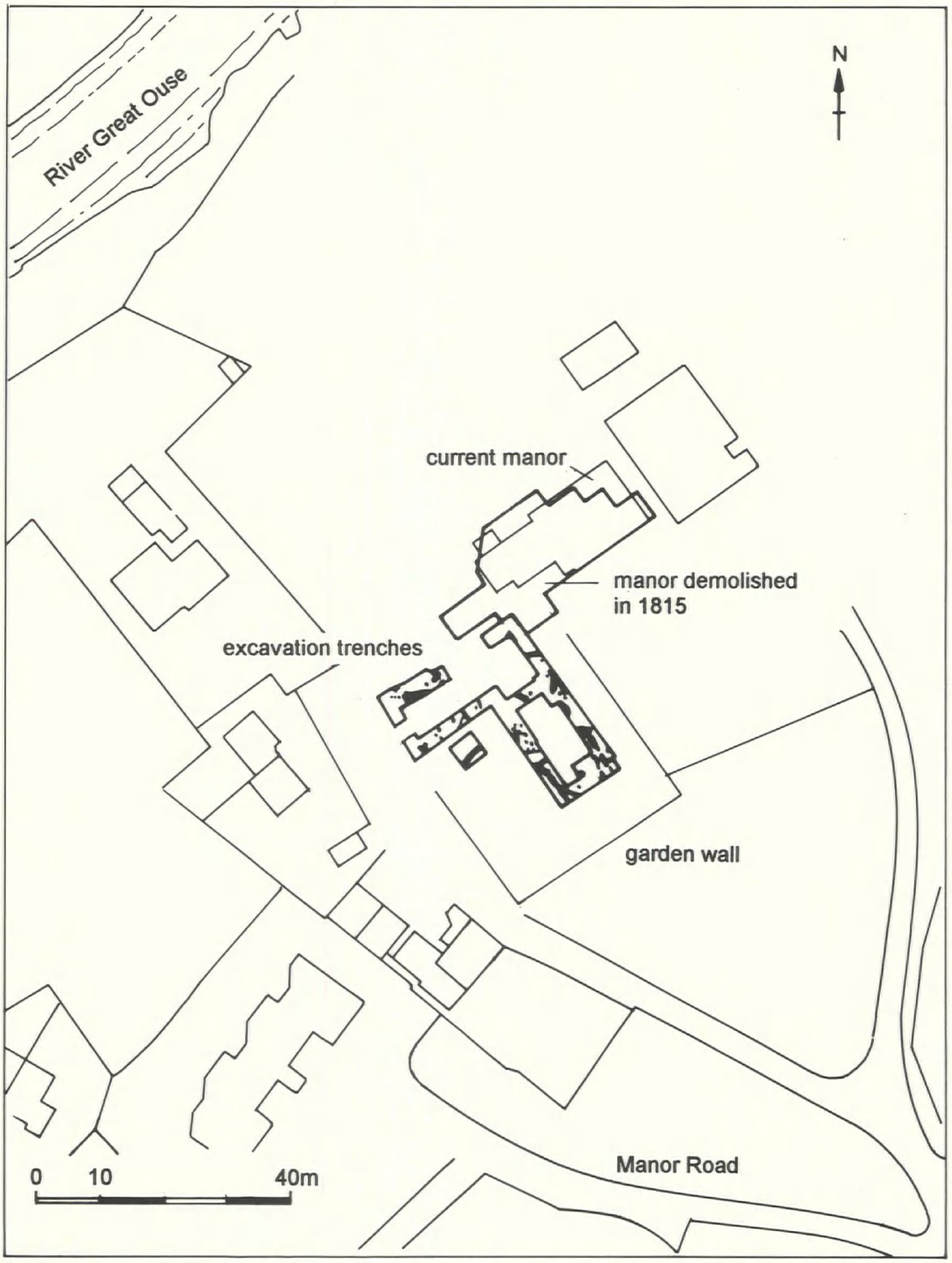

Fig 2 The layout of excavations at Kempston Manor showing the relative positions of the manor, demolished in 1815, and the present early 19th century building

Fig 3 The full extent of excavations at Kempston Manor including evaluation trenches

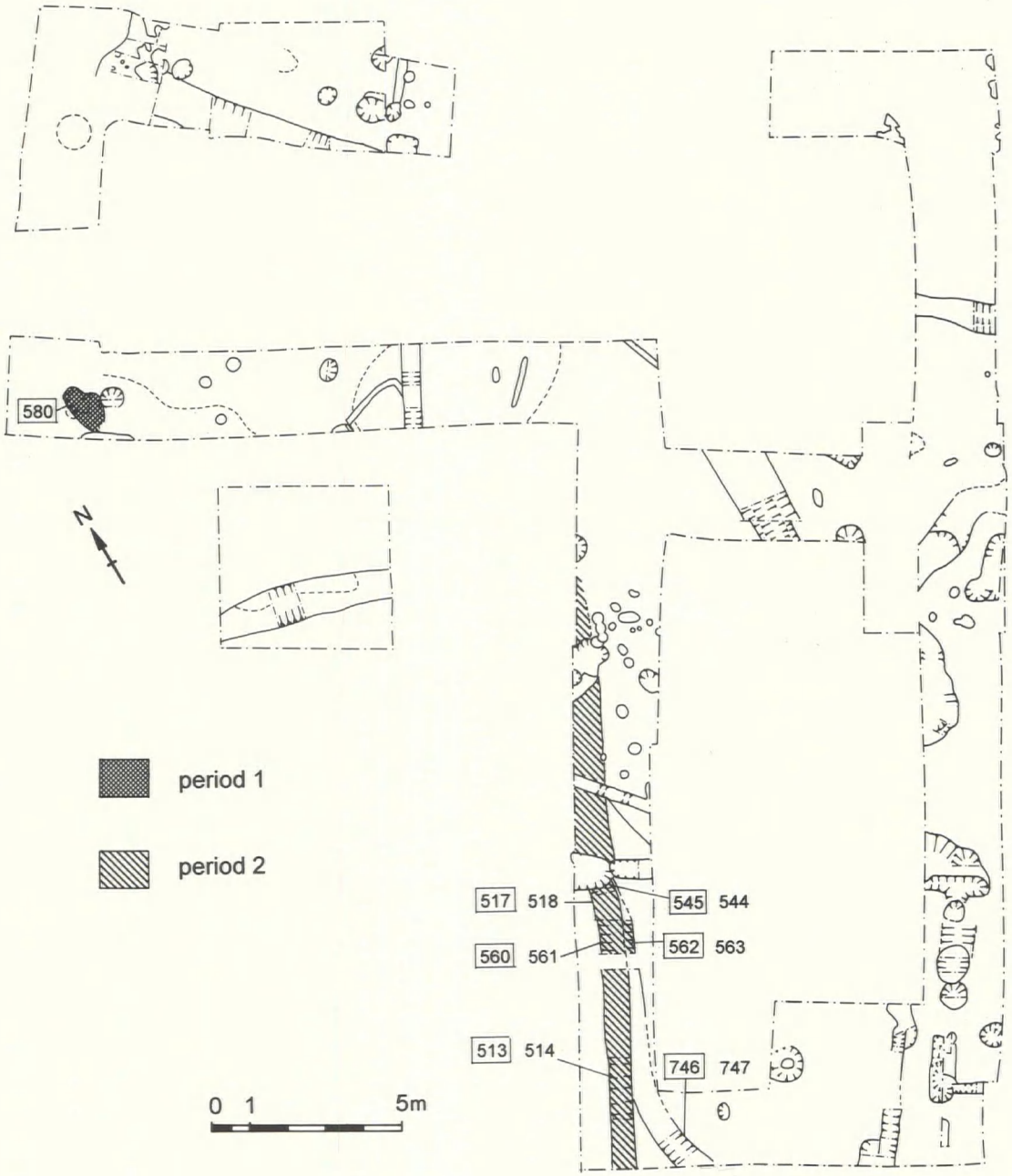

Fig 4 The early period 1 and 2 features at Kempston Manor

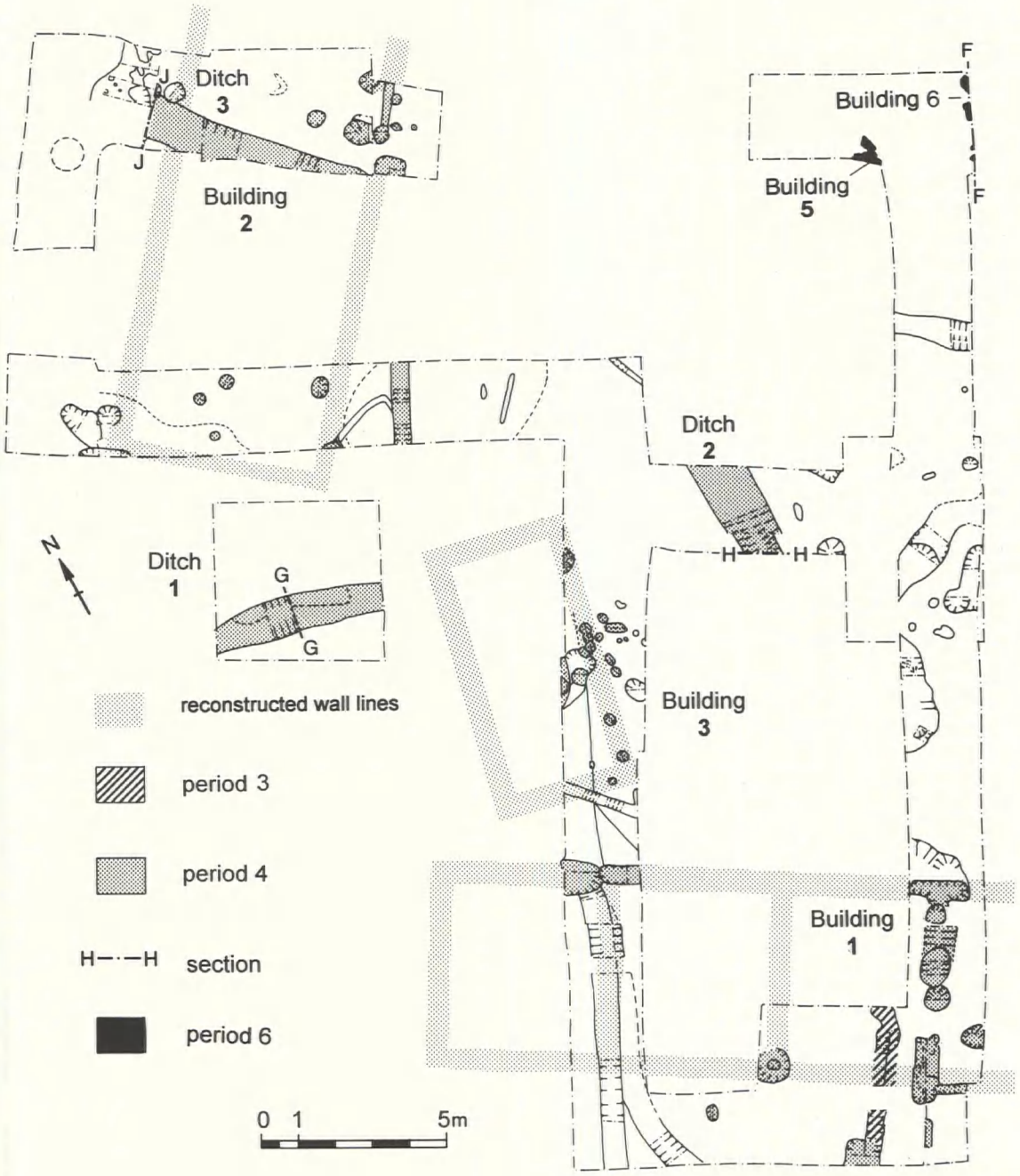

Fig 5 The location of all features in periods 3 and 4

angle to the second. They both contained orange grey silty soils and may have been eaves-drip gullies for buildings truncated by later activity. Residual domestic assemblages of pottery from areas in the west and south east of the site suggest activity nearby.

Period 4 – Saxo-Norman (Figs 5 & 6)
The Saxo-Norman period is characterised by evidence of post built structures and several ditches.

The Boundaries
Four ditches date to this period, two ditches 2 and 3, form a curving boundary running from the NW corner of the site.

Ditch 1, [106], located in an evaluation trench on the west side of the site had been cut into a layer of brown earth. It was 1.2m wide x 610mm deep with steep sides and a flat base. The ditch contained two fills, a lower silt and an upper horizon of brown earth with frequent charcoal inclusions, probably derived from the surrounding ground surface. The ditch either turned or terminated to the NE as no continuation of the feature was found in the main area of excavation.

Ditch 2 lay towards the centre of site. Its original form [642] was steep sided with a flat base. It was later recut, [568] into a U-shape profile, 1350mm wide and 420mm deep.

Ditch 3 cut across the NW corner of the excavation and was aligned NW – SE. It had a steep sided profile [213] with an uneven, slightly concave base, 1.10m wide x 710mm deep. The NE edge of this ditch had eroded forming a mid orange lower fill in the ditch. This was sealed by an upper fill of mid greyish brown, silty sand. The latter resembled the fill of the recut in Ditch 2 and produced a comparable finds assemblage. Similarities in the profiles of [213] and recut [568] suggests these two ditches may be contiguous, creating a curving ditch which enclosed an area of land to the SW.

Ditch 4, [584] [624] [785], formed a less substantial boundary oriented NW – SE, south of Ditch 3. It had a steep sided profile with a tapered concave base, 420mm wide and 230mm deep. This was recut with a shallower concave profile and was filled with similar material to the overlying brown earth.

The Structures
The remains of three timber structures were identified. These comprised the north east corner of a substantial post-built timber building (Building 1) in the SE of the site and two further post-built structures (Buildings 2 & 3). In addition there were several concentrations of post holes and slots. The absence of associated finds such as nails, tiles and stone suggests the structures were wholly timber in construction.

Building 1 (Figs 5 & 7)
Building 1 was oriented NE-SW and lay in the SE corner of the excavation. It comprised the partial remains of three wall lines. The northern side wall comprised, from the east, a 300mm deep, T-shape trench [672], with an uneven base. This aligned with a shallow beam slot [501] and a substantial post pit [505], forming a wall line >10.1m in length. Post pit [505] was 420mm deep with near vertical sides and contained three fills. These comprised a silty primary fill (520), sealed by clay packing material (519) and an upper fill (506) derived from the brown earth. Only a short stretch of the corresponding southern side wall survived. This was represented by a narrow slot, [671] continuing beyond the limit of excavation to the east. This slot had steep sides and a flat base and appears to have located a sill beam. To the west of this feature Building 1 was divided into two cells by a perpendicular wall. This wall comprised a row of six post holes, [632, 591, 622, 667, 417/665]. These held closely-spaced, uprights, generally between 200 – 340mm deep. Remnants of re-deposited clay were present in all of the post holes. To the north post hole [733] has replaced an earlier, perhaps rotted post, [632]. The southernmost of these features was a substantial, 420mm deep post pit, [417]/[665]. This contained the decayed remains of a 300mm wide post, tapered towards its base. Clay material similar to that seen in the other post holes along this wall line served as packing around the post. This appears to be the corner post to the eastern bay and gives Building 1 a span of 5.03m. This measurement corresponds to one of the standard Anglo Saxon units of measure or 'rods' identified by Huggins (1991). A 1.10m gap (measured centre to centre) between [417]/[665] and a smaller post hole [667] to the north marks a doorway in this wall. Post hole [416]marks the location of a second divison. On the west side of the building a narrow slot for a sill beam, [710] may be associated with post hole, [509], 5.03m to the south and a second, larger post hole [413], 1.67m to the west. The function of these structural features is unknown and cannot be reconstructed within the limitations of the excavated area.

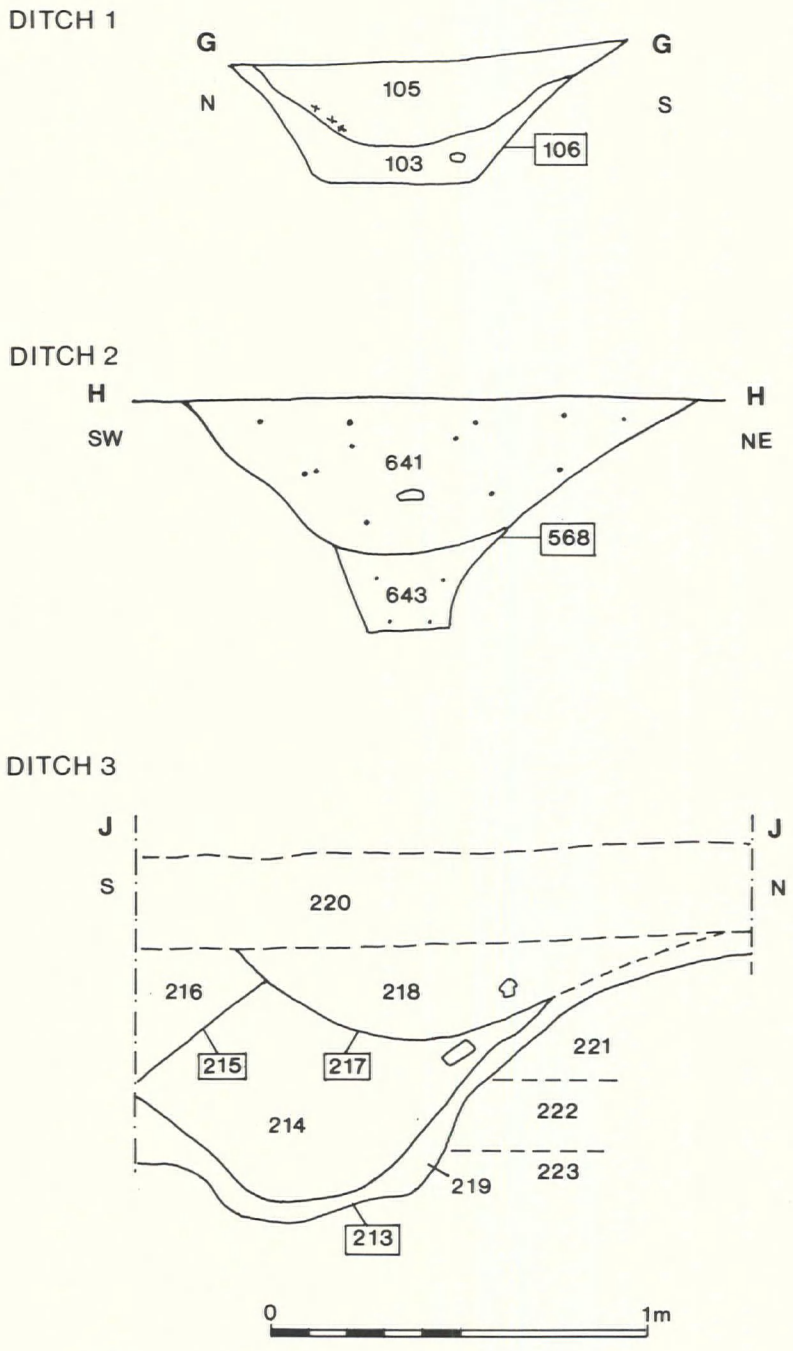

Fig 6 Ditch sections from period 4

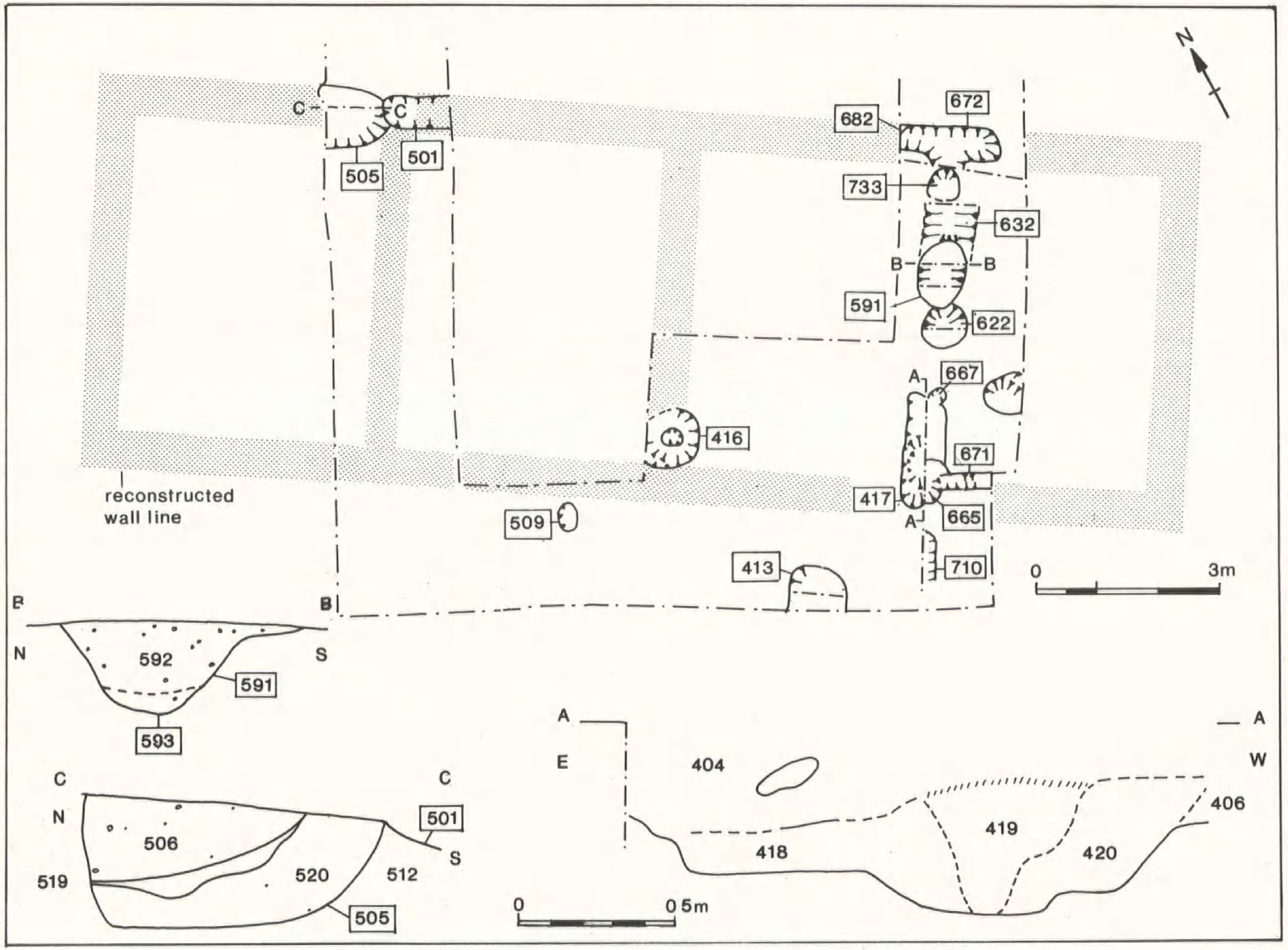

Fig 7 The excavated evidence and conjectured outline of Building 1, period 4

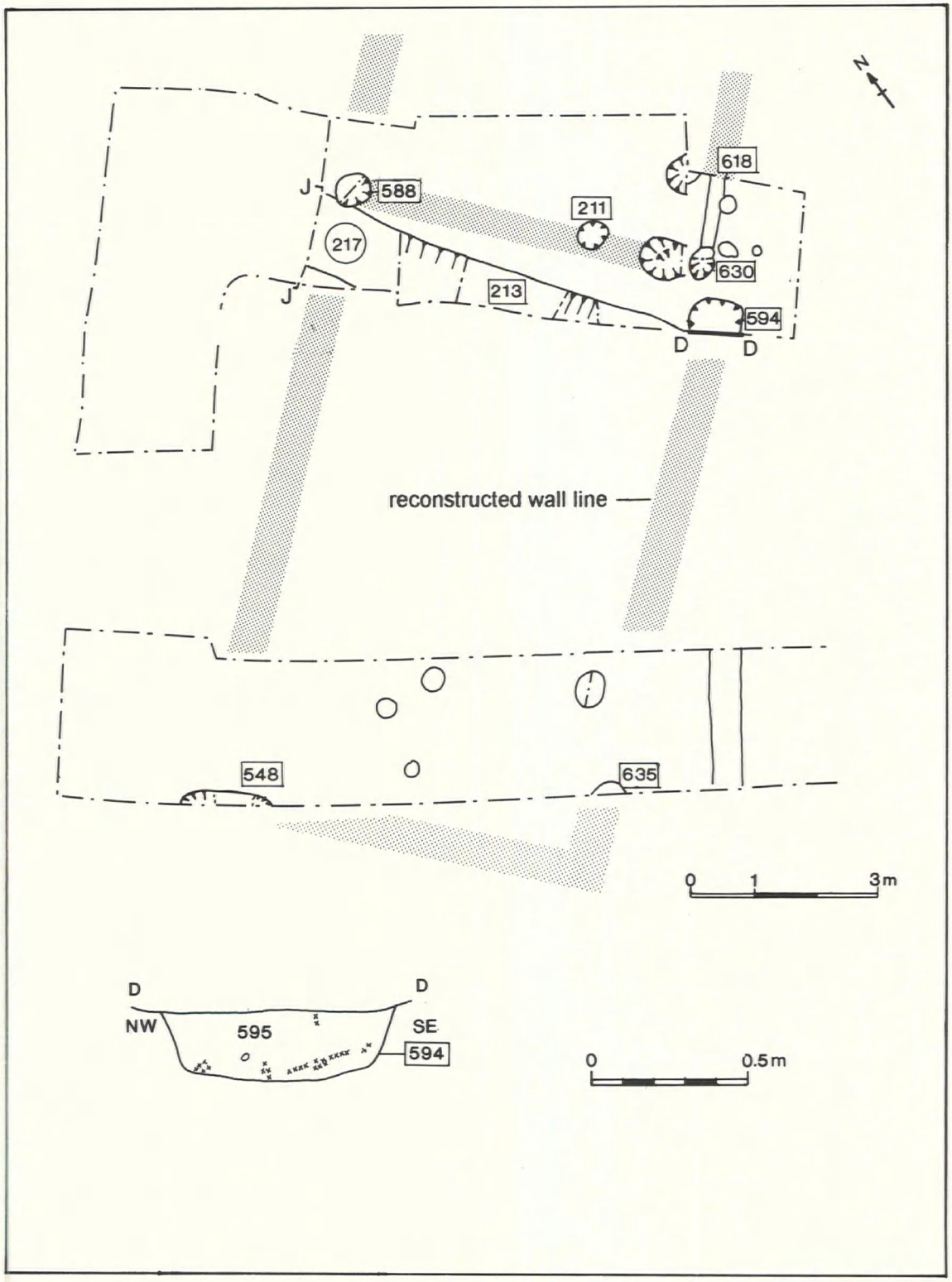

Fig 8 The excavated evidence and conjectured outline of Building 2, period 4

Building 2 (Figs 5 & 8)
Located in the NW corner of the site this structural group comprised 15 post holes and 2 slots. The structure was not fully investigated as it extended both NW and the SE beyond the area of excavation. There appear to be probably two components to this building: A northern bay comprising a line of post holes [630] [211] [588] forms a corner with slot [618] whilst a southern element comprises a large post hole [594] with a second [635] on the east side whilst slot [548] represents the remains of a wall line parallel to [630]/[588]. The cross wall [548] lies 10.06m to the south of [630]/[588], suggesting, in common with Building 1, the use of a 5.03m rod measurement during construction (Huggins 1991). All these post holes were backfilled with a material derived from the overlying brown earth, after the removal of their posts.

Building 3 (Figs 5 & 9)
Building 3 comprises 20 post and stakeholes cut into the alluvium in the west of the site. The main axis probably ran NW – SE, at an oblique angle to the orientation of Building 1 and comprises an irregularly spaced row of six post holes [523] – [541]. These were generally less than 100mm deep but towards the centre of this row two more substantial post holes, [608] & [537], were respectively 180mm and 280mm deep. Central and perpendicular to the main axis were several smaller

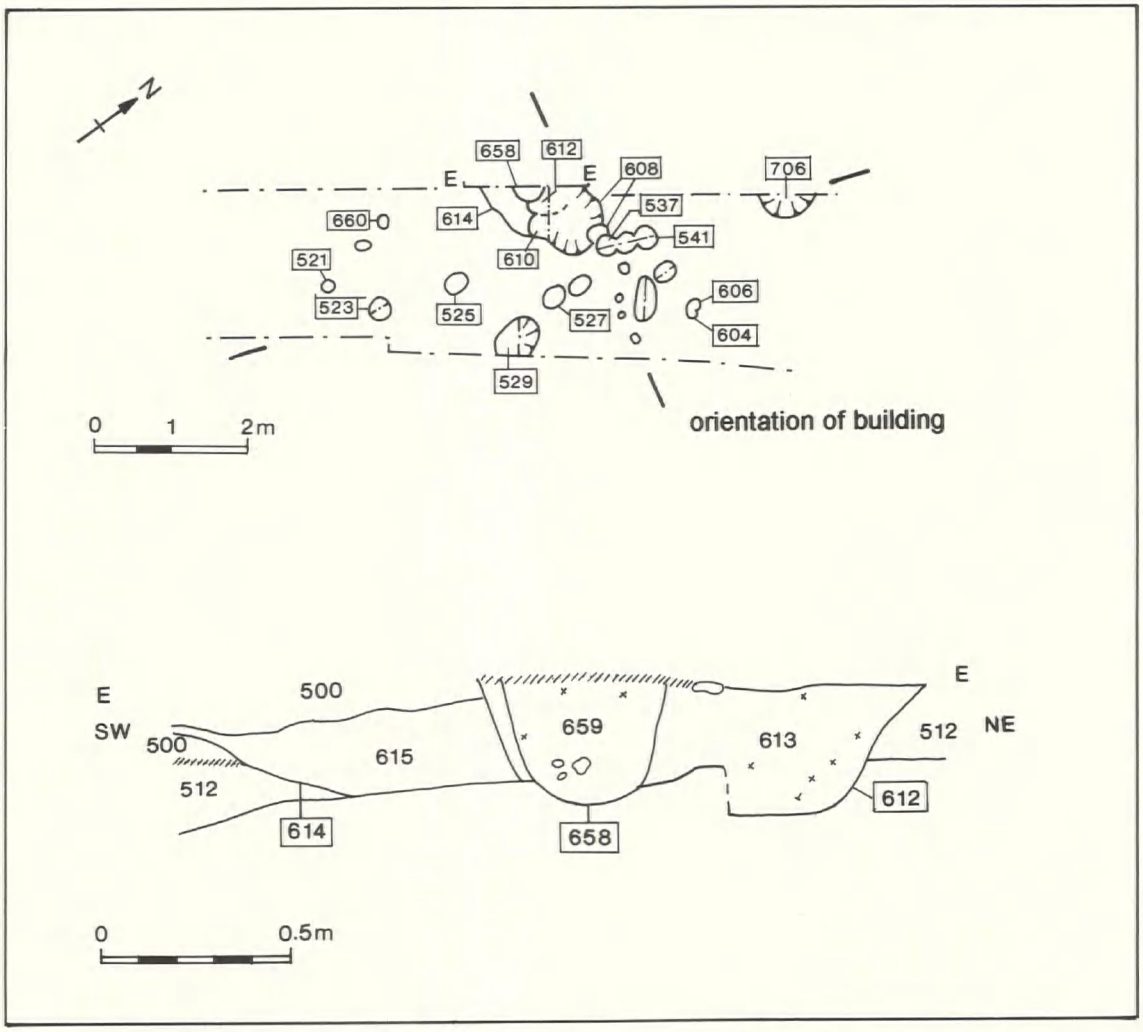

Fig 9 The excavated evidence of Building 3 indicating the orientation of this structure

post and stakeholes. Their insubstantial nature suggests a construction technique for timber-laced clay walls. A continuation of the main axis to the NW is inferred from post hole [706]. In common with post holes [612] and [610] to the south, [706] was greater in depth and contained an organic fill. The evidence for building 3 may represent the remains of a single structure (Figs 9 & 10) or parts of several structures.

Discussion

The shallow nature of the remains of Building 1 suggest timber frame construction which was largely self-supporting, precluding the need for internal supports (Chapelot and Fossier 1980). The construction technique comprises a mix of shallow trenches and post pits for the side walls, with closely spaced posts forming an internal partition. The slots and trenches may have held interrupted sill beams into which staves for walling material were clasped or slotted, between the principal posts. The use of interrupted sill beams is well-known in NW Europe from c.AD900 and gradually replaced earlier techniques where the staves were earth-fast (Hauglid 1972). The T-shape appearance of the east end of trench [672] suggests the sills of the N-S and E-W walls were halved together. This construction technique reflects that proposed for the construction of the 10th century buildings at North Elmham, Norfolk (Wade-Martins 1980). Locally similar structures have been excavated at Stratton DMV, Biggleswade, and for a 13th/14th century building (78002) at Westbury DMV, Milton Keynes (Ivens, Busby and Shepherd 1995, Fig 78). Whilst the excavated evidence for Building 2 lacks the evidence of sill beam trenches seen in Building 1, their orientation might suggest contemporaneity. It is possible that Building 2 comprised sill beams placed directly on the ground surface, which would have left little trace beyond a single slot in the east facing wall. Building 1 was the only structure to produce any ceramic artefacts. These give a date of occupation between the 10th and 11th centuries AD, but the lack of debris restricts interpretation. Building 1 may be domestic and, with possibly up to four bays, it may be of high status. Building 3 is oriented NW – SE and is in close proximity to Building 1, which might suggest they belong to a separate phases of construction. The alignment of the boundary ditches associated with Period four indicate at least two sub phases of activity with ditch 2 & 3 possibly the earliest. Buildings 1, 2 and 3 may be contemporary and a possible layout is prepared in Fig 10.

Period 5 – Medieval (not ills)

During the 12th – 14th centuries the area of Saxo-Norman activity was abandoned and the focus of settlement shifted. A boundary ditch [742] dug in the NE corner of site, with a steep-sided profile and a flat base, was filled with material that closely resembled the overlying brown earth. In the NW corner of the site below several post medieval features were two intercutting post holes which were dug from the upper level of the brown earth. The earlier of the two [590] had a flat base 600mm deep and its slightly concave NW edge suggests the post was removed and the cut backfilled. Remnants of limestone packing material were incorporated into the fill. A smaller concave post hole [724] truncates the upper part of this fill. A third structural element dated to this period, was an isolated semi-circular post setting in the far east of the site. South west of this a large pit [416], 900mm in diameter and 700mm deep, had truncated the remains of a smaller posthole [422].

It was during this period that the manor of Kempston was divided between the three sisters of John Le Scot. The location of the manor of Kempston Daubeny, which is said to have stood on the site of the present manor (Wood 1984) NE of the excavation, suggests the build up of brown earth associated with spade cultivation indicates the excavation area was now used for agricultural purposes.

Period 6 – Post medieval

The evidence of three stone structures clustered close to the present manor in the north of the site were observed in section. Only Building 6 is illustrated (Fig 10) as the recording of all three was compromised by the presence of live services during excavation.

Building 4 (not ills)

Building 4 comprised two phases of wall construction with associated floor surfaces and was seen in the NW corner of the site.

The first phase of activity was the construction of a coursed limestone and tile wall [715] within a shallow foundation trench. Aligned NW – SE and substantially robbed this remained intact to a height of 150mm. Dismantling of the wall had destroyed its relationship to a surface of red tiles (575)/(578) seen adjacent to the base of both faces, although their position suggests contemporaneity.

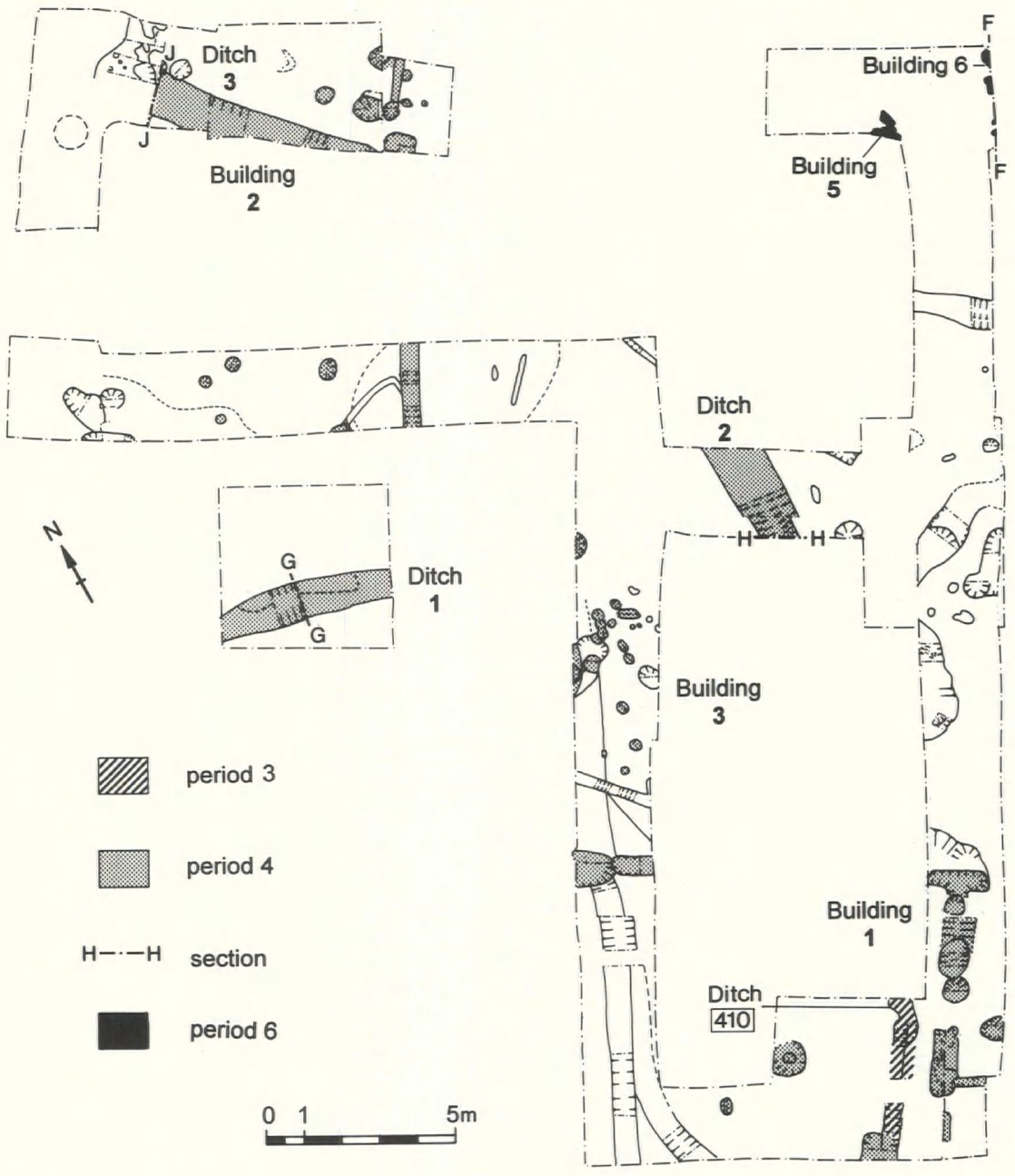

Fig 10 Composite plan of buildings in period 4

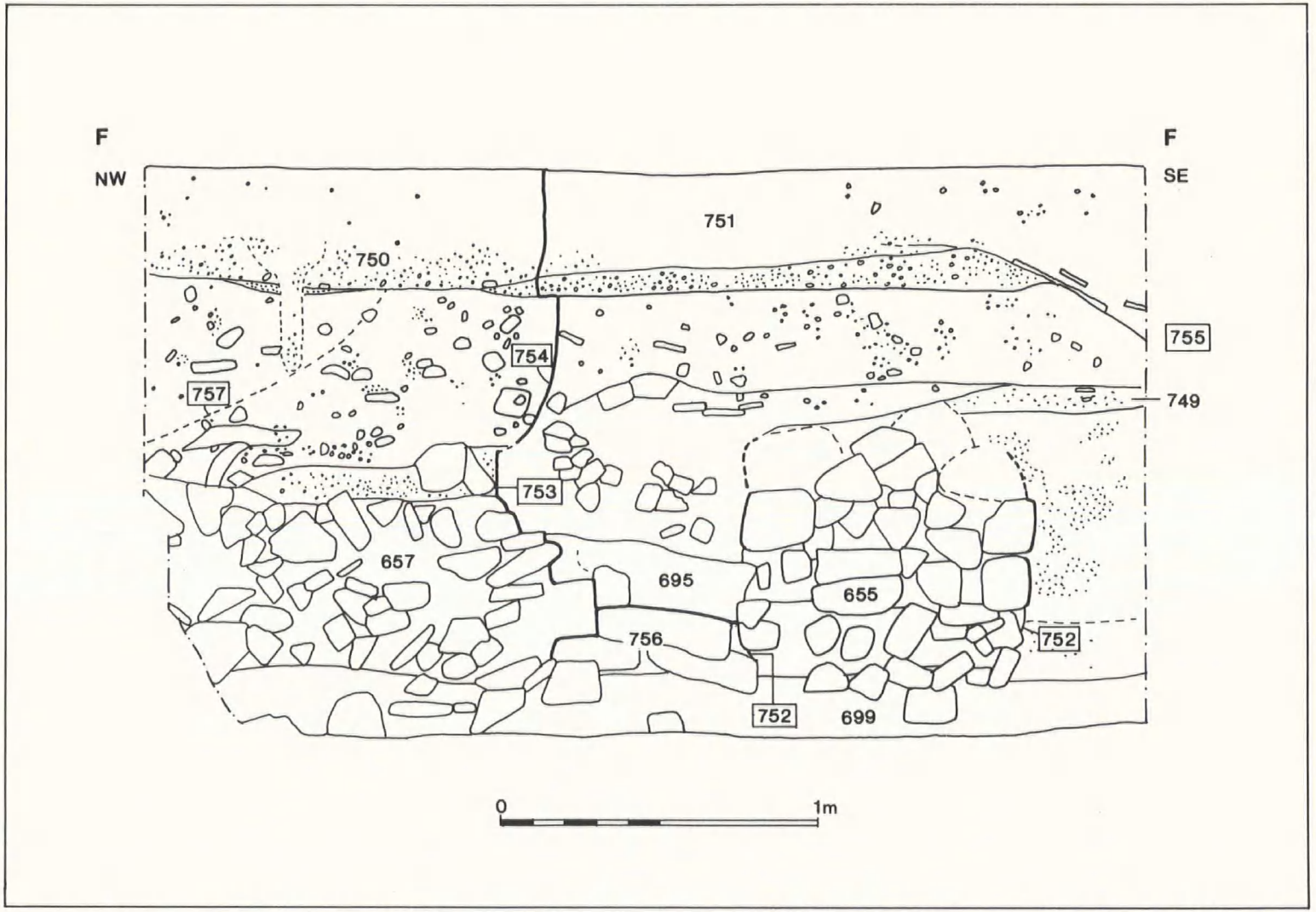

Fig 11 Section through the masonry of Building 6, period 6

Demolition of the wall resulted in these remains being sealed beneath 130mm of rubble and soil. The second phase of construction comprised the building of a second wall [576]. This was set within a shallow foundation trench that cut into the demolition layers directly above the first wall. Limestone rubble served as the foundation for a faced limestone wall. This had a rubble, sand and mortar core and three courses survived in section. In common with its predecessor the wall had an associated floor surface of red tiles (508) that butted against the NW face of the wall. During the construction of the former depot on this site this area was levelled and up to 500mm of imported rubble dumped across the site.

Building 5 (not ills)
This was only apparent in one section in the NE corner of the excavation and comprised a foundation trench [737] that held two layers of large rectangular limestone blocks (738) and (727). The stones (738) were laid horizontally as footings for a wall. This had been largely demolished and all that remained was a 300mm deep rubble core (727) of sub angular stones in a sandy clay matrix. An accumulation of sandy clay soil (744) with frequent charcoal inclusions lay against the western face of the wall. This layer was truncated during the demolition of the wall by robber cut [759] whose fills produced frequent inclusions of stone, tile, mortar and charcoal.

Building 6 (Fig 10)
The third structure was seen in a west facing section in the NE corner of the site. This structure lay to the east of Building 5 and proved difficult to interpret. A 900mm wide foundation trench [752], 500mm deep was cut into alluvial silts to the south of the section and contained angular and sub-angular limestone. These acted as the foundation for a faced limestone wall [655] with a rubble core which survived intact to a height of 560mm. On the north side of the wall were two floor surfaces. The first of these comprised two courses of limestone slabs (756). Perhaps serving as a floor in their own right they provided a level surface for the second, mortar, floor (695) constructed directly above. An accumulation of mixed soil with frequent inclusions was visible to the south of the wall, similar to (744) seen butting building 5. A gap of 2.5m separates these two walls and the total absence of masonry or structural remains between them suggests there may have been a narrow gate into the garden at this point (Fig 5).

Debris resulting from the demolition of wall [655] formed a spread of material 500mm thick above the structure and floors. At a similar period a large area to the north of the wall was cut away

Period	3		4		4		4		4	4					4				
	Glly	Spd	Ditch 1		Ditch 2		Ditch 3		D4	Lower Brown Earth					Building 3				
Fabric	412	550	107	105	643	641	214	741	585	500	586	404	516	104	663	611	613	592	67
F01B																			
F02															1:1				1:
R06		1:1								1:1								1:1	
R13											1:1								
A16	1:1			4:4			2:3				1:1			2:2		1:1			
A18					2:2	2:2					1:1								
A22											1:1								
A23																			2:
C12				1:28										0:1					
C82																			
B01			1:1	2:2	1:1	2:3	3:3		1:1		2:2	2:5	1:1	2:2		1:1	1:1	2:2	8:
B01B																			
B01C																			
B04																			
B07								1:1			2:2								1:
C53																			
Total	1:1	1:1	1:1	7:34	3:3	4:5	5:6	1:1	1:1	1:1	8:8	2:5	1:1	4:5	1:1	2:2	1:1	3:3	12:1

Table 1 Pottery by period, vessel and sherd count

down to the level of the underlying clay, and the resulting void was packed with sub angular and angular limestone nodules, (657). The purpose of this remains unclear. Mixed deposits of charcoal, brick and gravel were used to level this area prior to the deposition of a layer of topsoil.

Subsequent to the dismantling of these walls several pathways were laid across the garden. That seen in the NE corner of site (739) was constructed from chalky material and flint gravel. A second gravel path (640) ran E -W across the centre of site above the brown earth. Other post-medieval features include an isolated post hole close to Building 1 in the SE of the site, a brick-lined well in the NW corner of the excavation, and close by, two Victorian bottle dumps. The whole site was later levelled and sealed beneath a layer of rubble prior to use as a depot.

The configuration of buildings illustrated by W H Payne (Wood 1984, Pl 2) suggests that the walls visible in the west corner of the site are the remains of the manor house demolished in 1815.

THE CERAMICS ASSEMBLAGE

(J Wells, A M Slowikowski)

Introduction

A total of 90 vessels, represented by 130 sherds weighing 831g, was recovered. Of the vessels identified 80 were hand-collected during excavation, the remainder were sieved from soil samples. The pottery was examined by context and sorted into sixteen fabric types, based on the Bedfordshire Pottery Type Series (Baker et al. 1979). Sherds from the same vessel within a single context were brought together as were sherds from different contexts belonging to the same vessel. Quantification was carried out using minimum vessel, sherd count, and weight. Examination of attributes, including extent of abrasion, presence of residues or sooting, was undertaken to provide an indication of the function of the pottery.

Standard drawing conventions have been used, with vessels shown at one quarter and one half size, external view on the right and a section and internal view on the left. Wheel-thrown vessels are shown with solid sections, and hand-made vessels with hatched sections. The pie diagram at the base of each illustration indicates the proportion of the vessel recovered.

The majority of the assemblage comprised small and abraded sherds. The pottery from ditch 1 (105), Period 4, was, however, in good condition with 28 sizeable sherds belonging to the same vessel.

Excavation at Kempston has produced an assemblage of domestic pottery ranging in date from the early Iron Age to the medieval period. The fabric types within each context have been tabulated

4													5				6	
Building 1										Building 2			Isolated Features				Bdg 4	
414	420	502	506	510	623	639	633	683	734	595	631	587	567	659	415	645	515	Total
						1:1												1:1
																		2:2
						1:1												4:4
																		1:1
										1:1								12:13
																		5:5
																		1:1
																		2:2
																		1:29
																	1:1	1:1
1:1	1:1		1:1	4:9	1:1		1:1	1:1	4:4	3:3	1:1	1:1	1:3	1:1	1:1		1:1	52:63
						1:1												1:1
								1:1										1:1
		1:1																1:1
																		4:4
																1:1		1:1
1:1	1:1	1:1	1:1	4:9	1:1	3:3	1:1	2:2	4:4	4:4	1:1	1:1	1:3	1:1	1:1	1:1	2:2	90:130

by sherd and vessel count (Table 1). This information provides the framework for the following discussion.

Bedfordshire Pottery Type Series

Fabrics are arranged chronologically, using common names and type codes in accordance with the Bedfordshire Pottery Type Series which is held by BCAS. Seventeen types have been previously recognised from excavations within Bedfordshire and have been fully described elsewhere. One Saxo-Norman fabric (Torksey type, C82), represents a new addition to the Bedfordshire type series, although it is well known throughout the north-east midlands; kilns have been excavated in Torksey, Lincs (Barley 1964).

Early Iron Age

Type F01B Fine Flint
Hard fired, fairly harsh fabric with mid-grey cores and red-brown surfaces. Contains ill-sorted fine white flint and sub-rounded clear quartz.
Forms: Hand-made, undiagnostic body sherds.
Suggested source: likely to be of local origin and manufacture. Ceramics tempered with flint (type F01B) and flint/grog (type F02) have been recovered from early Iron Age features at Ursula Taylor School, Clapham, Beds (Dawson 1988) and from the early-mid Iron Age settlement site at Salford Quarry (BCAS in prep).

Type F02 Grog and flint
Fairly hard, smooth black/grey fabric, tempered with variable proportions of grog and angular flint.
Forms: Hand-made, undiagnostic body sherds.
Suggested source: As type F01B.

Roman

Type R06 Greyware
Variable harsh, hard-fired fabric ranging from light-dark grey throughout. Contains frequent, well-sorted quartz and occasional black iron ore.
Forms: Wheel-thrown bowl with upright rim, and undiagnostic body sherds, one with incised lattice decoration.
Suggested source: various.

Type R13 Roman Shelly
Variable buff-orange-brown fabric with blue-grey-black core. Contains abundant, evenly distributed shell and rare sub-rounded quartz.
Forms: wheel-thrown, undiagnostic body sherd.
Suggested source: produced at kilns in Harrold, north Beds (Brown 1994).

Saxon

Type A16 Mixed coarse quartz
Coarse, hard dark grey-black fabric with abundant quartz, sparse flint inclusions and often with organic impressions on the surfaces. At Kempston, this type can be subdivided into fabrics with quartz inclusions of less than 1.61mm and a grittier type with inclusions in excess of 1.61mm.
Forms: hand-made jars with plain rims, some sherds with burnished exteriors.
Date: early-mid Saxon.
Suggested source: likely to be of local origin and manufacture; quartz inclusions found in sandy fabrics A16 and A18 are thought to be derived from the Greensand ridge, which runs SW-NE through the county from Leighton Buzzard to Sandy and on into Cambridgeshire.

Type A18 Fine quartz
Fairly smooth, dark grey-black fabric containing densely packed, abundant sub-rounded to sub-angular quartz.
Forms: hand-made, undiagnostic body sherds.
Date: early-mid Saxon.
Suggested source: as type A16.

Type A22 Flint tempered
Hard, harsh grey-brown fabric, characterised by frequent, angular white flint inclusions. Also contains sparse quartz and organic material. Similar in surface appearance to flint tempered pottery of Iron Age date.
Forms: hand-made, undiagnostic body sherd.
Date: suggested early-mid Saxon.
Source: unknown.

Type A23 Sandstone
Fine, hard dark grey-brown fabric, similar to type A16, but characterised by large clusters of quartz crystals of greater than 0.8mm in size.
Forms: hand-made, undiagnostic body sherds.
Date: early-mid Saxon
Source: unknown. This type occurs both at Grove Priory, south Beds, and Stratton medieval village, mid Beds (both BCAS in prep).

Saxo-Norman (10th-early 12th centuries)

Type C12 Stamford ware
A hard-fired, glazed, smooth fabric varying in colour from off-white to buff and light grey, often with a pinkish tinge.
Forms: wheel-thrown spouted pitcher; fabric B/G, with a thin light yellow-green type 1 glaze (Kilmurry 1980, 8 & 11).
Date: 10th-11th century.
Source: produced at kilns in Stamford, Lincs, this fine ware is distributed throughout the country, as far north as Scotland (Kilmurry 1980, 161).

Type B01 St Neots-type
Rough, fairly soft and occasionally friable fabric, containing abundant fossil shell, distributed evenly throughout the matrix. Reduced grey-black core and variable brown-black surfaces.
Forms: wheel-thrown bowls with everted and upright rims and everted rimmed jars.
Date: 10th-11th century.
Suggested source: although no kiln sites are known, St Neots type vessels are widely distributed throughout a core area in the south and east Midlands and have been recovered from numerous settlement sites in the Ouse and Ivel valleys. Described by Hurst (1956) and discussed more recently by Hunter (1979).

Type B01B St Neots-type
As St Neots type, but with finer shell inclusions, smooth, soapy surface finish and buff-mauve surface colour. Similar to fabric T1(1) recognised from excavations in Northampton (Denham 1985, 54).
Forms: wheel-thrown, undiagnostic body sherd.
Date: 10th-11th century
Suggested source: as type B01.

Type B01C St Neots-type
Fairly smooth, patchy buff-grey-brown fabric with inclusions of sparse quartz and red and black iron ore in addition to abundant shell.
Forms: bowl with everted rim.
Date: 10th-11th century, possibly continuing into the 12th century.
Suggested source: As type B01.

Type B04 St Neots-type
Rough, often brittle fabric with a grey core and variable pink-orange-brown-grey surfaces. Tempered with coarsely mixed shell and shelly limestone, with sparse grog and quartz inclusions. Similar to fabric T1(3) found at Northampton (Denham 1985, 54), this type has also been found in Bedford (Baker & Hassall 1979, 167) and is probably a local fabric.
Forms: wheel-made, undiagnostic body sherd.
Date: 10th-12th century
Suggested source: as type B01.

Type C82 Torksey-type ware.
Hard, dark grey/black fabric containing well-sorted, round to sub-round quartz
Forms: wheel-made, undiagnostic body sherd
Date: 10th-12th century
Source: produced at kilns in Torksey, Lincs. Fully classified by Barley (1964) and more recently discussed by Gilmour (1988).

Medieval (12th-14th centuries)
Type B07 Medieval shelly
A developed form of St Neots-type ware; hard, fairly smooth fabric with orange surfaces and distinctive blue-grey core. Predominantly shell tempered, with sparse quartz and iron ore.
Forms: wheel-made, undiagnostic body sherds.
Date: 12th-13th century
Source: kilns at Harrold (Beds) and Olney (Bucks) producing this type have been discussed by Hall (1971) and Mynard (1984).

Type C53 Medieval sandy
Variable smooth to fairly rough fabric, with mid-dark grey surfaces, light grey margins and mid grey core. Characterised by the pimply appearance of its surfaces, due to inclusions of abundant sub-rounded quartz.
Forms: wheel-made jug with thumbing around the base.
Date: 12th-14th century
Source: unknown. This type occurs at Bedford (Baker and Hassall 1979, 177).

Period 2 Later Prehistoric

A small amount (3 vessels) of abraded Iron Age pottery was recovered from the fills of features [632], [672] building 1, Period 4 and (663) Building 3, Period 4. Predominantly grog and flint tempered (FO2) no ceramic forms were identified. The pottery was residual found in features associated with Period 4 Saxo-Norman.

No structural features dating to the Roman period were identified; residual sherds from five Roman vessels were recovered from (550), Period 3, lower brown earth layer (586) and the fills of post holes [591] and [632] in Building 1, Period Four. The fabrics are exclusively coarseware, consisting of both shell-tempered and sandy wares (types R13 and R06). A single shell-tempered vessel, abraded and leached, probably derives from kilns at Harrold (Beds) where a major shelly ware industry is known from the Roman period (Brown 1994). The sand-tempered greyware vessels are of unknown source.

Period 3 Early-mid Saxon

The site produced sherds from nineteen Saxon vessels, the majority of which were mixed in contexts with pottery of a later date. An unabraded, plain rimmed jar in fabric type A16 Fig 12, no1) was found in gully fill [413](412), dating the disuse of the gully to Period 3. External sooting suggests its use as a cooking vessel.

Residual vessels were recovered predominantly from layers (104) (Fig 12, no.2) and (586) within the lower brown earth, from Ditches 1, 2 and 3 and from pits/post-holes [595] and [611] in Building 1. Vessels of coarse mixed quartz (A16) predominated. Other sand tempered Saxon fabrics represented were types A18 (2 vessels) and A23 (2 vessels). A single sherd of flint tempered fabric (A22) derived from lower brown earth layer (586).

All the sherds are hand-made and undecorated, two have burnished exterior surfaces and seem likely to represent coarse domestic vessels. Traces of an internal black residue on a sand-tempered vessel (A23) from fill (673) in trench [672] in Building 1, indicates that it may have been used either as a storage vessel or perhaps as a receptacle for contents which were deliberately burnt.

Saxon sand tempered fabrics are thought to span the early to mid Saxon period; they have been found in contexts of this date in Bedford (Baker and Hassall 1979, 152) and at Pennyland/Hartigans, Milton Keynes (Blinkhorn 1993, 246). The Saxon fabrics found with Saxo-Norman pottery types, weighing only 3g, are probably residual in those contexts. An early Anglo-Saxon cemetery was excavated at Kempston in the 1860s; the finds were deposited at the British and Bedford Museums (Kennett 1972). Domestic Anglo-Saxon pottery has only been found sporadically in the area, but the few finds of this date from Kempston Manor add to their distribution.

Period 4 Saxo-Norman

Shell tempered wares of characteristic St Neots type of the 10th and 11th centuries, (B01) and sub-types (B01B, B01C), constituted 60% of the ceramic assemblage from the Kempston Manor excavation. In total, fifty-four vessels were represented, with recognisable forms including plain, straight-sided bowls and both bowls and jars with everted rims. Sooting on several sherds suggests the presence of utilitarian types, probably kitchen wares. Vessels with sooted exteriors may have been used as cooking pots, while the majority, which are unsooted, were probably used for storage and food consumption.

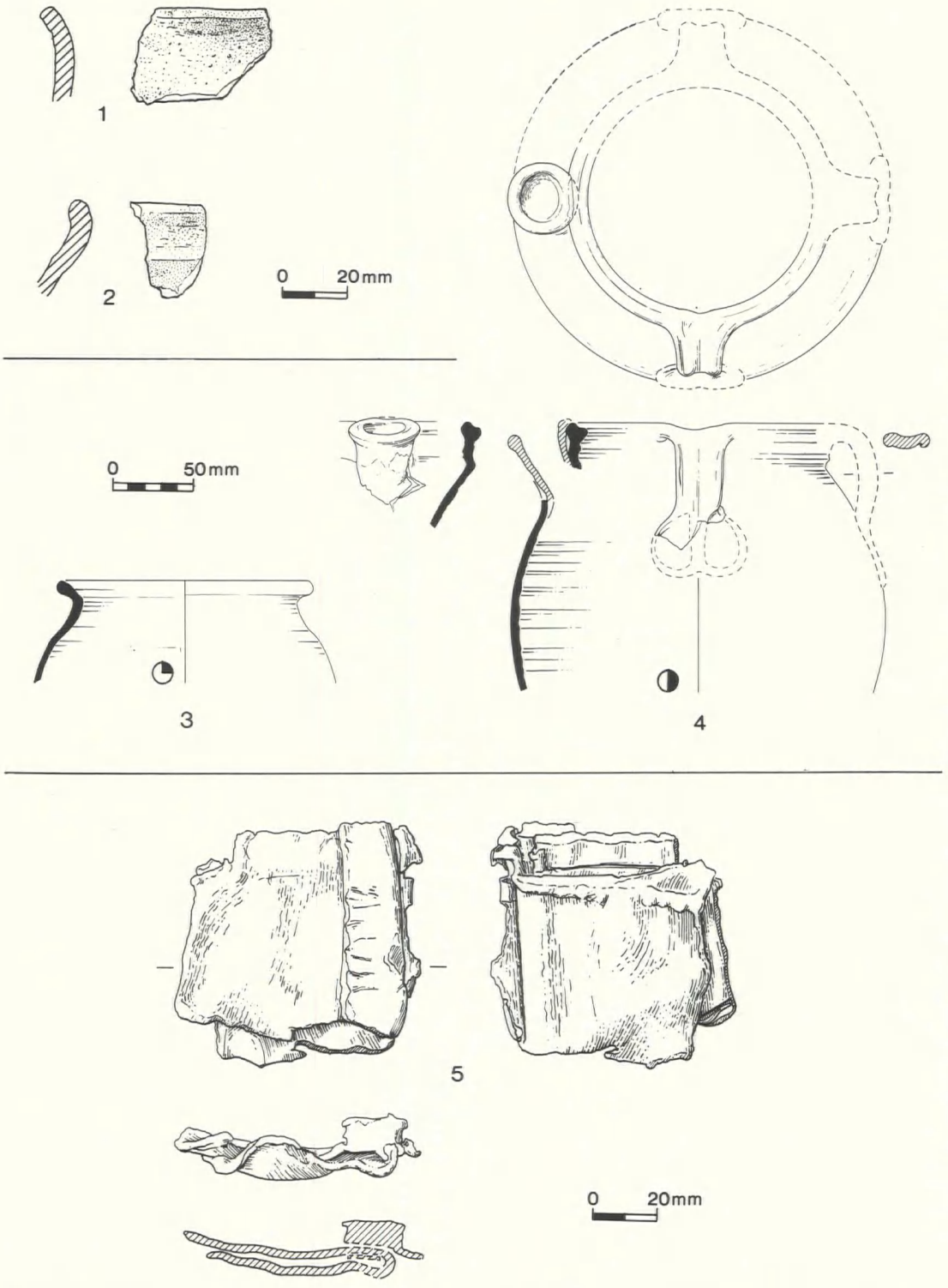

Fig 12 Nos 1-2, Anglo-Saxon pottery (scale 1:2); nos 3-4, Saxo-Norman pottery (scale 1:4); see table 1. No 5 roofing/building fixture (scale 1:2)

Ditch 1

A large proportion of a Stamford ware (C12) spouted pitcher (Fig 12, no 4) was recovered from the upper fill (105) of Ditch 1 and from the lower brown earth layer (104). This might be an indicator of rapid in-filling of the ditch within a short space of time. The distinctive character of the fabric and glaze suggests a date in the mid-late eleventh century.

The spouted pitcher was the major article of Stamford ware to be traded (Kilmurry 1980, 166). Glazed pitchers were used for tableware and contrast with the utilitarian kitchenwares of St Neots type, with which the former is often associated.

Building 1

The majority of the Saxo-Norman ceramics (27 vessels) derived from Building 1. Sherds recovered from fills of post pit [417] and trench [632] date the occupation of this building to a period within the 10th-11th centuries.

Period 5 Medieval

Five vessels of early medieval date were found, largely mixed in contexts with ceramics of Saxo-Norman date. Medieval Shelly ware (B07) was represented by four vessels recovered from lower brown earth layer (586) and from fill of trench [672] within Building 1.

The construction and subsequent infilling of ditch [742] during this period is evidenced by the presence of a Medieval Shelly ware (B07) vessel in fill (741). This distinctive shell-tempered ware is thought to have derived from production sites at Olney (Bucks) and Harrold (Beds), which produced a range of domestic vessels throughout the twelfth and thirteenth centuries (Hall 1971; Mynard 1984).

A single sherd of a jug in a sandy fabric (C53) was recovered from the fill (645) of isolated post hole [644]. This type has been found on excavations in Bedford (Baker and Hassall 1979, 178) and at the deserted medieval village of Stratton (BCAS in prep). It may have been manufactured locally, although no production sites are known.

Tile and brick

Ninety-one fragments of flat, unglazed roof tile, one ridge tile and one brick, weighing 5348g, were recovered. Fragments of floor tile were recorded on site but not retained. The assemblage was examined by context and quantified by sherd count and weight. Quantification is shown in table 3, where totals refer to the number of sherds.

Other features recorded included the presence, shape and dimensions of peg-holes and of sooting and/or mortar. Where possible, the thickness of each tile was noted, although the assemblage proved too fragmentary for calculation of the number or probable size of complete tiles.

Three fabric types were defined, primarily by main inclusion and fabric colour. These are further discussed by Baker and Hassall (1979, 254).

Type A Shelly: Orange-buff-brown fabric with variable buff-grey core. Characterised by inclusions of abundant, well-sorted shell. Constitutes 2% of the total assemblage. (Period 4: Saxo-Norman).

Type B Sand and calcareous inclusions: Hard-fired light-dark buff/orange fabric tempered with abundant calcareous inclusions and sparse sub-angular/angular quartz. Some tiles in this fabric are characterised by a distinctive blue-grey core and many examples have deliberately smoothed upper surfaces. Leached calcareous inclusions result in a vesicular appearance. Constitutes 71% of the total assemblage. (Period 6: post-medieval).

Type O Orange sandy: Coarse, harsh, hard-fired orange/orange-brown fabric containing abundant sub-angular/angular quartz and sparse red and black iron ore. Constitutes 27% of the total assemblage. (Period 6: Post-medieval).

Although fragmentary, the building material is in good condition. The majority (66%) of the assemblage was concentrated in the northern area of the site and derived from masonry structures of

Illust no	Fabric code	Common name	Form	Context	Date
1	A16	coarse quartz	plain rimmed jar	412 gully	early-mid Saxon
2	A16	coarse quartz	upright rimmed jar	104 lower brown earth	early-mid Saxon
3	B01	St Neots-type	jar	613 post-hole Building 3	10th-11th century
4	C12	Stamford ware	spouted pitcher	105 ditch 1	mid-late 11th century

Table 2 Pottery illustrated in Fig 12

post-medieval date (Period 6). The remainder derived from scattered features in the Saxo-Norman period (Period 4), where most are likely to be intrusive.

Period 4 Saxo-Norman

Post hole [217] in Building 2 produced tile fragments exclusively in fabric O, while layers within the lower brown earth produced tile in both types O and B, mixed with St Neots-type ware (B01) of Saxo-Norman date. These tiles are likely to be intrusive.

A single fragment of shelly tile (Type A) was recovered from the upper horizon of the lower brown earth (404), in association with Saxo-Norman pottery of tenth-twelfth century date. This find is similar to that from Walton, Bucks, which has been dated to the twelfth century (Farley 1976, 252). Tiled roofs were not common until the13th century, and this suggests a building which required a tiled roof, such as a kitchen or bake house (Moorhouse 1988, 41). Its presence may suggest a high status building lay near-by.

Period 6 Post-medieval

The majority (80%) of the assemblage within Period 6 was associated with Building 4 where there is evidence for a series of tile floors (508) within the structure in addition to tiles used as roofing material. Sixty-seven percent of the tiles recovered from this structure were in fabric type B, as were all tile fragments from Buildings 5 and 6. There was no distinction between fabric types in tiles used for surfaces and those used for the roofs. The floor tiles were all in fabric B. Tiles became a common roofing material in the 13th century, providing a durable alternative to thatch. In Bedfordshire, the first documented use of tiles is a description of a moated manor house at Park Farm, Eaton Bray in 1273 (Baker and Hassall 1979, 253).

The method of attachment to the roof supports might give an indication of date, with iron nails generally regarded as later than wooden pegs, the use of which was well established by the 13th century (Drury 1981, 127). The latter were used with round holes, while the former were used with square holes (Baker and Hassall 1979, 255). Traces of an iron roofing nail shank appeared to have corroded onto a tile fragment recovered from fill (700) of feature [701].

Thirty-nine fragments, mainly from Building 4, bore traces of mortar on surfaces and/or edges, with no evidence of mortar along broken edges. This suggests that few repairs were carried out and that broken tiles were more likely to have been completely replaced. The absence of repairs may indicate supplies of new tiles were readily available, and a measure of the prosperity of this site. Tiles in sandy fabrics O and B were probably manufactured nearby, utilising local boulder clay although no production centres are known.

A single fragment of brick in fabric type B was recovered from a floor surface (508) in Building 4. Not enough survived to measure dimensions. Too much emphasis should not be put on just one brick, but it does suggest that at least part of the building might have been built of brick. A further discussion of brick manufacture in Bedfordshire may be found in Cox (1979).

THE FLINT ASSEMBLAGE
(E McSloy)

Introduction

A total of forty six worked or burnt flint pieces were recovered from the excavation, weighing a total of 228.5g. Of this material, four pieces displayed secondary working in the form of continuous or

	Period 4			Period 6									
Fabric	I F	Brown earth		Building 4			Build-ing 5	Building 6		Isolated features			**Total**
	218	404	516	507	508	515	728	656	702	700	740	739	
Type A		1	1										2
Type B			19	3	24	6	1	4	1	2	2	2	64
Type O	1	1	8		11	5							26
Total	1	2	28	3	35	11	1	4	1	2	2	2	92

Table 3 Distribution of tile, quantified by sherd count. MS – Masonry Structure; IF – Isolated Feature

partial retouch and are here referred to as tools. Two were 'cores', one piece was fire crazed but otherwise unworked and the remainder were struck flakes or blades without secondary working.

Condition

Much of the flint from Kempston Manor was broken or showed edge damage. The residuality of the assemblage accounts in part for this, as does the delicate nature of the blade pieces. Fifteen pieces, dating to the Mesolithic or earlier Neolithic, displayed patination in the form of mottled patches of a greenish or bluish hue. This patination is a factor of post-depositional chemical discolouration of the surface of the flint. It reflects its depositional environment and with these examples seems to be an indicator of their antiquity.

Residuality and dating

The majority of the flint material from Kempston Manor is residual, recovered from contexts with ceramics and other artefacts dating to beyond the period of flint use. The assemblage is dated wholly in isolation from the associated artefacts, on the basis of distinctive tool types, an assessment of flint quality, and characteristic techniques of manufacture, including flake versus blade, hard versus soft hammer and thickness of butt (Holgate 1988).

The flint assemblage ranges in date from the Mesolithic to the later Neolithic or Bronze Age.

Mesolithic/early Neolithic

Twenty-nine pieces, including three tools and one core tool date to this period. A single feature, pit [578], contained exclusively mesolithic material, including small debitage.

Debitage

Struck flint waste of this period is dominated by blades (where the length is at least 1.5 times greater than the width). It is generally struck from good quality flint, predominantly by using a soft hammer or possibly a punch.

Cores

From (404) rejuvenation flake, struck from blade core. Utilised as convex end-scraper by use of semi-abrupt and invasive retouch. Good quality, dark grey flint with mottled grey-green patina (Fig 13.2).

Tools

Rf 5 Blade fragment, parallel sided with three removal scars on dorsal. One edge has semi-circular notch worked into it, executed by abrupt retouch. Good quality black flint.
Context (555)

Rf 7 Microlith or bladelet, with opposing edges retouched to form point. Distal end is damaged and it is unclear in what manner bulb was removed. Good quality, grey flint (Fig 13.7).
Context (579)

Rf 8 Narrow, pyramidal sectioned blade. Proximal end of one face displays abrupt and invasive retouch along approximately half its length. Probably utilised as drill or piercer. Good quality honey coloured flint (Fig 13.8).
Context (675)

Later Neolithic/Bronze Age

Eleven flakes and one core displayed characteristics typical of later neolithic or Bronze Age date.

Debitage

Later Neolithic and Bronze Age debitage is characterised by a predominance of flakes, more often than not struck with a hard hammer from flint of variable quality.

Cores

Rf 4 Crude flake core. Multi platform, with flakes removed in a seemingly undisciplined manner. Moderate quality black flint with thick buff coloured cortex, indicating parent nodule was of small cobble size.
Context (530).

Period	Context No.	Context type	Quantity and date	Date
1	579	pit	1 x microlith point? 4 x blades/bladelets 1 x misc. fragment	Mesolithic Mesolithic/early neolithic
2	545	ditch	2 x flakes	Later neolithic/BA
2	512	alluvium	2 x bladelets	Mesolithic
2	530	scoop	1 x core	Later neolithic/BA
2	518	ditch	2 x blades	Mesolithic/early neolithic
4-5	303, 404, 500	lower brown earth	1 x bladelet core; 3 x blades; 2 x frags debitage	Mesolithic Mesolithic Later neolithic/BA
4	105	Ditch 1	1 x flake 1 x fragment	Later neolithic/BA Undated
4	538	post hole (Building 1)	1 x bladelet	Mesolithic
4	611	post hole (Building 1)	1 x flake	Later neolithic/ba
4	623, 506	post holes (Building 1)	4 x blades/bladelets 2 x flakes	Mesolithic Later neolithic/BA
4	633	slot (Building 1)	1 x blade	Mesolithic/early neolithic
4	714	post hole (Isolated)	1 x blade fragment	Mesolithic/early neolithic
6	700	post hole	1 x flake	Later neolithic/BA
6	507	demolition layer	1 x flake	Later neolithic/BA
–	511	natural brickearth	1 x blade fragment; 1 x flake	Mesolithic/early neolithic Later neolithic/BA
–	555	compacted clay layer layer	3 x blades 1 x blade/tool	Mesolithic/early neolithic Mesolithic/early neolithic
–	556, 586	lower brown earth	1 x blade 1 x rejuvenation flake 1 x blade/tool 2 x flakes 1 x fragment	Mesolithic/early neolithic Mesolithic Mesolithic Later neolithic/BA Undated
–	675	tree bowl	1 x blade tool	Mesolithic

Table 4 Flint by period and context

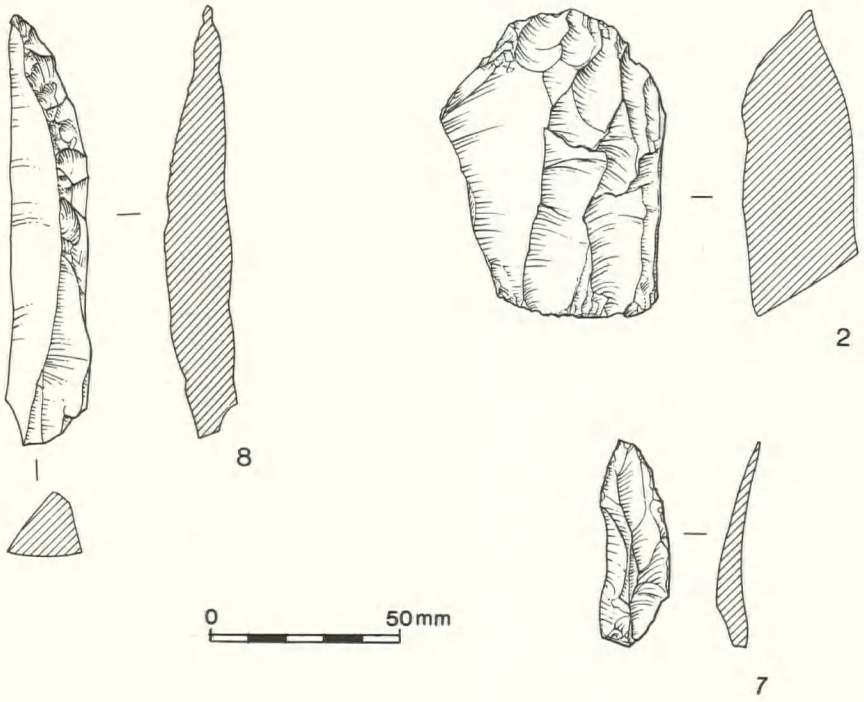

Fig 13 Flint material from period 1

Ironwork

RF 3 Decorative stud with square-sectioned stem and domed head; incomplete. Medieval L21.9mm. Ditch 1: (105), Period Four.

RF 6 Complete iron `fiddle key' shoeing nail. The head is a flat semi-circle in profile, no thicker than the shank, which tapers to a point to form a flat chisel edge. As the nail is straight and not double-clenched, it is probably unused. This form of nail was used on horseshoes of 'Norman' type, characterised by their lobate edge and large countersunk nailholes, which first appear in the mid-late 11th century continuing in use until the mid 12th century (Clark 1986, 2, Beresford 1987, 184). L 41.4mm. Building 1: (506), Period 4.

Lead

RF 1 (Fig 12) Cast lead object, comprising two symmetrical square lead sheets (maximum thickness 3.5mm) surmounted by a raised central ridge of rectangular section (maximum thickness 7mm). The object appears to have been flattened from its original form. Identification remains tentative. The object is a building fixture, probably from guttering or roofing. The central raised ridge

THE METALWORK ASSEMBLAGE
(J Wells)

Period	Context	Context type	Material	Object	Suggested date
4	105	Ditch [104] Ditch 1	Lead	?Roofing fixture RF 1	10-11th century
4	105	As above	Iron	Stud RF 3	medieval
4	506	Pit [505] Building1	Iron	Shoeing nail RF 6	11-12th century

Table 5 Metal artefacts by period and context

suggests roofing, as does the thickness of the attached sheets. Roofing lead is known to have been cast into sheets c.4mm thick and joined at the sides by being rolled around the edge of the adjoining sheet (Homer 1991, 64).

Documentary evidence for leadworking and leadworkers exists from the early 11th century, when the essential use of lead in permanent high status buildings resulted in the recognition of lead working as a separate trade (Homer 1991, 64). L69 x 67mm; wt 282g
Ditch 1: (105), Period 4.

THE GLASS ASSEMBLAGE
(J Wells)

Window Glass

Late medieval or post-medieval glass fragment measuring 30 x 9 x 1.5mm, surfaces covered with an opaque matt brown corrosion product, beneath which are the remains of a green tinged translucent core. The fragment retains a portion of one grozed edge, which would have been enclosed in the came. Ceramic evidence from the fills of features within Building 1 date its construction to the 10th-11th centuries. The window glass fragment must therefore be regarded as intrusive. It may have originated from post-medieval feature [701] which lies in the vicinity, or have been disturbed during post-medieval site clearance or spade cultivation.
Building 1: Context (414), Period 4.

Two glass fragments (joining), total measurement 41 x 19 x 10mm, of translucent yellow/green colour. Associated with clay pipe fragments, flat roof tile and vessel glass fragments (see below) of a late or post medieval date. The thickness of the window glass suggests a similar date. During the late and post-medieval periods window glass was made less than 2mm in thickness to improve the translucency of coloured potash glass. This type of glass became more widely available for domestic windows in the late 16th and 17th centuries with the expansion of the English glass industry (Oakley 1979, 296).
Slot [701]: Context (700), Period 6.

Vessel Glass

Two fragments (joining) of wine bottle neck and rim, translucent olive green in colour, largely obscured by an opaque matt brown corrosion product. Maximum thickness 4.0mm. Identified as forming part of the rim and lip of a 17th century wine bottle. The vessel is of 'onion' type, with a stubby neck and dumpy body, and dates to the 1680s. Vessels of this type are extremely common and are similar to examples from excavations in Bedford (Baker and Hassall 1979, Fig 169: 1156).
Slot [701]: Context (700), Period 6.

Fragment of wine bottle, dark green in colour, heavily encrusted with a brown corrosion product and a hard white residue (probably mortar). Maximum thickness 8.0mm. Context (739), Period 6.

Clear, colourless fragment of indeterminate form, slightly curving. The composition of the glass (soda glass as opposed to pot-ash) indicates the fragment may be of late post-medieval date. Maximum thickness 0.9mm.
Context (673), Period 4.

THE FAUNAL EVIDENCE
(E Hutchins)

The bone from the Kempston site is highly fragmented, and the number of identifiable fragments small. Table 7 shows the identified fragments, period and context type. The fusion data is after Silver (1969), and the mandibular ageing is after Grant (1982). Most of the bones are from

Period	Context	Context type	Material	Description	Date
4	414	Post hole [413] Building 1	Glass	Window frag	16-17th century
4	673	Trench [672] Building 1	Glass	Vess frag	Indeterminate
6	700	Slot [701]	Glass	Window frag	16-17th century
6	700	As above	Glass	Wine bottle	16-17th century
6	739	Trackway	Glass	Wine bottle	late 17th century

Table 6 Glass artefacts by period and context

Period Four 10/11th century period contexts, an under-represented period for faunal studies (Davis 1987). Sheep, horse, pig, dog and cow are all present. The bone is most probably refuse, some of which has suffered fragmentation and heavy gnawing.

Table 7 shows all the identifiable fragments, in context order. Note that where the element has the comment 'butchered', this indicates the presence of disarticulation or defleshing cut-marks. The comment 'gnawed' indicates a substantial amount of dog gnaw-marks.

Species Representation and Exploitation

Pigs (Sus Sp.)

Although pigs are important all through the Saxon period, their bones often only form a tiny component of the faunal remains from a site. The laws of Ine demonstrate the importance of pigs by levying a fine of 60 shillings for the cutting down of a tree that could provide shelter for 30 swine. Clutton-Brock (1976) asserts that free-range pigs may have outnumbered all other livestock at the time.

Period	Context No.	Context type	Species	Element
4-5	104	brown earth	Cow	Right proximal radius, butchered
			Sheep	Radius shaft
			Pig	Tusk
			Pig	Mandible
			Cow??	2 x teeth, damaged
4	105	upper fill	Cow	Left humerus shaft, gnawed
		(Ditch 1)	Dog	Left humerus shaft
			Dog	Right humerus shaft
4-5	206	brown earth	Sheep	Right astralagus
			Pig	Left calcaneus
4	214	upper fill (Ditch 3)	Pig	3 x teeth
			Horse	tooth
			Pig	Mandible
			Cow	Phalanx 1, butchered
			Cow?	2 x Vertebrae
5	415	isolated post-hole	Horse?	Smashed tooth
4	506	Building 1	Sheep	Mandibular fragment
			Sheep	1st/2nd Molar
			Pig?	Right radius shaft fragment; gnawed and butchered
			Cow	Vertebra fragment
4-5	516	brown earth	Sheep	Right proximal metatarsal; gnawed
4-5	586	layer, lower brown earth	Horse	Left metacarpal II
			Horse	Left metacarpal
			Horse	Left scapula
			Horse	Left scapula fragment
			Cow	Right pelvis fragment; gnawed, butchered
4	593	Building 1	Sheep	Left distal humerus, butchered
4	595	Building 2	?	Wishbone (prob. chicken or goose)
			Cow	Mandible (adult; over 36 months)
4	611	fill of post-hole	?	Vertebra fragment
		(Structure 1)	Cow	Right proximal femur, fusing (± 42 months)
4	613	Structure 1	Horse	Scapula fragment
4	659	isolated post-hole	Sheep	Vertebra
4	664	post-pipe Building 4	Sheep	Right proximal ulna, butchered
4	673	Building 1	Sheep	Left distal humerus
4	714	isolated post-hole	Cow	Proximal radius shaft fragment, gnawed.

Table 7 Identified Faunal Evidence

Cattle (Bos sp.)
The age of the mandible in context (595) and the fusion data from the femur in context (611) indicate two individuals, both over 36 months old. Each smallholding or tun would have had a small number of cattle, providing milk whilst being fattened and may also have been employed to provide traction for a plough.

Horses (Equus sp.)
Horses are rare on Saxon sites (1.3% of remains from West Stow; 2% of remains from Wicken Bonhunt, Crabtree 1990), probably because of the greater fodder and care required, and less practicality when compared to cattle. Most estates during the Saxo-Norman period had some obligation to maintain horses for military purposes (Campbell, 1982).

Sheep/Goats (Ovis/Caprea sp.)
The sheep/goat remains are probably those of sheep; goats are very uncommon, especially in East Anglia at this time. Of the sheep/goat bones recovered from West Stow, approximately 1% were identified as goat (Crabtree 1990). Sheep are probably the most common domesticate of the early Saxon period; they then decline in numbers until they gain great importance during medieval times (Harman 1985). Sheep may have been more popular in less wooded areas with plenty of pasture. As human populations rose towards the end of the Saxon period, so more and more land was put to arable, with a subsequent decline in sheep and pig numbers.

DISCUSSION

The archaeological evidence at Kempston Manor focuses attention on two periods. In the earliest mesolithic flint at Kempston indicates exploitation of the flood plain of the River Ouse at a time when elsewhere in the valley activity was on the increase (Ward 1987). The location of similar assemblages at Clapham (Dawson 1988), at Kempston Church End and Eastcotts all suggest seasonal occupation. Despite the discovery of flint material in the alluvial horizon there is nothing to suggest that alluvial deposition was occurring at this time and its presence may be the result of later prehistoric re-working, probably ploughing.

In Period 4 the proximity of the excavations to the pre-1815 Manor House has concentrated attention on the recovery of evidence for earlier manorial buildings. Documentary evidence has established the history of the Kempston area from the 11th century and the possibility that the current site is a manor, part of William the Conqueror's niece, Countess Judith's, holding (Wood 1984 33ff).

The archaeological evidence for the character of occupation at the site is at best ambiguous. In the early to middle Saxon period the proximity of settlement activity is attested by the ceramics assemblage, but it is not until the Saxo-Norman period that there is structural evidence of settlement. At least three timber structures (Fig 5) comprising two buildings, 1 & 2, nearly perpendicular to each other, with a third, at an angle, between them may be part of the manorial complex. However the presence of ditches 2 and 3 indicates that changes to the settlement were occurring during this period, although the extent of excavation and lack of detailed dating evidence precludes any firm conclusions. In a recent discussion concerning the development of manorial structures from c1000 to 1250, a model comprising an open hall and separate chamber established on a common axis has been proposed (Blair 1993, 2-16) for high status sites. Documentary evidence suggests this model may be valid from as early as AD 900, although the layout of structures in the 10th century in more rural locations may be more fluid than Blair's model suggests.

The structures at Kempston could be interpreted as enclosing a sub-rectangular area. The absence of external surfaces associated with the buildings in Period 4 though is problematic. Evidence locally at Yarlswood and Blackburn Hall indicate cobbled surfaces in proximity to manorial buildings, but at Stratton cobbling survived only on the edges of the later moated site and any larger areas were probably ploughed away following abandonment of the site. At Grove Priory, the Royal Manor of Leighton, there are only slight gravel spreads close to buildings considered to be of high status (BCAS forthcoming).

At Kempston the near absence of finds presents problems of dating and characterisation, although their paucity may indicate structures of high, possibly manorial, status. This impression is re-inforced by the recovery of a fragment of a lead roofing fixture from ditch 1, considered an indication of higher status. Thus the Period 4 buildings at Kempston could represent structures which were part of the manorial complex either barns or storehouses but possibly part of a domestic range.

In the later Period 6 the location of the manor to the northeast was established by the survival of the medieval building which was demolished in 1815. It is likely that the construction of this house indicates only a slight shift of the manorial focus as there is

no evidence that the Period 4 buildings were ploughed or that the area returned to agriculture.

BIBLIOGRAPHY

Baker, D, and Hassall, J, 1979, 'The Finds', in Baker, D B, Baker, E M, Hassall J, and Simco, A H S, Excavations in Bedford 1967-1977, *Bedfordshire Archaeological Journal* 13

Barley, M, 1964, 'The medieval borough of Torksey: excavations 1960-1962', *Antiq J* 44, 165-187

BCAS 1994/3, *ILEX-Third building, Kempston Manor, Bedford*

Beresford, G, 1987, *'Goltho: the development of an early medieval manor c850-1150*, HBMCE Archaeological Report no. 4

Blair, J, 1993, 'Hall and Chamber: English Domestic Planning 1000 – 1250', in Meirion-Jones, G, and Jones, M (eds.), *Manorial Domestic Buildings in England and Northern France*

Blinkhorn, P, 1993, 'Early and middle Saxon pottery from Pennyland', in *Pennyland and Hartigans: two Iron Age and Saxon sites in Milton Keynes*, Bucks Arch Soc Monograph series no. 4, 246-260

Brown, A, 1994, 'A Romano-British Shell-Gritted Pottery and Tile Manufacturing Site at Harrold, Beds', *Bedfordshire Archaeology* 21, 19-107

Campbell, J, 1982, *The Anglo Saxons*, Phaidon

Chapelot, J, and Fossier, R, 1980, *The Village and House in the Medieval Ages*, California

Clark, J, 1986, *Medieval Horseshoes*, Finds Research Group 700-1700: Datasheet 4

Clark, R, 1992, *'Bedford Bypass Archaeological Evaluation: The Norse Road Link'*, BCAS Report

Clutton-Brock, J, 1976, 'The Animal Resources', in Wilson, D M (ed.), *The Archaeology of Anglo-Saxon England*, 373-392

Cox, A, 1979, *Survey of Bedfordshire: Brickmaking, A History and Gazetteer*, Beds C C and RCHME

Crabtree, P J, 1990, 'Animal Exploitation in East Anglian Villages' in Rackham, J (ed.), *Environment and Economy in Anglo-Saxon England*, 40-54, CBA 89

Davis, S J M, 1987, *The archaeology of animals*, Batsford

Dawson, M, 1988, 'Excavations at Ursula Taylor Lower School', *Beds Archaeology* 18, 6-25

Dawson, M, 1994, 'Biggleswade West', *Beds Arch* 21, 119-136

Dawson, M, and Maull, A M, 'Warren Villas Quarry, Upper Caldecote. Interim report on the excavations of 1989-1994', *Beds Arch* 22

Denham, V, 1985, 'The Medieval and Post-medieval Pottery' in Williams, J (ed.), *Middle Saxon Palaces at Northampton*, 62-62, NDC

Drury, P, 1981, 'The production of brick and tile in Medieval England' in Crossley, D (ed.), *Medieval Industry*, CBA Res. Report no 40, 126-142

Farley, M, 1976, 'Saxon and Medieval Walton, Aylesbury, Buckinghamshire Excavations 1973-74, *Recs Bucks* 20 part 2

Gilmour, L, 1988, 'Early Medieval Pottery from Flaxengate, Lincoln' in *The Archaeology of Lincoln* XVII-2, 120-123

Godber, J, 1969, *History of Bedfordshire*, Bedford

Grant, A, 1982, 'The use of tooth wear as a guide to the age of domestic animals' in Wilson, B, Grigson, C and Payne, S (eds.), *Ageing and sexing animal bones from archaeological sites*, 91-108, BAR British Series 109, Oxford

Hall, D, 1971, 'A thirteenth century pottery kiln at Harrold, Beds', *Milton Keynes Journal* 1, 23-32

Harman, M, 1985, 'The other mammalian bones' in Williams, J H, Shaw, M, and Denham, V, *Middle Saxon palaces at Northampton*, 75-78, NDC

Hauglid, R, 1972, 'The trussed-rafter construction of stave churches in Norway', *Acta Archaeologica* 43, 19-55

Holgate, R, 1988, *Neolithic Settlement of the Thames Basin*, BAR British Series 194

Homer, R, 1991, 'Tin, Lead and Pewter' in Blair, J, and Ramsey, N (eds.), *English Medieval Industries*, 57-80

Huggins, P J, 1991, 'Anglo-Saxon Timber Building Measurements: Recent Results', *Medieval Archaeology* XXXV, 6-28

Hunter, R, 1979, 'St Neots Type Wear' in Williams, J (ed.), *St Peter's Street Northampton: excavations 1973-1976*, 230-240

Hurst, J, 1956, 'Saxo-Norman pottery in East Anglia', *Proc Camb Ant Soc* 49, 43-70

Hurst, J, 1958, 'Saxo-Norman pottery in East Anglia (part 3)', *Proc Camb Ant Soc* 51, 37-65

Ivens, J, Busby, P, and Shepherd N, 1995, *Tattenhoe and Westbury – Two Deserted Medieval Settlements in Milton Keynes*, Bucks Arch Soc Monograph Series No. 8.

Kennett, D H, 1972, 'An urn from Moggerhanger and Panel style at Kempston', *Beds Arch* 7, 39-74

Kilmurry, K, 1980, The Pottery Industry of Stamford, Lincs. c AD 850-1250, BAR 84

Manning, W, 1985, *Catalogue of Romano-British Iron Tools, fittings and weapons in the British Museum*

Moorhouse, S, 1988, 'Documentary evidence for Medieval Ceramic Roofing Materials and its Archaeological Implications: Some Thoughts', *Medieval Ceramics* 26, 56-85

Mynard, D, 1984, 'A medieval pottery industry at Olney Hyde', *Recs Bucks* 26, 56-85

Oakley, G, 1979, 'The Glass' in Williams, J (ed.), *St Peter's Street Northampton: excavations 1973-1976*, 296-302

Rahtz, P, 1979, *The Saxon and Medieval Palaces at Cheddar*, BAR British Series 65, Oxford

Robinson, M, 1992, 'Environment, archaeology and alluvium on the river gravels of the South Midlands' in Needham, S, and Macklin, M G (eds.), *Alluvial Archaeology in Britain*, 197-208, Oxbow Monograph 27

Silver, I A, 1969, 'The ageing of domestic animals' in Brothwell, D R, and Higgs, E S (eds.), *Science in Archaeology*, 250-268, Thames and Hudson

Tilson, P, 1973, 'A Belgic and Romano-British site at Bromham', *Bedfordshire Archaeology* 8, 23-67

Wade Martins, P, 1980, *Excavations in North Elmham Park 1967 – 1972* Vol. 1, East Anglian Archaeology Report No. 9

Ward, S, 1987, *The Evidence for the Mesolithic in Bedfordshire south of the Ouse Valley*, (unpublished 1987 thesis)

Wood, J, 1984, *Kempston – Bedfordshire Parish Surveys, Historic Landscape and Archaeology* 2, Bedford

Woodward, P J, 1978, 'Flint Distribution, Ring Ditches and Bronze Age Settlement Patterns in the Great Ouse Valley', *Arch Journal* 135, 32-56

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