

EAST ANGLIAN ARCHAEOLOGY



Frontispiece: the modern village that overlies its medieval predecessor, showing the information panel set up during construction. Ben Robinson (Peterborough City Council) and colleague appear in the right foreground

A Late Saxon Village and Medieval Manor: Excavations at Botolph Bridge, Orton Longueville, Peterborough

**by Paul Spoerry and
Rob Atkins**

with contributions by
Martin Allen, Ian L. Baxter, Alan J. Clapham,
Nina Crummy, Holly Duncan, David Dungworth,
Chris Faine, Carole Fletcher, James Greig,
Sheila Hamilton-Dyer, Stephen Kemp, Jan Light,
Stephen Macaulay, Paul Middleton, Adrian
Popescu, Elizabeth Popescu, Alan Vince and
Twigs Way

illustrations by
Séverine Bézie, Lucy Gane, Gillian Greer and
Carlos Silva

cover reconstruction by Jon Cane

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For details of East Anglian Archaeology, see last page

Cover image:

Reconstruction of the manorial farm in the 14th and 15th centuries by Jon Cane

Contents

List of Contents	v	VI. Roman Pottery, by Stephen Macaulay	89
List of Plates	v	VII. Post-Roman Pottery, by Paul Spoerry	89
List of Figures	vi	VIII. Ceramic and Stone Building Material, by Carole Fletcher, Rob Atkins and Steve Kemp	106
List of Tables	vii	IX. Quernstones, Rubbing Stones and Whetstones, by Stephen Kemp	106
Abbreviations	viii		
Contributors	viii		
Acknowledgements	ix		
Summary/Résumé/Zusammenfassung	x		
Chapter 1. Introduction			
I. Project Background	1		
II. Geology and Topography	2		
III. Archaeological Background	5		
IV. Archaeological Interventions	7		
V. Site Phasing and Presentation	9		
VI. Research Objectives	9		
Chapter 2. Historical and Documentary Background			
I. Sources	11		
II. Botolph Bridge	11		
III. The Botolph Bridge Manors	15		
IV. The de Vere, Drayton and Lovet Families	17		
V. Manorial Court Rolls 1661–86	19		
VI. Churches	20		
Chapter 3. The Archaeological Sequence			
I. Roman and Earlier	21		
II. Period 1: Middle to Late Saxon (<i>c.</i> 700– <i>c.</i> 900)	21		
III. Period 2: Late Saxon to Saxo-Norman (<i>c.</i> 1000– <i>c.</i> 1200)	26		
IV. Period 3: Medieval (<i>c.</i> 1200– <i>c.</i> 1350)	42		
V. Period 4: Late Medieval (<i>c.</i> 1350– <i>c.</i> 1500)	57		
VI. Period 5: Post-Medieval (<i>c.</i> 1500– <i>c.</i> 1650)	70		
Chapter 4. The Finds			
I. Lithics, by Stephen Kemp	73		
II. Coins and Jetons, by Martin Allen and Adrian Popescu	73		
III. Metalwork, by Holly Duncan	74		
IV. Metalworking, by David Dungworth	88		
V. Glass, by Holly Duncan	88		
Chapter 5. The Zoological and Botanical Evidence			
I. Animal and Bird Bones, by Ian L. Baxter and Chris Faine	108		
II. Fish Remains, by S. Hamilton-Dyer	116		
III. Marine Mollusca, by Jan Light	118		
IV. Pollen, by James Grieg	120		
V. Phosphate Analysis, by Paul Middleton	121		
VI. Plant Macrofossils and Other Remains, by A.J. Clapham	122		
Chapter 6. General Discussion and Conclusions			
I. The Prehistoric and Roman Legacy	128		
II. Roman to Saxon Continuity?	128		
III. Middle Saxon Settlement Origins	129		
IV. Late Saxon Settlement	130		
V. The Transition from Late Saxon to Early Medieval	132		
VI. Medieval Manors and Village	133		
VII. Late Medieval Developments	136		
VIII. Understanding Medieval Rural Building Plans	139		
IX. Daily Life, Environment and Economy	142		
X. Decline and Abandonment	145		
XI. Conclusions	146		
Appendix 1. Characterisation of Anglo-Saxon and Medieval Pottery, by Alan Vince	147		
Appendix 2. Catalogue of Coins and Tokens, by Martin Allen and Adrian Popescu	159		
Appendix 3. Tables of Plant Macrofossils and Other Remains, by Alan Clapham	160		
Bibliography	170		
Index, by Sue Vaughan	178		

List of Plates

Frontispiece: The modern village that overlies its medieval predecessor, showing the information panel set up during construction		the kind permission Prof. Steve Upex, Nene Valley Archaeological Trust)	5
Pl. I Aerial photograph (1987), showing House and Manor Site excavations and the construction of the spine haul road within Botolph Bridge medieval village	1	Pl. IV Area C during excavation in summer 2000. House building had encroached onto much of the medieval settlement by this stage	8
Pl. II General view of the NVRC House Site during excavations in 1987	2	Pl. V Site open day	8
Pl. III Cropmark of the probable Roman Road running towards the River Nene, where it presumably forded to Botolph Bridge (with		Pl. VI Late 15th- to early 16th-century grave marker from the former church of All Saints, Botolph Bridge	14
		Pl. VII Ditch 3 (Period 2.1), with fills of its recuts (Ditches 58 and 59) clearly visible and containing redeposited hearth material	28

Pl. VIII	Ditch 3 (Period 2.1) and, just visible, its recuts. Viewed from the west	28	Pl. XIII	Hearth in Building 13b (bake/brewhouse), Period 4 (Area A)	67
Pl. IX	Multi-phase hearth within Building 8 (Period 2.1), showing the severe truncation in the surrounding area. (Area D/E)	35	Pl. XIV	Dog burial in Pit 68, Period 4 (Area A)	68
Pl. X	Building 12a and b (Area A), showing the impact of the development's haul road	48	Pl. XV	Forged Roman coins. A) Copper-alloy imitation of a <i>sestertius</i> in the name of Faustina I (IN 13615, unstratified); B) Copper-alloy copy of a radiate of Tetricus I (IN 15911, unstratified)	73
Pl. XI	Remnants of Building 21 (Area D/E). A) Viewed from the east. On excavation, this wall fragment was found to lie on a relieving arch above earlier ditch fills; B) Viewed from the east, showing the wall's survival above earlier ditch fills	62	Pl. XVI	Engraving of a 19th-century Mastiff, 'Mr. Wallace's Turk', from V.K. Shaw's <i>The Book of the Dog</i> (1883–96)	113
Pl. XII	Wall 4 (Period 4), showing its pitched stone foundations (Area C)	63	Pl. XVII	Marsh Harrier (<i>Circus aeruginosus</i>), female left and male right, (copyright Alastair Proud, by kind permission)	115

List of Figures

Fig. 1	Location map showing planning application area (prior to construction) and investigation phases. Scale 1:5000	xii	Fig. 20	Phase plan: Period 2.2 (c. 1150–c. 1200). Scale 1:1000	37
Fig. 2	Excavation area in relation to adjacent HER sites and the road network. Scale 1:38000	3	Fig. 21	Period 2.2: Building 9, Area D/E. Plan scale 1:200, section scale 1:50	38
Fig. 3	Roman sites in the vicinity of Botolph Bridge. Scale 1:38000	4	Fig. 22	Period 2.2: Building 10, Area D/E. Scale 1:200	40
Fig. 4	Botolph Bridge deserted medieval village earthworks (after Challands 1982, with additions). Scale 1:3300	6	Fig. 23	Period 2.1–2.2: Building 11 and associated features, House Site. Scale 1:250	41
Fig. 5	Modern housing estate, showing underlying earthwork survey and excavated areas. Scale 1:3300	7	Fig. 24	Period 2.1: Detail of oven, House Site. Scale 1:50	42
Fig. 6	The Hundred of Norman Cross (after Wickes 1985, 34)	12	Fig. 25	Phase plan: Period 3.1 (c. 1200–c. 1250). Scale 1:1000	43
Fig. 7	Thomas Jeffrey's map, 1766: The County of Huntingdon surveyed	13	Fig. 26	Area C in Periods 3.1–3.2. Scale 1:300	45
Fig. 8	Earl of Aboyne's Estate Map, 1808 (with permission of the Huntingdonshire Record Office). Scale 1:12500	13	Fig. 27	Sections 11, 25 and 26. Scale 1:40	46
Fig. 9	2nd Edition OS Map, 1901. Sheet Northants VIII 14/15 (with permission of the Huntingdonshire Record Office). Scale 1:5000	15	Fig. 28	Period 3.1: Building 12a and related features, Area A. Plan scale 1:400, section scale 1:40	49
Fig. 10	De Vere (Drayton) family tree	16	Fig. 29	Period 3.1: Bridge, Area A. Scale 1:40	50
Fig. 11	Phase plan: Period 1 (c. 700–c. 900). Scale 1:500	22	Fig. 30	Period 3.1: Building 14 and related features, House Site. Scale 1:250	51
Fig. 12	Period 1: Building 1, Area D/E. Scale 1:100	23	Fig. 31	Phase plan: Period 3.2 (c. 1250–c. 1350). Scale 1:1000	53
Fig. 13	Period 1: Buildings 2–4, Area D/E. Scale 1:150	24	Fig. 32	Period 3.2: Building 15, Area D/E. Scale 1:200	54
Fig. 14	Sections 10 and 12 (located on Fig. 11). Scale 1:40	25	Fig. 33	Period 3.2: Buildings 12a and b and related features, Area A. Scale 1:400	55
Fig. 15	Phase plan: Period 2.1 (c. 1000–c. 1150). Scale 1:1000	29	Fig. 34	Period 3.2: Building 17 and related features, House Site. Scale 1:250	56
Fig. 16	Period 2.1: Buildings 1, 6a, 7 and 8 and related enclosures, Area D/E. Scale 1:250	30	Fig. 35	Phase plan: Period 4 (c. 1350–c. 1500). Scale 1:1000	58
Fig. 17	Periods 2.1–3.1: Building 6a, b and c, Area D/E. Scale 1:200	31	Fig. 36	Period 4: Building 18, Area D/E. Scale 1:200	59
Fig. 18	Sections 3, 5, 14 and 15 (located on Fig. 15). Scale 1:40	32	Fig. 37	Period 4: Building 19, Area D/E. Scale 1:200	60
Fig. 19	Sections 27 and 28, across Routeways 2a, 2b and 6, with associated boundaries and Building 22. Scale 1:50	33	Fig. 38	Period 4: Building 20, Area D/E. Scale 1:200	61
			Fig. 39	Period 4: Building 22 and Wall 2, NVRC trench, Area D/E. Scale 1:250	65
			Fig. 40	Period 4: Building 12 and related features, Area A. Plan scale 1:400, section scale 1:40	66
			Fig. 41	Period 4: Wall 9 and related features, House Site. Scale 1:250	69

Fig. 42	Period 5: Section across Pit 70, Area A. Section scale 1:40, plan scale 1:400	71	Fig. 58	A) Skeletal elements present of the large Mastiff type dog found in Period 4 Pit 72	
Fig. 43	Locks and keys. Ironwork at scale 1:2, copper alloy at scale 1:1	75		B) Skeletal elements present of the large Mastiff type dog found in Period 4 Pit 85	114
Fig. 44	Casket mount. Scale 1:1	76	Fig. 59	Reconstruction of the manorial farm during Period 4 (c.1350 to c.1500)	137
Fig. 45	Spindle whorls and thimbles. Scale 1:1	77	Appendices		
Fig. 46	Knives. Scales 1:1 and 1.5:1	78	Fig. App.1.1	Factor 1 and 2 scores for Botolph Bridge (BB) pottery, showing Early Saxon versus medieval fabrics when compared with those from Charnwood Forest (CHARN)	149
Fig. 47	Horse trappings. Scale 1:1	80	Fig. App.1.2	Estimated silica content by fabric group	151
Fig. 48	Net fishing weight. Scale 1:1	81	Fig. App.1.3	Ratio of calcium to strontium by fabric group	151
Fig. 49	Weaponry. Scale 1:1	82	Fig. App.1.4	Factor analysis by fabric group	152
Fig. 50	Dress and personal possessions. Scale 1:1	85	Fig. App.1.5	Factor analysis comparing scores for Botolph Bridge (Fabrics A–E) against those for Harrold (Fabric F) and Leighton Buzzard (Fabric G)	152
Fig. 51	Items associated with religious belief. Scale 1:1	87	Fig. App.1.6	Factor analysis for Bourne/Baston type ware, showing comparisons with Baston and Bourne	153
Fig. 52	Unclassified. Scale 1:1	88	Fig. App.1.7	Factor scores for medieval floor tile from Botolph Bridge, compared with other local examples	154
Fig. 53	Window glass. Scale 1:1	89			
Fig. 54	Post-Roman pottery (Nos 1–17). Scale 1:4	104			
Fig. 55	Post-Roman pottery (Nos 18–28). Scale 1:4	104			
Fig. 56	Animal bone from Botolph Bridge compared with The Still, Peterborough (based on Roberts 1998)	111			
Fig. 57	Tooth measurements of the large dog mandible from Area A Period 4 Pit 68 compared with those of modern breeds and the large dog from Floodgate Street, Birmingham	112			

List of Tables

Table 1	The main De Vere/Drayton land ownership 1086–1479	17	Table 15	Quantification of pottery by ware type/geographic origin for Period 5 assemblages from key areas of the site	99
Table 2	Quantity of pottery by ceramic period in each site phase	90	Table 16	Temporal variation of the pottery assemblage across sites and areas; presented as percentages of each area assemblage	99
Table 3	Pottery by ceramic period	90	Table 17	Variation in vessel type across sites and areas; presented as percentages (by weight) of each area assemblage	100
Table 4	Early to Middle Saxon pottery in the whole assemblage	91	Table 18	Variation in vessel type across sites and areas normalised to account for pottery of unknown form; presented as percentages (by weight)	100
Table 5	Late Saxon pottery in the whole assemblage	91	Table 19	Variation in vessel form by ceramic period, normalised to account for pottery of unknown form; presented as percentages (by weight)	100
Table 6	High medieval pottery in the whole assemblage	91	Table 20	Animal bone. Number of hand-collected identified specimens (NISP)	109
Table 7	Late medieval pottery in the whole assemblage	92	Table 21	Animal bone. Number of identified specimens (NISP) in sieved assemblage	109
Table 8	Post-medieval pottery in the whole assemblage	92	Table 22	Fish total frequency	117
Table 9	Quantification for site period assemblages, by weight and percentage	93	Table 23	Pollen and parasite ova from Pond 3 (Area A, Period 4)	121
Table 10	Quantity of pottery by site period and area	95	Appendices		
Table 11	Quantification of pottery in each site area assemblage grouped by ware and/or geographic origin	95	Table App.1.1	Visual identification versus petrological analysis for the main fabric groups	151
Table 12	Quantification of pottery by ware type/geographic origin for Period 2 assemblages from key areas of the site	96	Table App.1.2	Results of thin section analysis, by sherd	156
Table 13	Quantification of pottery by ware type/geographic origin for Period 3 assemblages from key areas of the site	97	Table App.1.3	ICPS analysis showing the frequency of major elements	157
Table 14	Quantification of pottery by ware type/geographic origin for Period 4 assemblages from key areas of the site	98			

Table App.1.4 ICPS analysis of a group of minor elements	158	Table App.3.4 Plant macrofossils and other remains from Period 3.2	168
Table App.3.1 Plant macrofossils and other remains from Period 1	161	Table App.3.5 Plant macrofossils and other remains from Period 4	169
Table App.3.2 Plant macrofossils and other remains from Period 2.1	163	Table App.3.6 Plant macrofossils and other remains from Period 5	169
Table App.3.3 Plant macrofossils and other remains from Period 3.1	166		

Abbreviations

General

B	Building
BL	British Library
BM	British Museum
CIPM	Calendar of Inquisitions Post Mortem
CRO	Cambridge Records Office
CUL	Cambridge University Library
D	Ditch
DMV	Deserted medieval village
HRO	Huntingdon Records Office
ICPS	Inductively Coupled Plasma Spectroscopy
IN	Inventory Number
NVRC	Nene Valley Research Committee
P	Pit
PDC	Peterborough Development Corporation
PHER	Peterborough Historic Environment Record
RCHME	Royal Commission for Historic Monuments, England
PMAG	Peterborough Museum and Art Gallery
PCC	Peterborough City Council
S	Structure/Surface (as indicated in figure captions)
S.	Section
SCC	Stopford Sackville Collection
SF	Small Find Number
SMV	Shrunken medieval village
VCH	Victoria County History

Pottery

AV	Alan Vince (these codes were used for the thin section analysis; all other codes are Paul Sperry's)
BASTON	Baston type ware

BOUA	Bourne A ware (AV code)
BONB	Bourne B ware
BONBT	Bourne B type ware
BOND	Bourne D ware
BONT	Bourne-type fabric
DNEOT	Developed St Neots type ware (AV code DEV NEOT)
EMW	Early Medieval ware
EMSAX	Early to Middle Saxon
EVE	Estimated vessel equivalent
LLYST	Lyveden/Stanton glazed ware
MTIL	Medieval tile (AV code)
MSIM	Middle Saxon hand-made with igneous and micaceous inclusions
MSI	Middle Saxon hand-made with micaceous inclusions
NEOT	St Neots type ware
OSHW	Oolitic Shelly ware
PSHW	Peterborough type Shelly ware (petrologically defined SHW)
SHW	Shelly ware 1
SHW2	Shelly ware 2
SHW-LV	Shelly ware in Lyveden vessel form
SLOQ	South Lincolnshire Oolitic and Quartz Sand tempered ware (petrologically defined)
SLSNO	South Lincolnshire Saxo-Norman oolitic limestone-tempered fabrics
STAFF MO	Staffordshire manganese-mottled earthenware
STAM	Stamford ware
STANLY	Lyveden/Stanton shelly fabric (AV code)

Contributors

Martin Allen

Senior Assistant Keeper, Dept of Coins and Medals, Fitzwilliam Museum, Cambridge

Rob Atkins

Project Officer, Oxford Archaeology East

Ian L. Baxter

Freelance animal bone specialist

Séverine Bézie

Illustrator, Oxford Archaeology East

Jon Cane

Freelance illustrator

Alan Clapham

Freelance environmental specialist

Nina Crummy

Freelance finds specialist

Holly Duncan

Finds specialist, Albion Archaeology

David Dungworth

Archaeometallurgist, English Heritage

Chris Faine

Animal bone specialist, Oxford Archaeology East

Carole Fletcher

Post-Roman pottery specialist, Oxford Archaeology East

Lucy Gane

Illustrator, Oxford Archaeology East

James Greig

Palynologist, English Heritage

Gillian Greer

Illustrator, Oxford Archaeology East

Sheila Hamilton-Dyer

Freelance fish remains specialist

Stephen Kemp

Formerly Project Manager, Oxford Archaeology East

Jan Light

Freelance mollusca specialist

Stephen Macaulay

Project Manager, Oxford Archaeology East

Paul Middleton

Peterborough Regional College

Adrian Popescu

Keeper, Dept of Coins and Medals, Fitzwilliam Museum, Cambridge

Elizabeth Popescu

Post-Excavation and Publications Manager, Oxford Archaeology East

Carlos Silva

Formerly Illustrator, Oxford Archaeology East

Paul Spoerry

Manager, Oxford Archaeology East

Alan Vince

Freelance thin section analyst

Twigs Way

Freelance documentary researcher

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Summary

Since the late 1980s the former medieval village of Botolph Bridge, Orton Longueville, now within urban Peterborough, has gradually been destroyed by housing development. The settlement lies on the south bank of the River Nene adjacent to an important river crossing (TL 1715 9734). It once formed part of a well-known medieval vill, referenced in Domesday Book, although historical research suggests that it was probably already in decline by 1316. St Botolph was an abbot who, in AD 694, established a monastery, probably at Boston in Lincolnshire. The dedication to him may imply an early foundation for both the church and village since it was often given to Anglo-Saxon foundations at gateways and bridges. The Botolph Bridge settlement certainly appears to owe its location to the river crossing. It forms one of a string of settlements along the southern terrace of the Nene close to Peterborough, which are linked by what is now the Oundle Road.

During the 1970s and 1980s Botolph Bridge was noted for its well preserved medieval earthworks. Much of the early recording of the village remains was undertaken by the Nene Valley Research Committee (NVRC), although the earthworks had previously been documented by the Royal Commission for Historical Monuments of England

(RCHME 1926 and 1969). Archaeological investigations began in 1982 with an earthwork survey by the NVRC, who also conducted two small area excavations in 1987. In 1999 and 2000 Cambridgeshire County Council's CAM ARC (now Oxford Archaeology East) conducted further excavations, funded by English Heritage.

The earthwork survey carried out in 1982 had amply demonstrated the complexity and importance of the site, showing a church and manorial complex with house plots strung out along an adjacent road and fields separated from the main settlement by a hollow way. Subsequent excavation demonstrated that the manorial enclosure had replaced earlier house plots by c.1200. In the later 14th century, Botolph Bridge saw considerable investment by the Draytons, then holders of the manor. A manorial farm — possibly part of a separate minor manor — was built above earlier fields, with stone buildings constructed around a courtyard including a farmhouse, dovecote and ancillary buildings. Within the former manorial enclosure itself, other agricultural buildings were laid out. The excavated buildings had been abandoned by c.1550–c.1600. The church, which was located immediately to the north of the excavation area, was finally demolished in 1695.

Résumé

Depuis la fin des années 1980, l'ancien village médiéval de Botolph Bridge, Orton Longueville, qui se trouve maintenant dans l'agglomération urbaine de Peterborough a été progressivement détruit par le développement de l'habitat. L'implantation est située sur la rive sud de la rivière Nene qui est proche d'un important point de franchissement de la rivière (TL 1715 9734). Elle faisait autrefois partie d'un village médiéval bien connu qui est référencé dans le Domesday Book, même si des recherches historiques laissent supposer que son déclin avait déjà commencé en 1316. Saint Botolph était un abbé qui fonda un monastère en 694 de notre ère, probablement à Boston dans le Lincolnshire. Le choix de ce saint pourrait signifier l'antériorité de l'église et du village car un grand nombre d'institutions et d'établissements anglo-saxons situés près d'une porte ou d'un pont étaient consacrés à Saint Botolph. La proximité d'un point de franchissement de la rivière explique sans doute la localisation de l'implantation de Botolph Bridge. Il s'agissait d'une des implantations qui se succédaient le long du terre-plein sud de la rivière Nene à proximité de Peterborough, ces implantations étant reliées par ce qu'on appelle maintenant la route d'Oundle.

Durant les années 1970 et 1980, Botolph Bridge fut remarqué pour la bonne préservation de ses fortifications en terre datant du Moyen Âge. Une grande partie des premiers enregistrements des restes du village fut réalisée par le Nene Valley Research Committee (NVRC), même si les fortifications en terre avaient été préalablement décrites de façon détaillée par le Royal Commission for Historical Monuments of England (RCHME 1926 et 1969). Les

recherches archéologiques ont commencé en 1982 avec un relevé des fortifications en terre par le NVRC, qui fut également responsable en 1987 des fouilles de deux petites zones. En 1999 et en 2000, le CAM ARC (qui est devenu l'Oxford Archaeology East) dirigea d'autres fouilles qui étaient financées par l'English Heritage.

Le relevé des fortifications en terre du site qui a été effectué en 1982 a amplement démontré la complexité et l'importance du lieu. On a ainsi découvert l'existence d'une église et d'un ensemble formé par un manoir et des emplacements de maisons. Ces derniers étaient disposés le long d'une route adjacente et de champs qui étaient séparés de l'implantation principale par un chemin creux. Des fouilles ultérieures ont montré que l'enceinte du manoir avait remplacé les emplacements antérieurs des maisons autour de 1200. À la fin du 14^{ème} siècle, les Draytons, qui possédaient le manoir, consacrèrent des investissements considérables à Botolph Bridge. Une ferme manoir, qui faisait peut-être partie d'un petit manoir distinct, fut construite sur un emplacement autrefois occupé par des champs. Elle comprenait des bâtiments en pierre construits autour d'une cour, une maison de ferme, un pigeonnier et des dépendances. On trouvait également d'autres bâtiments agricoles à l'intérieur de l'ancienne enceinte du manoir. Les bâtiments fouillés ont été abandonnés autour de 1550–1600. L'église, qui se trouvait juste au nord de la zone des fouilles, fut finalement démolie en 1695.

(Traduction: Didier Don)

Zusammenfassung

Seit Ende der 1980er Jahre wurde das mittelalterliche Dorf Botolph Bridge in Orton Longueville, das heute zum Stadtgebiet von Peterborough gehört, allmählich durch den Bau von Wohnsiedlungen zerstört. Die alte Siedlung lag am Südufer des Flusses Nene an einem wichtigen Flussübergang (TL 1715 9734). Sie war einst Teil einer bekannten, im Domesday Book verzeichneten mittelalterlichen Villikation, obwohl historische Studien darauf hindeuten, dass sie 1316 vermutlich schon im Niedergang begriffen war. St Botolph war ein Abt, der 694 n. Chr. ein Kloster gründete, vermutlich in Boston in der Grafschaft Lincolnshire. Die Namensgebung der Siedlung könnte bedeuten, dass Kirche und Dorf schon früh gegründet wurden, da angelsächsische Siedlungen an Zufahrtswegen und Brücken häufig nach dem Abt benannt wurden. Botolph Bridge verdankt seine Lage mit ziemlicher Sicherheit der Nähe zu der Furt. Es gehört zu einer Reihe von Siedlungen entlang der südlichen Flussterrasse des Nene unweit von Peterborough, die heute durch die Straße nach Oundle miteinander verbunden sind.

In den 1970er und 1980er Jahren war Botolph Bridge für seine gut erhaltenen mittelalterlichen Erdwerke bekannt. Ein Großteil des Bestandsverzeichnisses der Dorfstätte wurde vom Nene Valley Research Committee (NVRC) angelegt, die Erdwerke waren jedoch zuvor bereits von der Royal Commission for Historical Monuments of England dokumentiert worden (RCHME 1926 und 1969). Die archäologischen Untersuchungen

begannen 1982 mit einer Prospektion der Erdwerke durch das NVRC, das 1987 auch zwei kleinere Flächengrabungen durchführte. In den Jahren 1999 und 2000 unternahm CAM ARC (das heutige Oxford Archaeology East) weitere Ausgrabungen, die von English Heritage finanziert wurden.

Die 1982 durchgeführte Prospektion erbrachte ausführliche Belege für die Vielschichtigkeit und Bedeutung der Stätte. Es wurden eine Kirche und ein Fronhof mit Bauernstellen entlang einer angrenzenden Straße entdeckt, sowie Felder, die durch einen Hohlweg von der Hauptsiedlung getrennt waren. Eine spätere Ausgrabung zeigte, dass der Fronhof spätestens Ende des 11. Jahrhunderts an die Stelle bereits bestehender Wohnstellen trat. Im späten 14. Jahrhundert investierte die Familie Drayton als Gutsbesitzer beträchtliche Summen in den Ausbau von Botolph Bridge. Oberhalb der früheren Felder wurde ein Bauerngut — womöglich im Rahmen eines separaten kleineren Herrensitzes — erbaut. Rund um einen Innenhof waren Steingebäude angeordnet, zu denen ein Bauernhaus, ein Taubenschlag sowie Nebengebäude zählten. Auf dem Gelände des früheren Fronhofs wurden noch andere landwirtschaftliche Gebäude angelegt. Die ausgegrabenen Gebäude wurden zwischen 1550 und 1600 aufgegeben, die direkt nördlich der Ausgrabungsstätte gelegene Kirche wurde schließlich 1695 abgerissen.

(Übersetzung: Gerlinde Krug)

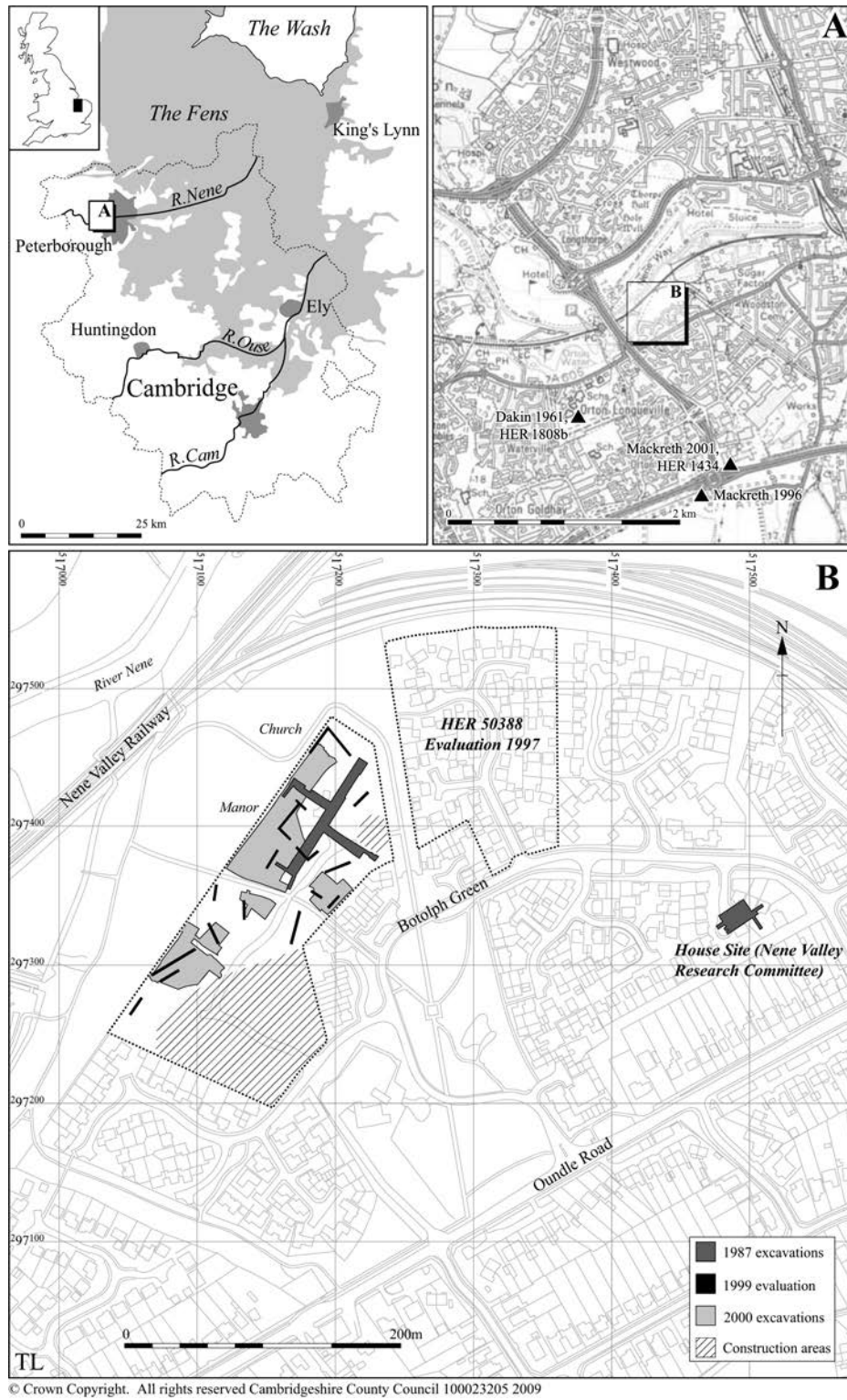


Figure 1 Location map showing planning application area (prior to construction) and investigation phases. Scale 1:5000

Chapter 1. Introduction

by Rob Atkins, Elizabeth Popescu and Paul Spoerry

I. Project Background

(Fig. 1, Plates I and II)

Since the late 1980s the former medieval village of Botolph Bridge, which lies on the outskirts of modern Peterborough, has been gradually destroyed by housing development (TL 1715 9734; Fig. 1). Archaeological investigations within the village began in 1982 with an earthwork survey by the Nene Valley Research Committee (NVRC) and reached their conclusion with three phases of archaeological excavation undertaken in 1999 and 2000 by Cambridgeshire County Council's CAM ARC (now Oxford Archaeology East), funded by English Heritage. Planning permission for housing within the deserted medieval village had been granted pre-PPG16 and Westbury Homes allowed access for the excavation and recording of the few surviving parts of the medieval village within the development zone. The excavations were instigated adjacent to the manorial site and church of Botolph Bridge (now within Orton Longueville) following an application to English Heritage

by Ben Robinson, Peterborough City's Archaeologist (Robinson 1999), which was endorsed by Philip Walker, the Regional Inspector of Ancient Monuments.

The current report publishes the findings of the CAM ARC investigations, as well as incorporating previous work by the NVRC which comprised an initial earthwork survey in 1982 by Adrian Challands and two small area excavations in 1987 (Fig. 1, Plate I). One of these was at the site of the spine haul road (referred to as the Manor Site, immediately adjacent to the areas later excavated by CAM ARC), while the other was placed some distance to the east to investigate one of the medieval tofts (termed the House Site, Plate II). The earthwork survey revealed that the remains extended over an area of *c.*19ha and demonstrated a complex sequence of development. The 1982 survey (see below) did not record any surviving earthworks within the areas subsequently excavated within the manorial enclosure, its relatively flat surface probably being due to the robbing/levelling of the site in *c.*17th century.



Plate I Aerial photograph (1987), showing House and Manor excavations and the construction of the spine haul road within Botolph Bridge medieval village



Plate II General view of the NVRC House Site during excavations in 1987

Prior to the recent development, the site was assessed for Scheduled Ancient Monument (SAM) designation. The earthwork remains were scored amongst the most important Deserted Medieval Village (DMV) sites in Cambridgeshire: the site was one of only two such sites amongst the top ten DMVs not to have already obtained SAM status (Robinson 1999; see below). Despite this, SAM status was not awarded and the land was sold by the Peterborough Development Corporation for housing development in twelve plots. Unfortunately, archaeological examination of the site was not as thorough as would now be the case and various elements of the settlement (including Iron Age and Roman remains) were lost with only limited recording.

The final plot of land to be developed within the original 1988 planning application site lay adjacent to the former manor and church. A revised planning application to construct fifty dwellings on this area was submitted by Westbury Homes Ltd in 1999. Although archaeological representation was made, the imposition of suitable archaeological conditions was not possible due to pre-PPG 16 consent for the development without any real archaeological provisions. Peterborough Museum therefore appealed for funding to English Heritage, resulting in a scheme of proposed archaeological works (Robinson 1999). These are identified on Fig. 1 as the 1999 evaluation and the 2000 excavation.

Botolph Bridge itself has long been subsumed within the parish of Orton Longueville which has recently become part of the urban sprawl of western Peterborough. Today, only a small area to the north and north-west of the former village remains undeveloped, including the manor and church. Within both the new recreation area (Botolph

Green) and the gardens of modern houses, archaeological features may still survive in small isolated pockets.

II. Geology and Topography (Figs 1–3)

The remains of Botolph Bridge lie in the Nene valley, between 100 and 200m to the south-east of the river and on the edge of the fens (Fig. 1). Some 5km to the west is the Roman town of *Durobrivae*, which formed the centre of a well-known industrial area set within a good road and river transport network (Figs 2 and 3). The Nene valley itself has rich natural resources which include iron-rich stone, water, clay and timber: these resulted in industrial activity such as saltmaking, ironworking and pottery manufacture which are known to have been established by the Roman period. Part of the DMV site was itself exploited for quarrying iron ore (*c.*1860), when the land was owned by the Marquis of Huntly and similar activity is documented in the parish since at least the 18th century.

Botolph Bridge is located on the second gravel terrace on the south side of the River Nene, with recent sands, silts and clays overlying the lowest parts of the terrace adjacent to the river and lying at higher levels along its tributary streams. Below the terrace gravel lies Kellaways Clay, an upper middle Jurassic deposit that exists as a poorly fossiliferous mudstone which quickly weathers to an orange brown clay. This lies above Cornbrash Limestone (British Geological Survey 1984), a familiar local freestone building material.

The surrounding landscape is one of low relief, close to the area in which the Nene formerly braided out into the

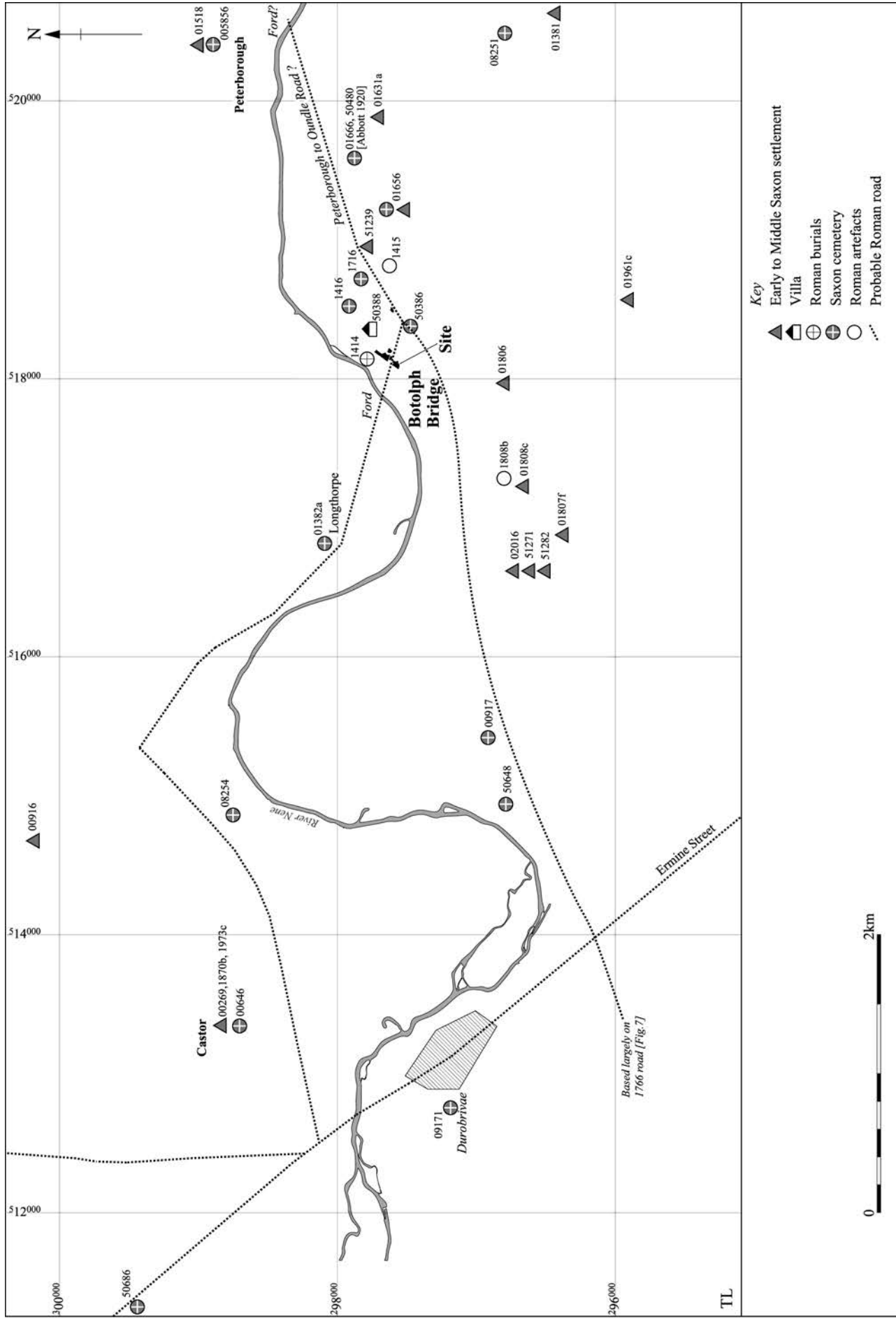


Figure 2 Excavation area in relation to adjacent HER sites and the road network. Scale 1:38000

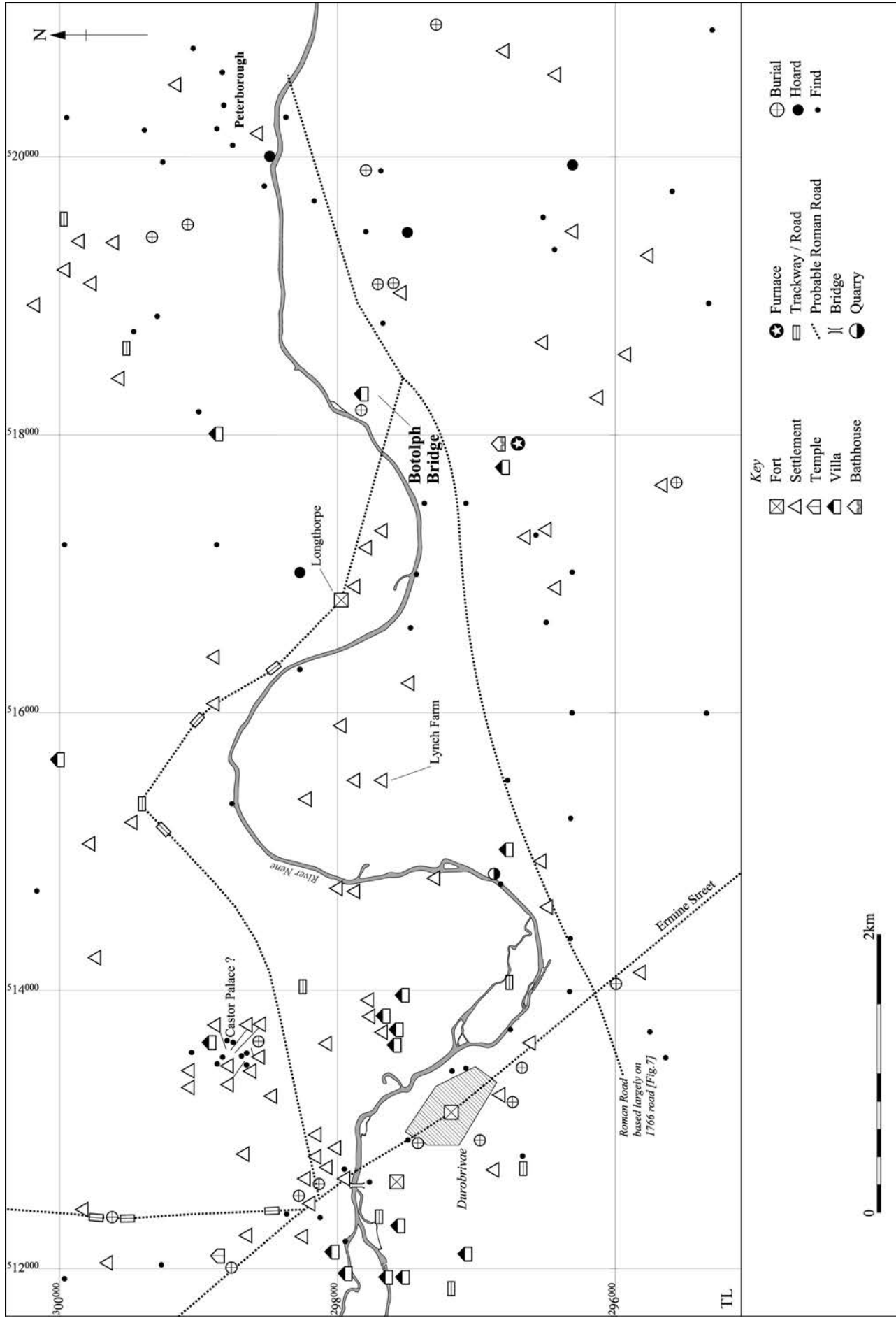


Figure 3 Roman sites in the vicinity of Botolph Bridge. Scale 1:38000



Plate III Cropmark of the probable Roman Road running towards the River Nene, where it presumably forded to Botolph Bridge (with the kind permission Prof. Steve Upex, Nene Valley Archaeological Trust)

fens; the river currently lies at around 10.00m OD to the north of the site, with a gradual rise up the gravel terrace. Above the river terrace the land where the excavations took place is fairly flat, with its lowest point to the south-east (Area C at 11.44m OD) and slight inclines to the north-west (Area D/E at c.11.50m OD) and to the south-west (Area A at c.12m OD). A characteristic of the local geology is that of a held water table, resulting in springs and ponds (Mackreth 1996, xvii).

It seems clear that the focal point of the medieval village — the former church and manorial enclosures — was positioned on the terrace edge closest to the river and thus represented the northern edge of the settlement. The earthwork survey of Challands and others (Fig. 4) clearly identifies this probable primary focus, demarcated on its south-western side by a north-west to south-east routeway. In recent times this track has been recognisable as a ‘hollow way’ that led down to a long-established river crossing that was clearly used from at least the Roman period onwards.

III. Archaeological Background

(Figs 1–5, Plate III)

The origins of Botolph Bridge are rooted in the prehistoric and Roman periods. An Iron Age to Roman settlement and related burials (Fig. 2, PHER 1414 and 50388) covering an area of more than 150m by 100m was positioned on the southern side of the river at the junction of two roads (see below). The settlement was occupied from the 2nd century BC until the end of the 4th or early 5th century AD. During 1997–9 the NVRC ran a salvage recording exercise at this site, which lay 150m to the east of the subject site in the vicinity of the river crossing (McKenna 2001; PHER 50388). The archaeological work comprised

twelve hand-dug trenches all less than 10m long (c.0.2% of the site) as well as a metal detector survey. Iron Age remains included a burial and ditches. Roman activity took the form of a farmstead of average status which became increasingly wealthy in the 3rd and 4th centuries when it may have developed into a villa. Recorded remains included robbed out stone walls, a corn dryer, ditches, pits and a stone-lined well. Building materials recovered consisted of bi-pedalis, pilae, imbrices, tegulae and box flue tile. Other finds included silver and copper-alloy jewellery, a stylus, a spear head, craft tools such as spindle-whorls and 112 coins dating from the 1st century AD to c.378. The site lay outside the known area of medieval settlement, with no Anglo-Saxon or medieval features being observed and with only a handful of Late Saxon and medieval pottery sherds being recovered.

Other Roman activity in the vicinity of the site includes a substantial 3rd-century building, furnaces and a bath house, which lay c.700m to the south-west of the subject site (Dakin 1961, PHER 1808b). Other features here were attributed to the early 2nd to late 4th centuries and an indeterminate industrial function was suggested for the complex (Dakin 1961, 58). Some distance further south-east, a farmstead found at Orton Hall Farm (Mackreth 1996; PHER 1961) spanned the Roman period, continuing into the early 6th century. Immediately adjacent to these sites to the north-east lay further elements of a farmstead spanning the later 1st to mid 2nd century AD; subsequent activity included a Roman field system and a small cemetery of nine burials (Mackreth 2001; PHER 1434). Other recent work in the vicinity includes another Late Iron Age to Roman farmstead found on the western side of Ermine Street at Haddon (Hinman 2003), close to another bath house.

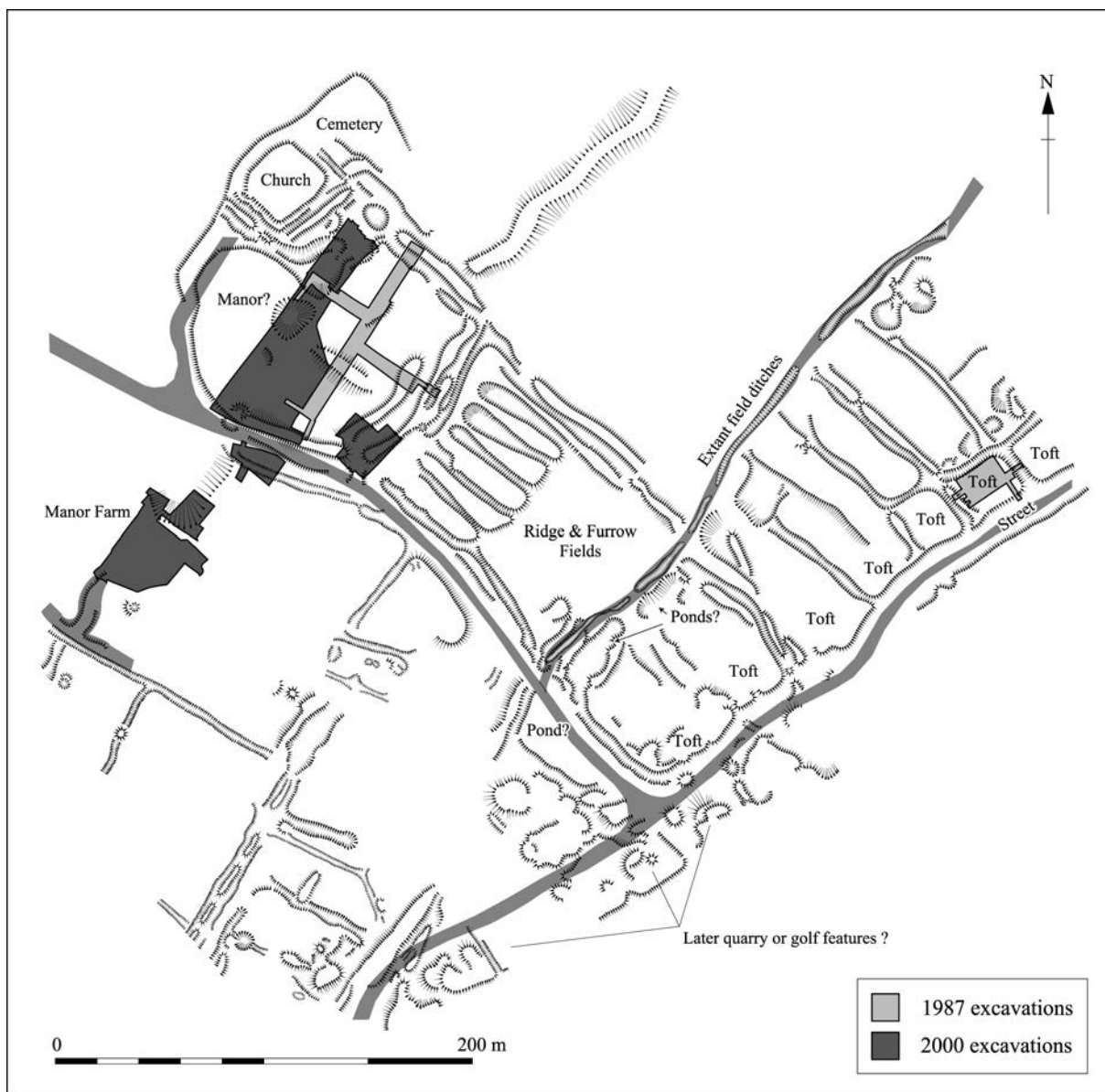
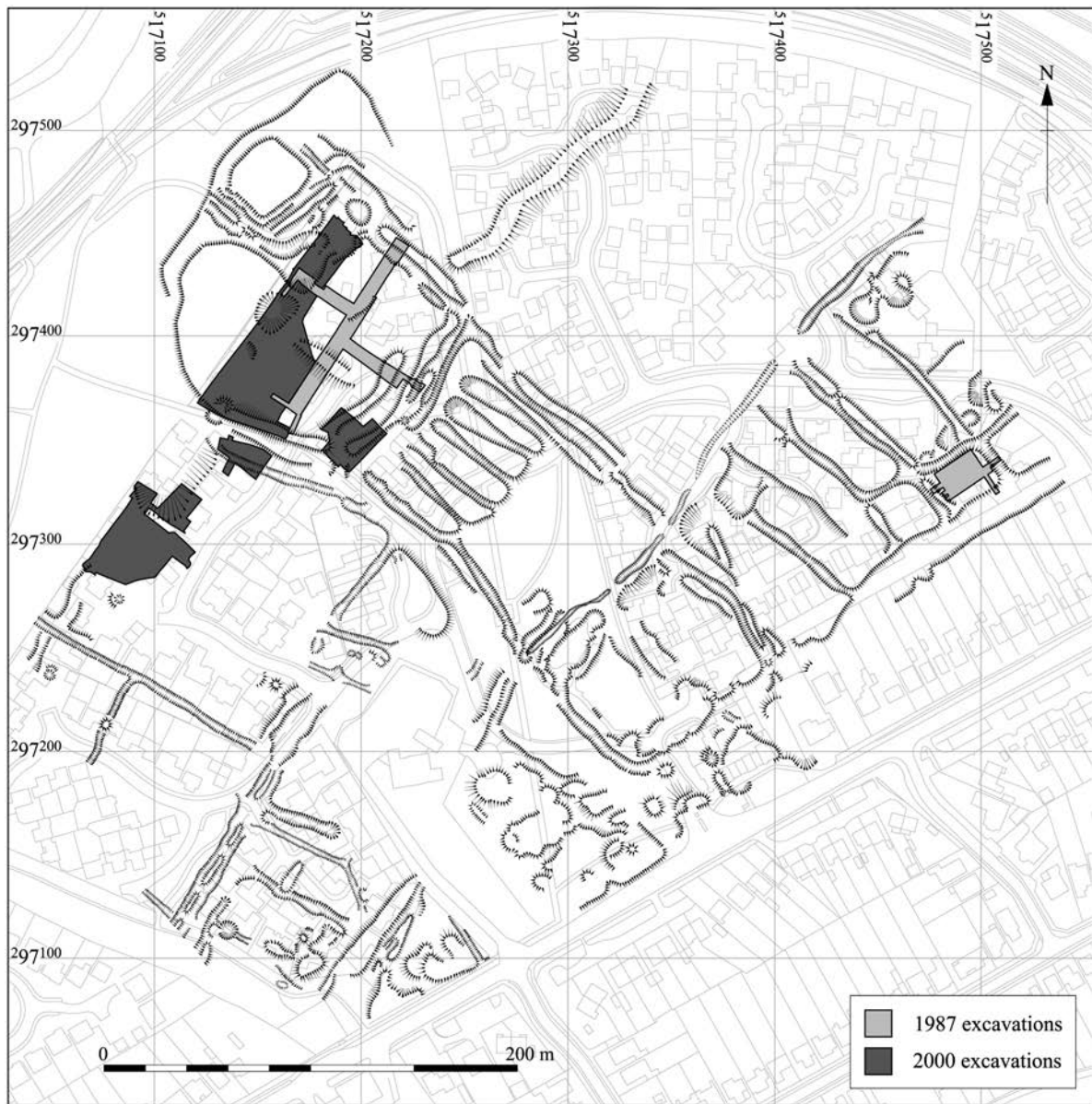


Figure 4 Botolph Bridge deserted medieval village earthworks (after Challands 1982, with additions). Scale 1:3300

Aerial photographs show the parchmark of a probable road leading from the Roman fort at Longthorpe (which stationed up to 2,500 to 5,000 soldiers) directly eastwards towards the River Nene, opposite the Iron Age to Roman settlement noted above (Plate III; Fig. 3; Dannell and Wild 1987, fig. 1, 20). The clarity of this parchmark implies that the road was metalled (Adrian Challands, pers. comm.). The fort faced southwards towards its immediate tactical objective — the river crossing (controlling traffic between the Iceni and their north-western neighbours and supervising the region west of the fens) rather than northwards towards more distant strategic targets (Frere and Joseph 1974, 5–6). This route may have met another Roman road running east to west from Peterborough to Oundle. At the junction and to the south of these two roads was an Early Saxon cemetery (PHER 50386). Two further Anglo-Saxon cemeteries respected this road 400m to the north-east (Fig. 2; PHER 1716) with another lying *c.* 1m to the north-east (Abbott 1920; Walker 1899; PHER 01666, 50480).

Several other sites and findspots are known in the area immediately surrounding the subject site, some of which also indicate Anglo-Saxon activity (Fig. 2). Human and animal bones, along with Roman pottery, were found before 1934 after dredging operations in the River Nene at 'Raveleys Hole' (PHER 1414). Two other observations related to the same Anglo-Saxon cemetery (PHER 1416/1716), where belt-clasps and fibulae were found in the early 19th century (Artis 1828). A few years later Lord Huntly found brooches and other artefacts here, while in 1898 at least one burial and some cremation urns were excavated (Walker 1899). Trenching in 1911 revealed fourteen inhumations including one with a Roman finger ring and a Roman coin. Nine other burials did not contain grave goods, although the remainder contained a range of finds such as beads, buckles and knives (Abbott 1920, 34-40).

Another possible Early Saxon burial ground was found 200m to the south-east (PHER 50386), when skeletons accompanied by iron weapons were found during the laying of a pipeline in World War II. This pipe



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Figure 5 Modern housing estate, showing underlying earthwork survey and excavated areas. Scale 1:3300

trench was dug to extract water from the River Nene and ran across the Oundle Road just to the west of the Old Toll House. This burial ground lay just to the south of the Oundle Road, next to the junction with a known hollow way (Fig. 2). An excavation in 2003, 800m to the east, revealed a possible Anglo-Saxon building (PHER 51239; Patten 2003), with further examples including a sunken-featured building, halls and a possible granary being found to the south-east at Orton Hall Farm (Mackreth 1996).

IV. Archaeological Interventions

(Figs 1, 4 and 5, Plates IV–V)

Archaeological recording of the subject site itself began in 1982 with an earthwork survey by members of the NVRC (Figs 4 and 5). The 1987 excavations were undertaken by NRVC and Peterborough Museum, with two areas investigated, as well as several test pits in various parts of

the site. The main 1987 excavation area was targeted on the suspected manor site adjacent to the church complex (the Manor Site; an area later excavated by CAM ARC in 1999 and 2000). The early excavations found occupation spanning the Late Saxon to the early post-medieval period, comprising the remains of roads, houses, cobbled surfaces, ditches and pits. In addition a single house plot on the Oundle Road (the House Site) was examined, lying some distance to the east of the focus of the 1999–2000 work (Fig. 1). The features recorded in this small excavation demonstrate the same broad phases of activity as those observed in the main excavation area. Pottery suggests that occupation of this part of the village (along the Oundle Road) probably occurred between the 11th century and 15th or 16th centuries, with only a handful of stratified pottery sherds dating from 1400 to 1650. Two test pits positioned within the postulated Peterborough to Oundle Road shown on the 1982 earthwork survey found evidence of a cobbled surface. Four further test pits were dug within ‘ponds’ at the rear of the 1982 earthwork



Plate IV Area C during excavation in summer 2000. House building had encroached onto much of the medieval settlement by this stage



Plate V Site open day

survey plots but recovered only 19th-century material. Unfortunately, much of the original site record for the NVRC House Site, including all the context records, was lost some years ago and the evidence presented here is largely based on surviving plans and finds, as well as discussions with the excavators.

By 1999 the earthworks had been virtually levelled within the development zone. The only elements which remained distinct were the ponds lying on the northern side of the site, along with traces of spoil heaps and the outline of machine cut trenches which were presumed to be the remains of earlier archaeological excavations. In 1999, CAM ARC evaluated the site with fifteen trenches being placed across most of the proposed development area directly to the south of the manor and church, adjacent to the 1987 NVRC Manor Site excavation (Fig. 1; Kemp 1999). Areas to the south-east and north-east were not evaluated since housing construction and the construction of a compound had already commenced here. Some groundworks had also begun, with a haul road linking the construction area and the compound. Unfortunately in the period between the evaluation trenching in very late 1999 and the commencement of funded excavations the following summer, some parts of the site had undergone partial topsoil removal, explaining why in some instances the level of survival and quality of remains seen during evaluation was not matched in subsequent open area excavation.

The boundaries of the final areas of excavation examined in 2000 were in part dictated by those elements of the former earthwork zones that were still accessible in relation to the build programme of Westbury Homes (Plate IV). Where possible, areas were metal detected prior to topsoil stripping. The excavation areas (A–D) were machine stripped by a 360° excavator under the supervision of a member of the archaeological team. The topsoil was moved into adjacent areas where it was again scanned by metal detectors. Pre-excavation plans were prepared, finds collected and hand excavation proceeded using CAM ARC's single context recording system, based on that from the Museum of London. Throughout the excavation phase, open days and talks were held to involve and inform the public and local schools (Plate V).

In November 2002 English Heritage surveyed the site of the church and manor directly to the north of the 2000 excavation area (Martin 2003). The survey identified possible structural remains, areas of rubble spreads and possible pits or hearths, as well as modern disturbances. These anomalies appear to bear no relation to the earthworks recorded by Adrian Challands in 1982 with the exception of a structure (Martin 2003, fig. 4), which was of roughly H-shape measuring 10m+ by 7m with the walls running at right angles to and parallel to the earthworks. The position and alignment of this structure strongly implies that these were the remains of the manor house. It is likely that the building would originally have been much larger: documentary records demonstrate that it had been extensively robbed in the 17th century. In the area of the church was another high resistance anomaly implying the possible presence of another structure; low resistance anomalies in this area may indicate further ditches (Martin 2003, fig. 4).

V. Site Phasing and Presentation

The investigations in both 1987 and 2000 recovered evidence for continuous occupation from the Late Saxon to post-medieval periods. The recovery of prehistoric and Roman finds residually in all phases suggests the possible disturbance of earlier activity (see Spoerry, Chapter 4.VII). Although Early to Middle Saxon pottery was recovered there are no specifically 7th- to 8th-century finds from the site, and thus a date commencing in the 8th century is likely for the majority of occupation features assigned to Period 1. Some features contained both Middle and Late Saxon artefacts, indicating continuity through to the end of the 9th century. An absence of new dated activity until the 11th century, but continuity of some features, implies that occupation continued but that activity was at a low level during the 10th century. New features did not appear until the 11th century (Period 2), although one structure (Building 1) notably spanned this (otherwise) gap.

The various periods of activity identified are:

Period 1: Middle to Late Saxon (c.700–c.900)

Period 2: Late Saxon to Saxo-Norman (c.1000–c.1200)

Period 2.1: Late Saxon (c.1000–c.1150)

Period 2.2: Saxo-Norman (c.1150–c.1200)

Period 3: Medieval (c.1200–c.1350)

Period 3.1: 13th century (c.1200–c.1250)

Period 3.2: 14th century (c.1250–c.1350)

Period 4: Late Medieval (c.1350–c.1500)

Period 5: Post-Medieval (c.1500–c.1650)

The archaeological evidence presented throughout this volume uses numbers assigned by feature type (*e.g.* Pit 24, Ditch 53), rather than the original context numbers. Other than the sequence of buildings, these numbers do not run sequentially, but are a relict of their use as a post-excavation tool.

VI. Research Objectives

National Research Issues

A useful précis of the history of the study of medieval villages, which have been the subject of archaeological research since the 1940s, has recently been published (Lewis *et al.* 2001, 1–32). While the initial focus was on deserted medieval villages (DMVs), it soon became clear that, although many villages had become deserted by the 15th or 16th centuries, others had simply reduced in size (shrunken medieval villages; SMVs). The creation of the Medieval Settlement Research Group (MSRG) in the mid 1980s widened the research objectives of previous interest groups to include other aspects of settlement and related landscapes.

Nationally, vast numbers of both deserted and shrunken medieval villages are now known — in Oxfordshire alone, 148 DMVs and 113 SMVs had been identified by 1985 (Lewis *et al.* 2001, 15). Botolph Bridge joins a number of such settlements across the country that have been the subject of archaeological investigation, the

best known of which are at Wharram Percy (Yorkshire) and Raunds (Northants). Botolph Bridge was the only surviving DMV in the Peterborough area, giving it significant local value; its level of preservation until relatively recent times (noted above) placed it amongst the top rank of such sites in Cambridgeshire.

Current national research issues and related themes underpinning the work at Botolph Bridge have been laid out by English Heritage (1991a; 1997), the MSRG (1996) and Lewis *et al.* 2001. These are summarised below and are considered in relation to the results of analysis in Chapter 6:

1. exploring rural settlement (English Heritage 1991a, 39; English Heritage 1997, 52); research into medieval rural settlements should include consideration of their territories and relevant estates, including consideration of accessible resources (MSRG 1996);
2. considering wider contacts engendered by aspects such as trade, transhumance, religion and contacts with centres of government (MSRG 1996);
3. studying settlements before nucleation, including definition of the prehistoric and Roman legacy on the medieval settlement pattern and land use (MSRG 1996; Lewis *et al.* 2001, 21–23);
4. considering relevant political factors, such as Danish influence and the Norman conquest (Lewis *et al.* 2001, 23–24);
5. examining the Late Saxon to medieval period (English Heritage 1997, 44);
6. exploring processes of nucleation of villages and aspects of village planning (Lewis *et al.* 2001, 23–24);
7. examining the dynamics of villages and smaller settlements after nucleation (Lewis *et al.* 2001, 24–24);
8. considering aspects of lordship and the development of manorial estates (Lewis *et al.* 2001, 23–24);
9. defining the urban and rural poor (English Heritage 1997, 53);
10. defining regional character and culture through examination of settlement forms, building techniques and farming methods (MSRG 1996); studying local vernacular architecture, in its landscape context (MSRG 1996);
11. examining settlement diversity, ranging from farms and hamlets to large villages/incipient market towns (MSRG 1996);
12. examining the role of exchange and social organisation in relation to buildings and settlements (MSRG 1996);
13. considering later patterns of settlement and land use, including periods of transition such as that from medieval to post-medieval traditions (MSRG 1996; English Heritage 1997, 45);
14. increasing knowledge of sites through appropriate survey techniques (MSRG 1996);
15. interdisciplinary research, linking excavated remains to documentary and cartographic evidence (MSRG 1996);
16. examining processes of village abandonment and shrinkage (Lewis *et al.* 2001, 24).

While the final issue has been the focus of considerable research, there are still outstanding questions such as establishing whether environmental or social factors were the more important. Did the main initiatives come from the peasants or the lords and what was the chronology and geography of the process? (Lewis *et al.* 2001, 24).

Regional and Local Research Objectives

In addition to the above, the assessment process at Botolph Bridge identified several regional and local research priorities to which the excavation results could be expected to contribute (Kemp and Spoerry 2002, section 6):

Regional Research Objectives

17. addressing the lack of understanding of Late Saxon rural settlement diversity in the region (Wade 2000);
18. addressing the lack of rural medieval building plans in the region (Wade 2000);
19. examining the relationship between urban and rural crafts (Wade 2000);
20. identifying the key characteristics of the agrarian economy in the period, as recoverable through extensive sampling on large rural excavations on varying soil types (Brown 2000, 46).

Local Research Objectives

21. exploring the Roman or Middle/Late Saxon settlement origins and/or continuity at Botolph Bridge;
22. investigating the environment and economy of Peterborough and its hinterland;
23. studying integral rural property units;
24. studying well-preserved rural settlement remains.

As with the national research objectives, each of these aspects is discussed in Chapter 6 in relation to the results of the analytical process.

Chapter 2. Historical and Documentary Background

by Rob Atkins and Twigs Way

I. Sources

Botolph Bridge is unfortunately relatively poor in terms of documentary and cartographic sources. The economy and development of settlement within the parish can be partially reconstructed from the 11th century onwards from occasional references in Inquisitions Post Mortem, charters, deeds and other sources (listed in the bibliography, A and B). During the 17th century these are supplemented by a sequence of manorial court records and church registers, whilst the 18th and 19th centuries provide later estate material. There are no surviving field terriers that might permit a reconstruction of the field system or parish layout, although the manorial records of the 17th century and estate books of the 19th century permit an interpretation of possible layout. Relevant volumes of the *Victoria County History* (for Bedfordshire, Huntingdonshire and Northamptonshire in particular) provide an insight into the families holding the manorial lordship of Botolph Bridge. Information on their other landholdings permits an overview of the relevant economic and political framework, as is noted below and discussed in Chapter 6.

II. Botolph Bridge

Origins

(Fig. 6)

Huntingdonshire was part of the 'Outer Danelaw' during the 9th to 10th centuries. It was divided into four hundreds by the time of the Domesday Book (1086) — these were probably superimposed over an earlier hundredal system consisting of eight units (Hart 1968). Each hundred amounted, in theory, to an area of 100 'hides' and by Domesday each of the four hundreds of Huntingdonshire amounted to approximately two hundred hides. Botolph Bridge was one of the parishes in the Norman Cross double hundred. The name 'Norman Cross' is of Scandinavian origin and was first recorded in 963 but presumably it had an earlier Anglo-Saxon name, now lost (Mawer and Stenton 1969, 180). The two hundreds of Norman Cross are mentioned in the Anglo-Saxon Chronicles and the hidage of individual estates within these hundreds had probably remained virtually unchanged since English control was regained by Edward the Elder in 918 (Hart 1968, 58). This continuity of assessment is reflected in pre-Conquest charters, many of which are known for Norman Cross.

King Eadred granted four 'mansae' to his thegn Frytheric at Orton in 948: this early charter was in Old English and most of the names have not yet been identified. Hart has identified the *Wusan* as referring to the River Nene and *do stroet* as being the road from Peterborough to Oundle, suggesting a Roman origin (Hart

1966, 22–3). A relatively reliable indicator of the Roman origin of a road is use of the Old English *stroet*, when it occurs in major place names; in minor names of later origin *stroet* is likely to have the modern dialect sense of straggling village (Gelling 1978, 153).

Botolph Bridge was amongst several of the Norman Cross parishes which fronted onto the River Nene (Fig. 6). These parishes seem to have been planned, since they were all sub-rectangular and of roughly equal size (five hides). In several examples (Alwalton, Orton Waterville, Orton Longueville and Stanground) the settlements were positioned at right angles to the Peterborough/Oundle road, thereby respecting the alignment of the parish boundaries. Each of the parishes may have been planned settlements which were re-ordered in the late 9th or early 10th century by the time (or after) the Danish had been ousted from the area (see further discussion in Chapter 6.IV). The right of toll down the River Nene in the Norman Cross hundred belonged to the king in c.963 (Swanton 2002, 116–7).

The village of *Botulesbrige* is recorded in Domesday Book (Morris 1975, 203c, 1, 2). In Edward the Confessor's time it had belonged to the king and was assessed at five hides to the geld, being worth 100s. By the time of the Domesday survey, when there was land for 8 ploughs, it belonged to the king (William I) but was managed by Rannulf. The king had one plough on the demesne and 15 villeins had 5 ploughs. A priest and a church were recorded, along with 60 acres of meadow and 12 acres of woodland for pannage in *Hantescyre* (Northamptonshire). It was valued at £8 in 1086, making it of minor to average worth compared with the remaining twenty-four parishes in the Norman Cross double hundred. The 15 villeins recorded, though bonded to the manor, performed labour services for their lord in exchange for land, often around 30 acres, for which they paid certain feudal dues. The population would have been four or five times greater than these figures suggest, since only the head of the household was counted in the survey, giving a probable population of around 60 to 75 people for the parish.

Longthorpe's church (on the opposing side of the Nene) is dedicated to St Botolph and, as noted in earlier text, the dedication probably refers to the crossing connecting the two settlements. It has been suggested that Botolph is the common Norman form of *Botwulf* (OE), with *Bottle* being its common colloquial development: since *Brig* is the northern form of Bridge, and *Bottle* the northern form of House there is some ambiguity as to whether the present name indicates an Anglo-Saxon origin (Mawer and Stenton 1969, 195). There is no specific record of a crossing place.

Despite being a parish in its own right by the late 13th century, Botolph Bridge had decreased in importance. A Hundred Roll of Edward I describes it as a hamlet of Orton

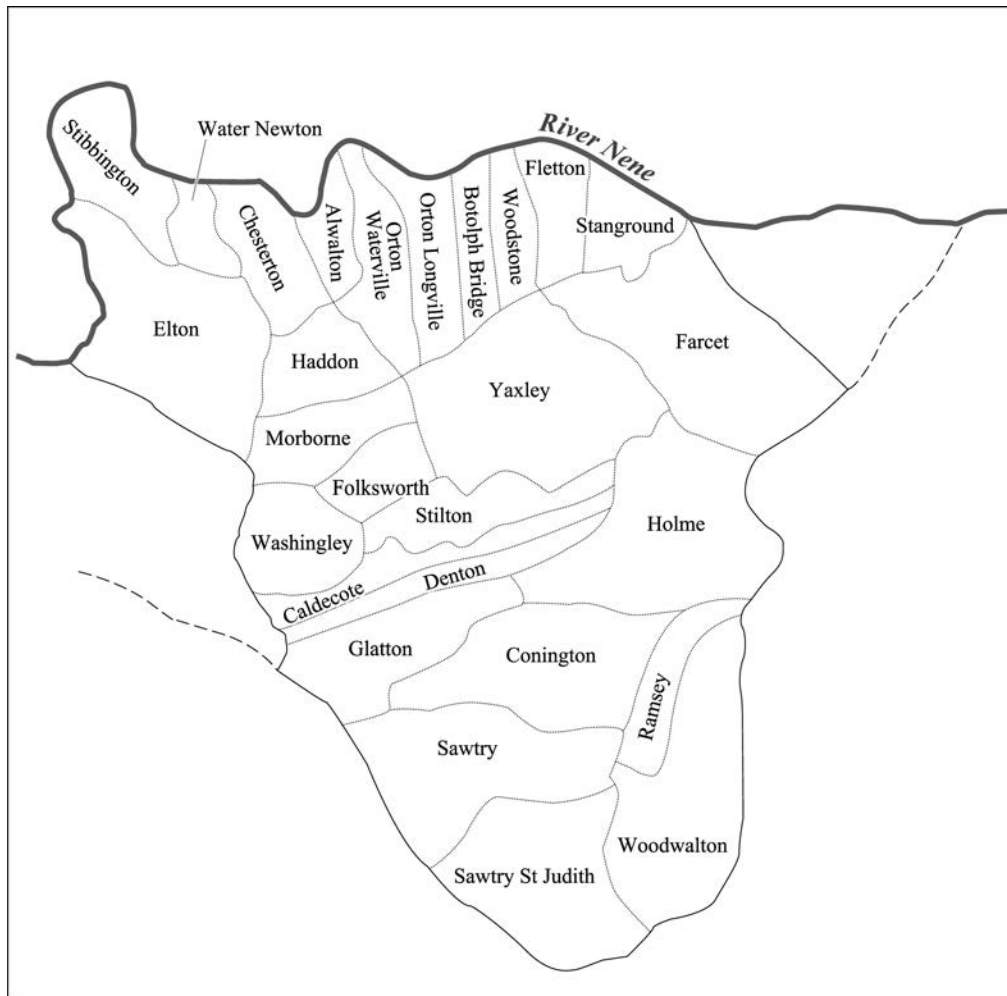


Figure 6 The Hundred of Norman Cross (after Wickes 1985, 34)

Longueville (Page *et al* 1974, 195). Later, in 1316 Botolph Bridge and Orton Longueville formed one vill for the purposes of taxation and they have been assessed together ever since (Page *et al*. 1974, 195). The manor was not wealthy by the early 13th century: King John reduced the service due from Botolph Bridge to two-thirds of a knight's fee, together with rescinding the duty of feeding the king's hounds when his huntsmen came into the county (Page *et al*. 1974, 195–6). Twenty-five parishes are recorded in the Norman Cross hundred at Domesday and only those of Botolph Bridge and Orton Longueville later amalgamated.

Cartographic and Related Evidence

(Figs 7–9, Plate VI)

Prior to the Ordnance Survey 1st and 2nd editions of 1889 and 1901 (Fig. 9), the only surviving map providing any detail is the Earl of Aboyne's Estate Map of 1808 (Fig. 8). The village or its name also appears on other, less detailed, maps from 1576 onwards (Saxton, CUL Atalas.4.57.6), with a possible crossing point depicted on the 1604 Map of the Fenland and Marshes (BM Cotton MS Aug.1.i.78). Later maps include that of Jeffrey, 1766 (Fig. 7). An early 'map' of Peterborough and its surroundings dated to c.1400 (Swaffham Cartulary folio 368, CUL Maps bbb.12, copy), indicates that the settlement of *Botelbridg* lay to the south-east of *Nassus Burgh* (Peterborough). The

settlement is shown in a list containing 'Alwalton, Ove[r]ton (Orton), Botelbridg, Wodestone, and Stangrounde'. The map does not indicate a placement for these settlements, nor any topographic detail. It does, however, suggest that the settlement was considered of sufficient standing to merit inclusion.

In 1428, a court roll for Longthorpe refers to a ford at Botolph (Northamptonshire Records Office MT 34 L–P) and the crossing point was of importance to both sides of the River Nene. Since Peterborough Abbey held responsibility for Longthorpe the abbey, rather than Botolph Bridge manor, maintained the crossing (Serjeantson and Adkins 1970, 457). Documents refer to several other tenants in Longthorpe who also held property in Orton on the other side of the river, including William of Thorpe, William de Menigl (King 1973, 66) and the Waterville family (Page *et al*. 1932, 198).

Saxton's Map of 1576 (CUL Atalas.4.57.6) records a church at *Botlebrige* and churches are also shown at Orton and Wodeston, the villages either side. No break is shown in the river to suggest the position of a bridge. The 1604 map of the Fenland and Marshes (BM Cotton Ms Aug.1.i.78) shows the village churches of Orton (Overton) and Woodeston. Interestingly, it also shows, *on the opposite side of the river*, the words 'Botle Bridge'. No church is indicated, although in this instance there is a

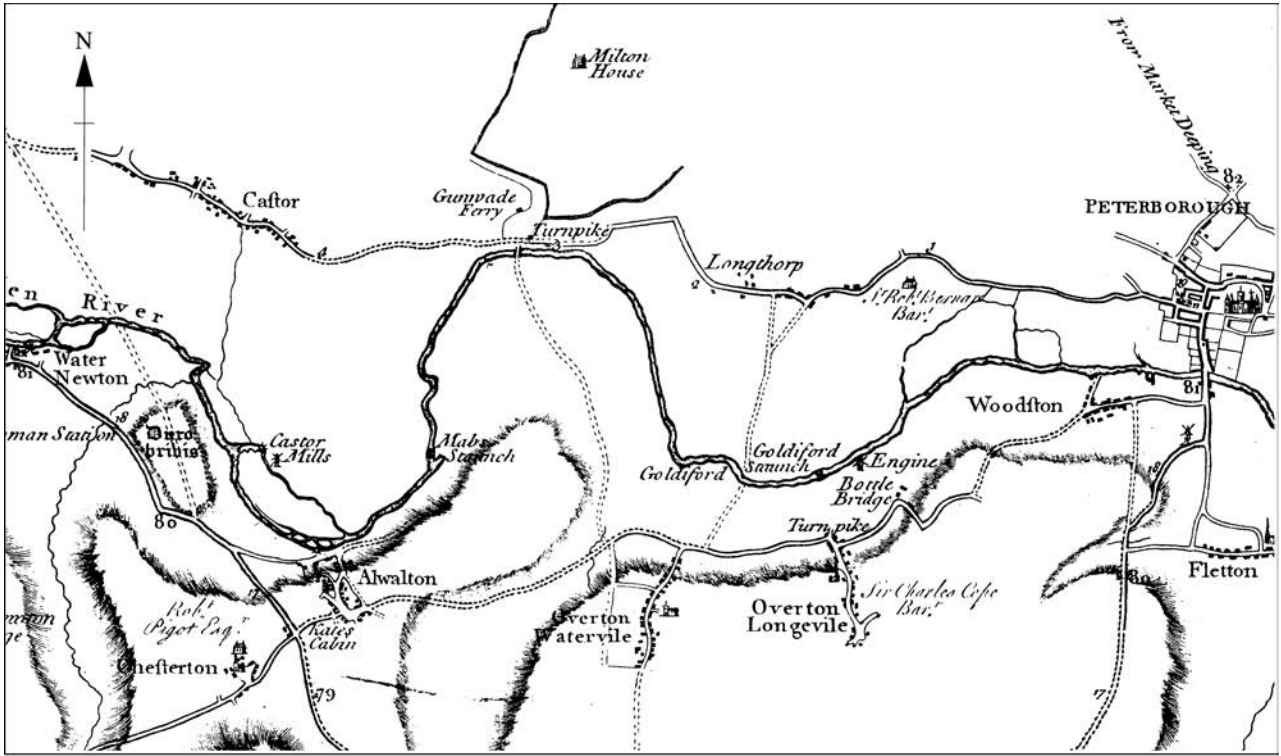


Figure 7 Thomas Jeffrey's map, 1766: The County of Huntingdon surveyed

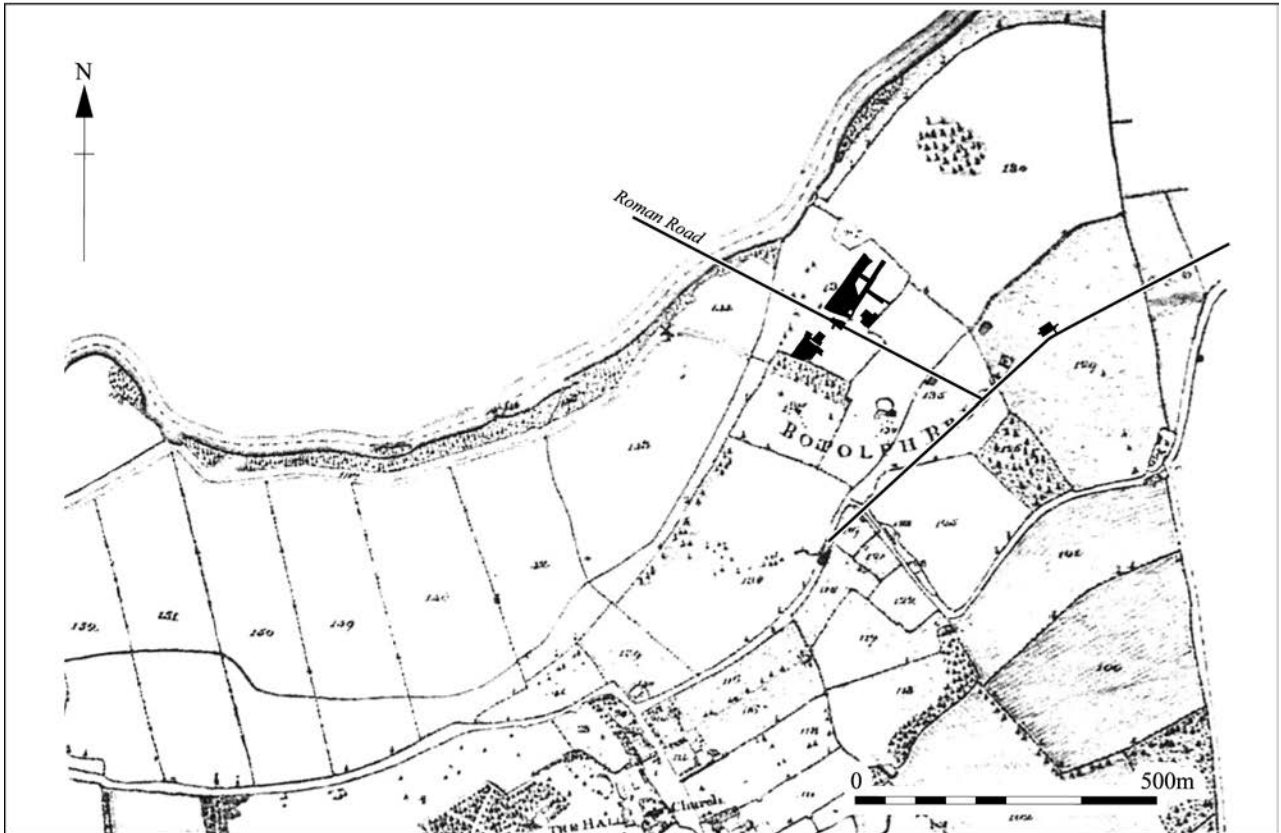


Figure 8 Earl of Aboyne's Estate Map, 1808 (with permission of the Huntingdonshire Record Office).
Scale 1:12500



Plate VI Late 15th- to early 16th-century grave marker from the former church of All Saints, Botolph Bridge

break in the River Nene suggesting a bridge or crossing place.

Botolph Bridge does not appear on the 1632 Hondii Map of the Fens (CUL Maps bb.36.63.1) which apparently only shows settlements over a certain size. Presumably a hamlet such as Botolph Bridge would have been too small to be depicted by this date or may have virtually disappeared. The manor was pulled down in 1669 and the church in 1695, when it was robbed of stone which was then used in the rebuilding of Orton Longueville's church.

In 1728 an Act confirmed the enclosure of the fields of Orton Longueville with Botolph Bridge (CRO Hunts HP61/26/1), although was not accompanied by a map. This is very early for such enclosure and reflects the single ownership of the parishes. Both this and the *Survey of the Land of Lord Pierrpoint 1694, including Orton c.1690* (Egerton Ms 3564 f18–21) indicate that quarry pitting was taking place in the parish. In the later document this pitting extended to at least four acres within the parish although no indication is given as to the materials being extracted or their purpose.

Thomas Jeffrey's map of 1766 records part of the Peterborough to Oundle road as a turnpike just to the south of Botolph Bridge (Fig. 7). *Bottle Bridge* is written at the dog-leg of this road and two small buildings are shown, in contrast to a considerable number at Orton Longueville. These two buildings are in the location of Botolph Bridge Farm which may post-date the early 18th century, at least as a farm holding. Jeffrey's map also recorded an engine (shown as a water pump with mill sails) next to the River Nene.

The first detailed map of the area is the 1808 Earl of Aboyne estate map (Fig. 8; CUL Maps bb.66.93.49). This shows a few houses along a field boundary, presumably all part of Botolph Bridge Farm. Both the 1987 NVRC

excavations at the medieval House Site and the Peterborough to Oundle Road are in the middle of a field labelled Field 129. Most of the excavation area is within a large pasture field — 'the Beastings' — within which a few trees were scattered. The former Church of All Saints appears to lie within its own boundary as a separate item numbered 133. On the accompanying table to the map, item 133 was recorded as: Glebe Land: Old Churchyard.

Major disturbance of the former medieval village occurred in the 1840s when the Blisworth–Peterborough branch line of the London and Birmingham railway was built directly to the north of the earthworks of the church site (Fig. 9). Amongst its other functions, this railway serviced the iron ore extraction which probably took place on the site of the former sugar beet factory 600m to the north-east (Adrian Challands, pers. comm.). Work began on the Peterborough section in January 1844 and the entire line was opened for traffic on 2nd June 1845. The site was again disturbed in the 1870s by the construction of the Fletton Loop line, which allowed the Great Northern railway at Fletton to join the Peterborough–Blisworth line at Longueville Junction.

Several old quarries are depicted on the 1st Edition Ordnance Survey map of 1889, immediately to the north-east of the site of St Botolph's Church: the map notes a limekiln indicating the presence of limestone. The same map depicts the site of the church of All Saints at Botolph Bridge as surrounded by an earthwork, probably consisting of ditches. The presence of a surviving slab with a late 15th- or early 16th-century 'black letter' inscription, mostly defaced, is also indicated (Plate VI; RCHME 1926, 194).

Minor disturbance to the Botolph Bridge site was caused by the laying out of the nine hole course for the Peterborough Gordon Golf Club in 1894, when the Gordon Arms served as the club house. The golf course

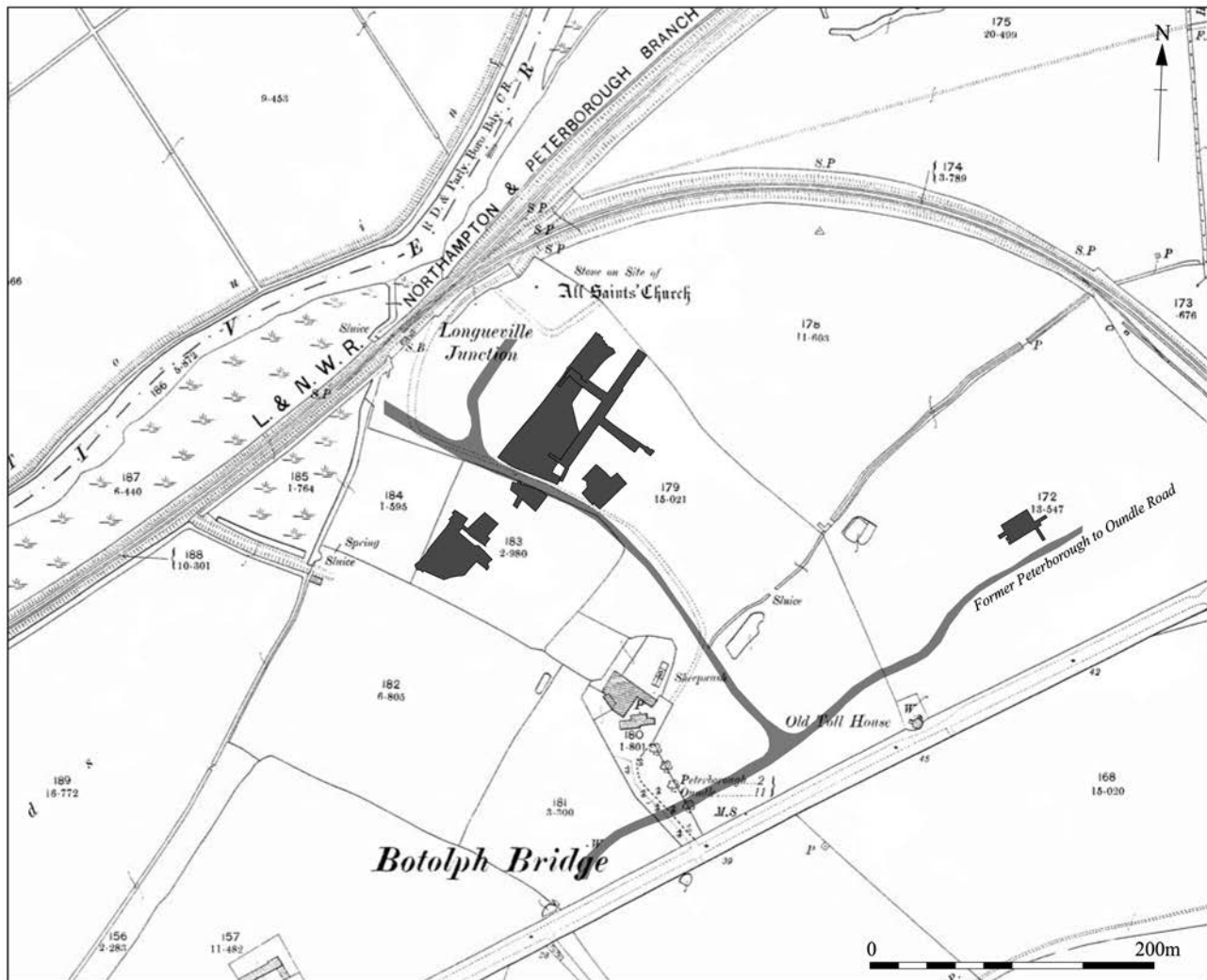


Figure 9 2nd Edition OS Map, 1901. Sheet Northants VIII 14/15 (with permission of the Huntingdonshire Record Office). Scale 1:5000

itself was short-lived and was abandoned in 1913. It appears likely that all or part of the former medieval village lay within the bounds of this course, since remains of golf balls were found during the earthwork surveying of the site (Adrian Challands and Ron McKenna, pers. comm.). Some of the earthworks, particularly in the southern area where their layout is less clear, may relate to the former golf course (Fig. 4).

The Botolph Bridge site was sold to the tenant farmer of Botolph Bridge Farm, Mr George Martin, in 1916. The Peterborough Development Corporation bought the land in 1974 and 1976. The 1982 earthwork survey on the former Botolph Bridge village (a c.30-acre area) by Adrian Challands showed that the site had not been ploughed following its almost complete abandonment by the end of the 17th century (Fig. 4).

III. The Botolph Bridge Manors

Introduction

In common with many other parishes in this part of the country, the parish of Botolph Bridge contained several manors, the history and descent of each of which is detailed by the Victoria County History (VCH; Page *et al.* 1974, 195–8). The main holdings were those of Lovet's

Manor and Paynel's or Deen's Manor; each of which is also variously referred to as Botolph Bridge, although it is clear that the former was in fact the original 'named' manor. In addition, the smaller site of 'Overton' was held by the Abbey of Peterborough. In such instances it can be difficult to identify correctly which manor relates to which manor house, and this problem is made particularly difficult in this case due to the destruction of most of the village over the last few centuries. Documentary evidence does, however, demonstrate that the main manor of Botolph Bridge — Lovet's — lay within the area excavated in Area D/E in 1999–2000.

Botolph Bridge (Lovet's) Manor

Botolph Bridge's main manor is recorded in the Domesday Book as being in existence in the Late Saxon period and owned by Edward the Confessor (Page *et al.* 1974, 195). After the Norman Conquest it was still owned by the king but 'kept' by Rannulf. The valuation in 1086 of 8*li* is the sum that the manor might render each year to the king (Page *et al.* 1932, 327). Of the seven manors which King William possessed in Huntingdonshire, six had been given in custody to Rannulf, brother of Ilger. Rannulf was an early example of a class which became very important in the 12th century, that of *ministeriales*, men continually employed in the king's service and rewarded by grants of

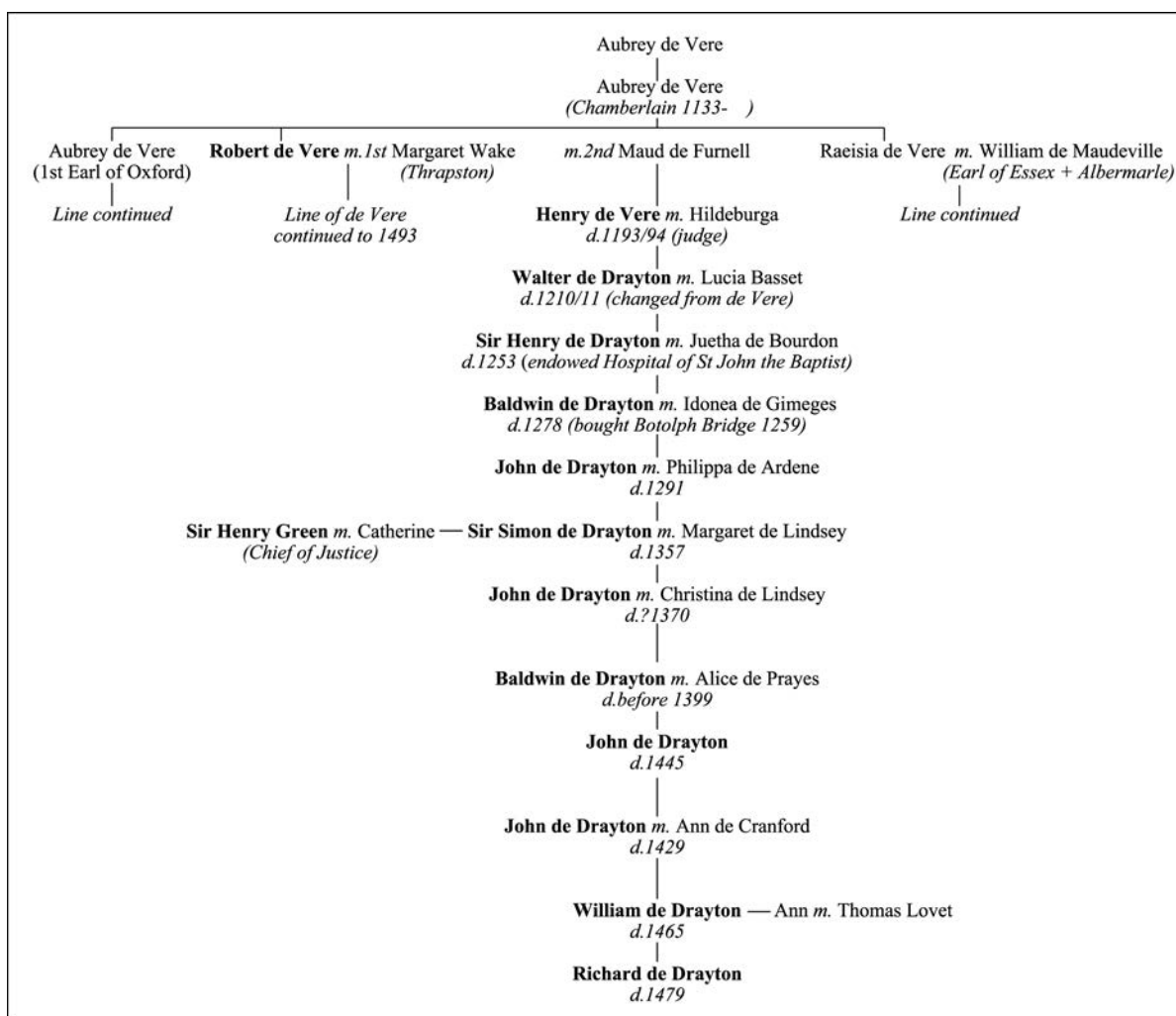


Figure 10 De Vere (Drayton) family tree

royal land, of wardships, escheats, and the custody of vacant churches (Page *et al.* 1932, 327). Within a few years (in or before 1091) Rannulf became Sheriff of Huntingdon. He also held lands in Bedfordshire, Cambridgeshire, Essex, Hertfordshire, Middlesex, Norfolk and Suffolk.

The history of the manor in the 12th century is obscure although Henry II probably gave it to one of his serjeants named Hugh de Lizures to hold as one knight's fee (Page *et al.* 1974, 195). His daughter succeeded and was given in marriage with the manor to Robert de Gimeges. The de Gimeges family successively sold off its moiety in demesne over a seventy year period to various organisations. This splitting created new manors within the parish, such as that of Paynel's or Deen's, while Peterborough Abbey was given a carucate of land by Ralph de Gimeges. Other smaller partitions occurred; for example, in 1224 William de Gimeges granted the advowson of the church to the Knights Templars (Page *et al.* 1974, 198) and the abbey of Thorney held a virgate of land at Botolph Bridge, the grant of William de Gimeges in about 1238 (Page *et al.* 1974, 197). The de Gimeges family does not seem to have any other landholdings although from 1233 it gained possession of land (including a capital messuage) at Stragsden, Bedfordshire by service of one-third of a knight's fee (Page 1972, 97). The manor appears to have been split into two moieties during ownership by the de Gimeges, held by Robert and

Sybil de Gimeges respectively. Both elements of the mesne were transferred to Baldwin Drayton and his wife Idonea, who was daughter of the second Robert de Gimeges, in 1259 and this combined holding then became known as Lovet's Manor (Page *et al.* 1974, 196).

The VCH records that 'the manor house of the Drayton family and the church stood at the east end of the parish. The house had been demolished before 1669' (Page *et al.* 1932, 327). This tallies with, and is probably partly based upon earlier antiquarian sources: Camden's *Brittania Illustrata* (1588 and later editions) notes that 'A little before the river (Nene) leaves the County (Huntingdonshire) it runs by an ancient house call'd Bottle-bridge...'. Secondly, Cotton's *History of the County of Huntingdon* recorded in the mid 17th century that: 'Botelbridge. . . here was an ancient House (Bottle signifieth an House in ye North) near the River of Nen, which ye Draitons and Lovetts bought from R. Guinels by hereditary Succession into ye family of ye Shirleis, and . . . by them aliened unto' (Sir John Cotton 1669: BL Lansdowne Ms 921. fol. 14 (Botolph Bridge)).

Paynel's or Deen's Manor

The moiety of Paynel's or Deen's (also Botolph Bridge) was probably granted by Robert de Gimeges at the end of the 12th century and was held by the service due from one-third of a knight's fee by Hugh de Boyeby. It passed to

the Paynels by marriage in the beginning of the 14th century and subsequently to the Deens in the early 15th century. Passing through several hands, it was presumably eventually purchased with the Lovet manor and held by the Pierrepoint lords of Orton Longueville manor (Page *et al.* 1974, 197).

Overton and Botolph Bridge Manor

In about 1273, Ralph de Gimeges granted a carucate of land to Peterborough Abbey which formed a small manor of Overton and Botolph Bridge. This was held by the abbot, William Ramsey, in 1495, when its hall was let to William Payne. In 1541 it was granted by the King to the Dean and Chapter of Peterborough Cathedral to hold by a yearly rent.

IV. The de Vere, Drayton and Lovet Families (Fig. 10)

In 1259, Baldwin de Drayton acquired the manor of Botolph Bridge for £120 on his marriage to Idonea, daughter of Robert de Gimeges (Berkeley Castle Muniments G/2/1/4). The Drayton family (formerly called the de Vere family) had become fairly wealthy by the 12th century, one of the most pre-eminent families in Northamptonshire, and remained important in Northamptonshire until the male line died out in the latter half of the 15th century (Fig. 10). The Drayton's estate grew through actively supporting the king and his officials and through land acquisitions, some evidently planned and some fortuitous (by marriages to heiresses; Table 1). As a result it had far greater resources than the de Gimeges family and — although Botolph Bridge was not the family's main manor — it was greatly affected by the Drayton family and its wealth, especially in the second half of the 14th century.

The family is first recorded in the Domesday Survey (1086) when Aubrey de Vere owned large tracts of land over many counties especially Essex and Cambridgeshire, as well as some land holdings in Suffolk, in Huntingdonshire, Middlesex and Northamptonshire. In all of his Essex estates, his ten Cambridgeshire estates and his four Suffolk manors, Aubrey was given the land of the

Saxon thegn, Wulfwine (Doubleday and Page 1903, 343), while the two Huntingdonshire estates of Hemingford Grey and Yelling had belonged to Ramsey Abbey before the Conquest (Page *et al.* 1932, 310 and 379). The de Vere family seems to have had some connection with the counts of Brittany (Doubleday and Page 1903, 350) and greatly benefited as a direct consequence of the Norman Conquest. In 1088 the Bishop of Coutances rebelled against William II and his lands were forfeited. Aubrey de Vere was rewarded with the Bishop's land including property at Wadenhoe, Great Addington, Islip, Lowick and Scaldwell (Adkins and Serjeantson 1970, 360). As a result of their considerable landholdings, both Aubrey de Vere and de Mandeville were described as 'lay barons' (Doubleday and Page 1903, 343).

Under Henry I, Aubrey de Vere's son, also called Aubrey (II), actively supported the King's man Ralph Basset, the great justiciar (Adkins and Serjeantson 1970, 360). Aubrey II became one of the greater tenants-in-chief by improving his fortunes when acting as an Officer of the Crown in 1133 (Master Chamberlain). His eldest son (Aubrey de Vere III) became the first Earl of Oxford who established a very powerful dynasty: this branch of the family inherited virtually all of the vast estates except a few Northamptonshire landholdings which went to his second son, Robert de Vere (Table 1). His daughter Raesia de Vere made a powerful match when she married William de Maudeville (Earl of Essex and Albermarle).

Robert spent his time as a knight, attending tournaments and other martial events. He actively backed Matilda in the English civil war and this did not count against him. It was from Robert de Vere and through children by each of his two wives that the two branches of the de Vere and Drayton family made a great impact in Northamptonshire. Robert did not inherit greatly from his father and his lands were in Northamptonshire (mainly in the Huxloe hundred): what he had he divided between the two family branches. There is little evidence that these two family branches worked together: although both sides of the family endowed St John's Hospital, Northampton, on the whole — despite living only a few miles apart — they appear to have had little contact and did not intermarry. There is no evidence that the massively wealthy Earls of

<i>Parish</i>	<i>Hundred</i>	<i>Acquired</i>	<i>Family</i>
Scaldwell	Orlingbury	1086	To De Vere, Earls of Oxford
Wadenhoe	Navisford	Aubrey de Vere 1066 and 1088	To De Vere, Earls of Oxford
Sudborough	Huxloe	1088	To the William De Vere side
Twywell	Huxloe	1088	Went to Henry Green in c.1362-4
Thrapston	Navisford	1088	To the William de Vere side
Lowick (Drayton)	Huxloe	1086 and 1088	Went to Henry Green in c.1362-4
Great Addington	Huxloe	1086 and 1088	Went to Henry Green in c.1362-4
Islip	Huxloe	1088	Went to Henry Green in c.1362-4
Slipton	Huxloe	?1088	Went to Henry Green in c.1362-4
Brigstock	Corby	?uncertain	Went to Henry Green in c.1362-4
Botolph Bridge (Hunts)	-	1259 by Baldwin Drayton (marriage)	Inherited by Ann Lovet 1479
Irthlingborough	Huxloe	1316/17 by Simon Drayton	Sold 1353 to John Pyel
Cranford St John	Huxloe	1330 by Baldwin Drayton (marriage)	Inherited by Ann Lovet 1479
Molesworth (Hunts)	-	Wife of John Drayton	Sold 1360 to Simon Simeon
Dorsington (Gloc)	-	John Drayton (marriage)	Inherited by Ann Lovet 1479
Strixton	Higham Ferrers	John Drayton (marriage)	Inherited by Ann Lovet 1479
Orton Waterville (Hunts)	-	Half fee by 1428	?Seemingly sold before 1479
South Newington (Oxon)	-	John Drayton (marriage)	Inherited by Ann Lovet 1479

Table 1 The main De Vere/Drayton land ownership, 1086–1479

Oxford assisted either of the much poorer branches of their family.

Henry de Vere was raised by his aunt Raesia and William de Maudeville. He held Drayton manor in Lowick (Nhants) along with Slipton (Huxloe hundred) from the middle of the 12th century. Henry was a judge by the end of the 12th century and he left his son Walter the two manors on his death. Sir Walter de Vere changed the second branch of the family's name to Drayton in the early 13th century; it derived from their main manorial holding — Drayton Manor, in Lowick. Sir Walter's coat of arms took the form of *Argent a cross engrailed Gules* and was completely different from the de Vere coat of arms. It is curious that a de Vere should not only drop that honoured name, but should fail to assume — as did all others of the de Vere and Mandeville connection — some variant of the de Vere family quarterly coat. In contrast the Northamptonshire de Vere family, which settled only a few miles from Drayton, had a variant of arms of the Earls of Oxford.

It was Baldwin de Drayton who acquired the Botolph Bridge manor for the family in the middle of the 13th century and he also held Drayton, Islip and Slipton. In 1278 an inquisition recorded that Baldwin of Drayton held of Robert de Gimiges 80 acres of land, seven acres of meadow and a messuage in 'Bottlebrigg'. The value of the messuage was four shillings. Fishing was worth two shillings a year, meadow four shillings an acre, and land 6d an acre. 'Freemen' paid 6s 6d, whilst the court brought in 2s tollage (by water and land) was worth 6d (CIPM 29 Jan, 6 Edward I). In 1291 John de Drayton appears to have held the same property (without the fishery or toll) for a sparrowhawk. In 1276–85 there is a record of a fishery and the right of a toll (called Thurtholl) on the River Nene. Under this toll every ship passing with merchandise paid Drayton 1/2d (Page *et al.* 1974, 197).

Botolph Bridge manor was assigned in dower to Alice, John's widow in 1293, who returned it to her son, Simon in 1318 or 1319 (Page *et al.* 1974, 196). Simon de Drayton was frequently engaged in public affairs. He served on a mission to the Abbey of Cluny in 1323 and attended the king with men at arms for service against Roger de Mortimer and other rebels in 1326, and for an exhibition to Gascony in 1331. He also represented Northamptonshire in the parliaments of 1322, 1329 and 1336 (Page 1930, 237). He was frequently appointed to judicial and administrative commissions; for example, he was appointed with others (including Henry Green his bother-in-law who was later Chief Justice) to investigate the possible misdemeanour of Thomas Lild, Bishop of Ely, as a possible accessory in the death of a servant of the bishop. The case angered the Pope and Simon Drayton was excommunicated (Bridges 1791, 249). In 1331 he was appointed forester of Brigstock and Geddington in Rockingham Forest. Despite this politicking, Simon also had good contract with his de Vere relations — he was granted the wardship of John de Vere, a minor whose father was killed at Crecy in 1346.

Simon expanded his estates. In 1316/7 a cousin, Henry de Drayton, conveyed the Bataille manor of Irthlingborough to Simon, probably in settlement (Page 1930, 208) and through marriage he brought in land at Cranford St John. Simon also seems to have improved the properties individually in at least some of his estates. In 1327, Simon Drayton obtained a grant of free warren in

four of his estates in Drayton, Islip, Lowick and Irthlingborough (Page 1930, 237). He was given licence to impark 30 acres at Drayton. He also seems to have spent a considerable amount of money on his residence at Drayton House in Lowick. The largely 14th-century building still survives and in 1328 Simon obtained licence to crenellate and built a large wall around this house. Archaeological excavations at his manorial farm at Irthlingborough demonstrate that Simon spent a great deal of money building a courtyard farm within former fields, with ancillary buildings such as a dovecote, malthouse and kitchen (Chapman *et al.* 2003).

Unfortunately Simon de Drayton also became embroiled in problems which directly and indirectly affected Botolph Bridge manor. In his earlier days he appears to have been guilty of deeds of great violence (Page 1930, 237), and had to pay a fine levied in the Common Pleas in 1321 as well as making other settlements (Hall 1967, 163). Another example of this was that Simon de Drayton and John his son, with others, were accused of the killing of John de Overton Longueville at Holborn (Midd.), but were pardoned in 1339. This murder was noted again in 1342 when the king confirmed the pardon (Page *et al.* 1974, 93). These pardons were probably settled by money and as a consequence his fortune seems to have taken a decline. In 1353 he sold off the Irthlingborough estate, despite the relatively new and costly improvements, to John Pyel (Page 1930, 208). Simon's propensity to violence did not diminish and in 1355, at the age of 73, he was indicted for the death of Sir Ralf Darcy: on 3rd May 1355 he again received the king's pardon (Page 1930, 237). In the same year, he had to pay another fine and settled lands in Brigstock and Lowick on his wife Margaret with the remainder to his grandson Baldwin (Page 1930, 237). Soon after his death in 1357 most of the remainder of his estate was sold off (see Table 1).

Margaret herself died in 1358 and the subsequent history of the Drayton estate is somewhat confusing. A dispute arose between Sir John de Drayton, Baldwin de Drayton and others including John of Whittlesey and John of Ringstead (Parson of Lowick) concerning lands, rents and woods in Lowick, Brigstock, Sudborough, Twywell and Slipton (Hall 1967). The result was that Baldwin admitted that he had made a false deed (Stopford Sackville collection (SSC)), *176 verso* at Botolph Bridge with John the Parson being the prime inventor and mover of this falseness — the forged deed was cancelled in the presence of Henry Green and all the other witnesses (Hall 1967, 166–7).

The wife of John Drayton inherited half of the Molesworth manor (Huntingdonshire) including advowson and this was sold in 1360 to Simon Simeon (Page *et al.* 1974, 93). The selling of Irthlingborough in 1353, Molesworth in 1360 and most of the other parts of the estate in *c.* 1362–4 meant that, of the former Drayton estates, only Botolph Bridge and Cranford were retained by Baldwin de Drayton (the former had been given to Baldwin by his grandfather Simon and the latter he acquired through his wife). All the other land went to Henry Green, the Chief Justice who was married to Simon's sister Catherine. It is uncertain whether this sale of the estate by John to Henry Green was a result of the obvious bitterness with his son Baldwin or whether the family simply required money. Some of the records of the

estates sold off to Henry Green survive in the Northamptonshire Record Office (within the SSC), but due to limited time these have not been analysed in any detail for the purposes of this report and the issue remains uncertain. Unfortunately, this collection does not contain any of the Botolph Bridge records.

The false deed noted above demonstrates that Baldwin had maintained Botolph Bridge and probably visited it regularly. It is uncertain whether Botolph Bridge or Cranford St John was his principal manor but it is possible that both held equal status. The considerable improvements to the Botolph Bridge estate demonstrated by the excavations (Chapter 3) can be dated to the later half of the 14th century and may reflect a concentration of Drayton resources.

The Drayton family began to regain some of their former wealth through marriages (Table 1). John's son Baldwin married Alice de Prayers which brought the manors of Dorsington (Gloc.) and Strixton (Northants) to the Drayton family. Baldwin's grandson John married Anne, daughter and coheir of Robert de Cranford of South Newington (Oxon). The difference was that while the former Drayton land in the first half of the 14th century was almost entirely concentrated in or adjacent to the Huxloe hundred of Northamptonshire, the new acquisitions were over a far larger area and therefore more difficult to manage. At one stage John Drayton in 1428 was recorded as answering for half a fee in Orton Waterville (adjacent parish to Botolph Bridge) but it is uncertain whether this included the Peterborough manor (Page *et al.* 1974, 199) and it is possible that the purchasing of this land signified that the Draytons were trying to establish new lands around their holding at Botolph Bridge. The Orton Waterville land was not recorded in the land belonging to Thomas Lovet at the end of the 15th century (see below) and must therefore have been sold before then.

In the 15th century, members of the Drayton family died notably young (the last two male Draytons, for instance both inherited as minors with the latter dying aged 27): this must have created problems with managing the diverse estate. In 1456 William Drayton had to obtain a pardon from Edward IV after a death in Orton Longueville: William was described as: 'William Drayton of South Newton in co. Oxon, esquire ... alias William Drayton, late (*nuper*) of Botolph Bridge' (Page *et al.* 1974, 196). He was buried in Botolph Bridge church. The last of the direct male line ended with the death of Richard in 1479 and the estates of Botolph Bridge, Dorsington, South Newington, Cranford St John and Strixton passed to his sister, Anne, who was married to Thomas Lovet of Astwell. These estates were recorded on Thomas's death in 1492 (CIPM Hen. VII, I, nos. 749–51, 753).

The Lovets originated from Ruston (Northants) in the 12th century. Thomas (IV) Lovet married Anne Drayton and he acquired Astwell by exchange in 1471 (Leicester Record Office 2D53/646). Astwell became his main manor and remained so for the family for the next 100 years. Apart from Cranford, which was sold in 1550 to Thomas Goodfellow (Page 1930, 190), the Lovets held on to all the manors in the Drayton legacy until the end of the 16th century when Jane, daughter and heir of Thomas Lovet of Astell, married John (II) Shirley. The decline of Botolph Bridge and the abandonment of the manorial farm seems to have taken place in the 16th century when

the Lovets held the manor. In the hundred years of Lovet ownership, Botolph Bridge was only a minor part of the Lovet's estate and was presumably run as an absentee holding.

George Shirley, son of John Shirley, inherited the estates in 1587 and the indenture of his lands are recorded (Leicester Record Office 26D53/2573). George married Frances, daughter of Henry Lord Berkeley and was created baronet in 1611. Sir Thomas Shirley, who held the manor prior to sequestration by the Commonwealth in the mid 17th century, was an antiquarian. In the writ issued against Sir Thomas Shirley, recorded by Cotton in 1669, he is again referred to as of Bottlebridge. There follows a copy of a Latin document of writ (in the time of Charles I) against Sir Thomas Shirley, which includes references to a messuage, a cottage, garden, orchard, pasture, arable, communal pasture and also *jumper* (*jampnum* meaning furze or gorse) and *bruier* (*brueria* meaning heath). Unfortunately the ink from the other side of the folio has leaked and blurred the entry considerably making transcription extremely difficult. Cotton then adds that 'The place where the ancient house was is now converted into a Woad (?the spelling is 'woad' but whether the meaning is woad or wood is uncertain) ground Anno 1669. And the chapel near adjoining is gone to decay.' . . . 'In a window in the Chapell are still to be seen two coats' (Sir John Cotton 1669: BL Lansdowne Ms 921. fol. 14 (Botolph Bridge)). Cotton notes that 'This place, as many others, may shew unto men the variations and mutabilities of all earthly Structures'. Sir Thomas' estates were sequestered under the Commonwealth as he was a royalist sympathiser. The Shirleys alienated the manor, but its history has not been traced, until it appears among the property of the Pierrepoints and from that time it has belonged to the lords of Orton Longueville manor (Page *et al.* 1974, 196–7).

V. Manorial Court Rolls 1661-1686

The surviving sequence of manorial rolls is useful since it provides an insight into events at Botolph Bridge in the period immediately after the abandonment of the manor. The rolls (Leet and Baron) survive for the combined courts of Orton Longueville (usually 'Orton') and Botolph (usually Bottle) Bridge from c.1662–1686 as part of the Egerton collection of Thoresby papers. These papers relate to the period when the manor was combined with Orton Longueville. Although the courts appear to be combined, each year a single constable is appointed for each of the manors/parishes. If it is assumed that the constable for Botolph Bridge lived in Botolph Bridge then the resultant list of names includes the following: Butcher, Feyes, Kisle (Kasle?), Hogyard and Wildbore. Butcher appears more than once, but may refer to several members of the same family. In addition, the following individuals were considered to be from 'Bottle Bridge' as they are listed as such when their names are presented as liable for fines at court: Clark, King (the minister) and Wild.

An examination of both the rules of the manor and the presentments made for transgressing of these reveals several aspects of the mid to late 17th-century economy. These include an emphasis on both pasture and arable; the presence of substantial 'furze' common and common grazing areas including Cow Commons and Horse Commons (as part of manorial rights); geese being kept on

grazing land; regulation of access to the fields after cropping; scouring of ditches; and possible evidence for people taking in sheep from the townspeople for grazing (this was technically not allowed). In addition, there is evidence for at least one dovecote. In 1663 the Minister of Bottlebridge (Simon King) was presented for killing the pigeons, whilst in 1683 Elizabeth Blackwell was presented for building a pigeon house (a right normally exclusive to the manor holder).

There is no evidence within these records of a bridge, or reference to upkeep of any crossing ways. This would suggest that between the map of 1604 and the manorial records of 1662 onwards, any crossing that might have existed in 1604 had fallen out of use.

VI. Churches

The church of All Saints, Botolph Bridge, is mentioned in the Domesday Survey (1086), and the church, with a priest, was attached to the king's manor. The advowson passed to the Gimeges family, with the manor, who in 1224 granted it to the Knights Templars. The Templars received a pension of 5 marks from the rectory until themselves passing the advowson to the Knights of St John of Jerusalem after 1311. The order were recorded as still receiving an annual pension from the holding at the time of the dissolution of the monasteries.

Evidence from the rebuilding of Orton Longueville church (which was carried out using material from All Saints), indicates that the church of All Saints may have been partially rebuilt or extended in the 14th century. A will refers to a request for burial within the church in 1465, when William de Drayton gave his best horse in return for burial in All Saints' Church (PCC 10. Godyn). A further will refers to the bells of the church in 1540 (HRO: Arch.

Hunts. Wills vol VI f118). The church may have been accessed from a route leading north from the Oundle Road, possibly along the boundary marked by hedges on the 1808 Earl of Aboyne Estate Map and the 1st Edition OS map.

Some time between 1597 and 1599 the advowson was purchased from the crown by Sir William Reyner, and combined with the patronage of Orton Longueville (Page *et al.* 1974, 197–198). Rectors are recorded from 1241 onwards and from 1663 the rectors were the same for both churches. The church appears to have fallen from use in the late 17th century, and was demolished between 1675 and 1695. Permission was granted by the Bishops of Lincoln for material from All Saints to be used to repair (and enlarge) Holy Trinity Church, Orton Longueville (Page *et al.* 1974, 193 and 197–198).

Registers survive for Holy Trinity Church (Botolph Bridge) from 1556–1696 (February) indicating that the church was still active, although there is a gap in the marriage registers from 1677 to 1695. The registers indicate a fairly small settlement with under ten baptisms or weddings in a year, sometimes less than five. However this is similar to the adjoining parish of Orton Longueville. There appears to have been an active (if very small) settlement up to the period when the parishes were united.

From 1625 until 1670 there are records of testators to probate Inventories who are recorded as being of Botolph Bridge, as opposed to Orton Longueville with Botolph Bridge. These include Kingston, Mary, 1625; Tarry, Richard, 1642; Goodyer (widow), 1667/70; Joyce, Robert, 1670; Ladson, Samuel, 1703; Lewing, Solomon, 1718. By 1693 several also refer to Orton Longueville with Botolph Bridge (CRO Hunts AH various). Only two professions are given (other than widow) and these are labourers.

Chapter 3. The Archaeological Sequence

by Paul Spoerry and Rob Atkins

I. Roman and Earlier

The Main Site (Areas A–D)

The small quantity of residual prehistoric flint artefacts and pottery sherds recovered indicates early activity in close proximity to the excavations. A scatter of Roman period features was present alongside significant quantities of residual pottery (4.23kg, or 478 sherds), coins and other finds. Other work in the area by the NVRC (detailed in Chapter 1.III) confirms that Roman occupation lay close by.

The NVRC House Site

The earliest feature found during the 1987 excavation to the east of the main trenches was a ditch containing a single sherd of Roman pottery (Ditch 86, Fig. 23) that pre-dated Late Saxon remains. Another 286 Roman sherds of pottery (2.8kg) were present as residual material in later contexts.

II. Period 1: Middle to Late Saxon (c.700–c.900)

Summary

Although early dating was not forthcoming, it appears probable that the main route across the site (Route 1) was already in existence at this time, perhaps having been created during the Roman period (see Chapter 1.III). While it does not appear to have influenced the alignment of Early and Middle Saxon remains, the presence of this routeway running down to the ford was probably a strong attractive force that resulted in settlement developing here rather than elsewhere above the river.

To the north of the track, a long and complex, yet fragmentary, sequence of features lay in the centre of Area D/E, a location that was to become the manorial site. ‘Islands’ of surviving remains existed here, where in later centuries the presence of ‘lumps’ of stone wall foundations or stone hearths provided protection from agricultural and horticultural agencies or even from quarrying. Initial settlement saw a group of timber buildings set within a network of curvilinear ditches (Fig. 11), some of which may indicate the position of former tracks. The main focus appears to have been a hall (Building 1), which was to continue in use into the subsequent period. Occasional pits and possible wells were scattered across the site. No remains of this date were found in the southern part of the main excavations (Area A), nor at the NVRC House Site.

Dating Framework

Amongst the features attributed to this period are some which contained only Early to Middle Saxon pottery, alongside other undated but stratigraphically early features of similar character or alignment that, for the most part, yielded only small amounts of later material. This phase therefore includes some features with small

numbers of Late Saxon sherds in their backfills, suggesting that they spanned the transition from the Middle to Late Saxon periods during the latter part of the 9th century and perhaps into the 10th century. Although it is possible that some features were in fact a century or two older than others, there is insufficient datable material to subdivide these remains further.

The Pre-Manorial Site (Areas D/E and C)

(Figs 11–14)

Buildings

Hall (Building 1)

The NVRC excavation at the Manor Site (Area D/E) recorded a classic Anglo-Saxon ‘hall’ structure in the centre of the main trench (Building 1, Figs 11 and 12). This survived as a rectangular post-built structure with three of its sides within the excavation area, although it continued into the western baulk of the 1987 excavation. The recorded portion was 10m long and around 5m wide, the postholes along the shorter eastern side being noticeably more closely set. The postholes were largely between 0.25 and 0.4m in diameter, with an average depth of 0.15m. Several displayed postpipes 0.15m in diameter. The position of the postholes on the longer sides might suggest a doorway positioned at the north-eastern corner of the structure, where there was a 2.2m wide gap, but it is perhaps more likely that this space represents a ‘lost’ shallow posthole, since the more common plan of these structures has opposed entrances in the centre of the longer sides. The detailed plan of the Botolph Bridge building (Fig. 12) does suggest this to be the case, with two opposed pairs of postholes on each long side set more widely apart at around 1.5m separation. In both cases the eastern posthole of the pair is larger and might represent a double post or heavier member supporting a doorway.

If Building 1 conformed to the regular two-square plan either side of the opposed doorway, then it would originally have been 11.3m long. The layout of several internal postholes implies possible sub-divisions and/or roof supports, although if the latter suggestion is correct this would be in addition to the primary support derived from the wall uprights: with the roof load being entirely supported on the walls, such a post is not needed in the normal form of this type of building. It is therefore possible that this represents a revision of the building, perhaps a propping up of old roof timbers, and this would be consistent with the very long lifespan (from Period 1 to 2.1) that is suggested for this structure. One shallow, central pit may have been the base of a hearth but no associated burning was recorded.

Only six of the building’s postholes provided dating in the form of seven abraded pottery sherds: three contained a single Roman sherd each, two had a total of three Middle Saxon sherds and one other yielded a single Late Saxon sherd.

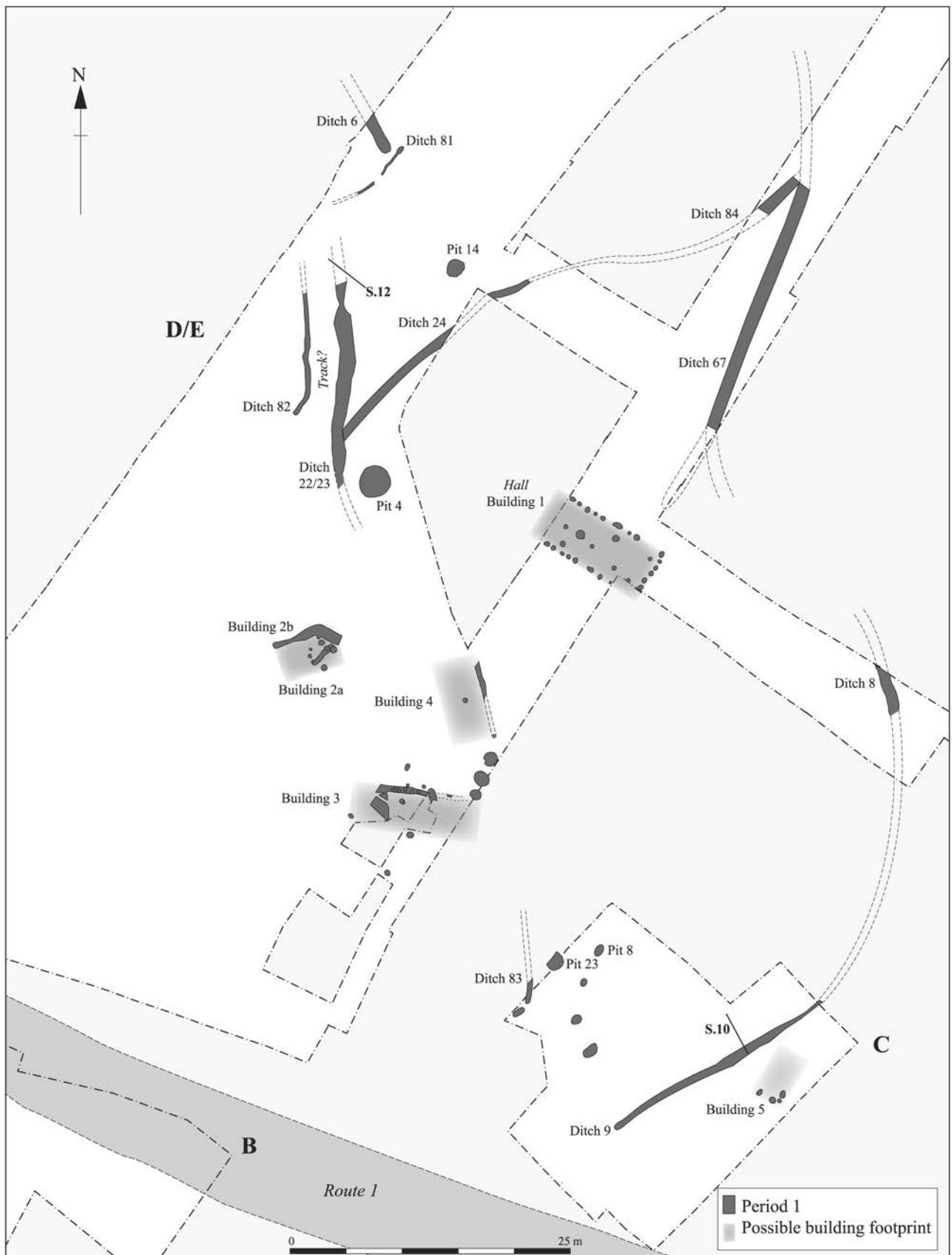


Figure 11 Phase plan: Period 1 (c. 700–c. 900). Scale 1:500

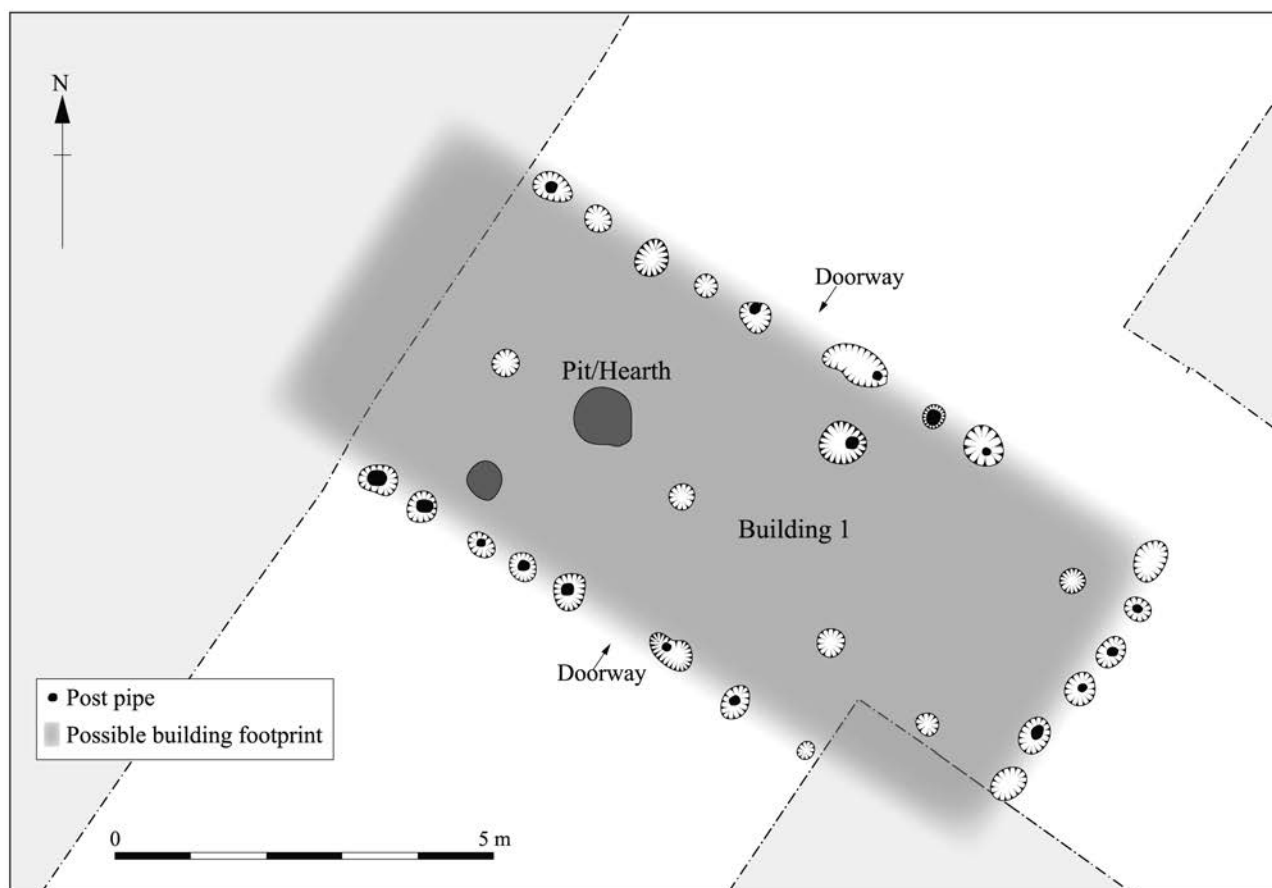


Figure 12 Period 1: Building 1, Area D/E. Scale 1:100

Post-built Structure (Building 2a)

Another structure lay 25m to the south-west of Building 1 (Figs 11 and 13), to which it was similar insofar as it was clearly an incomplete group of seven postholes, representing the first of several phases of timber buildings in this location. It is fortunate that any of these remains survived, having been preserved beneath a surviving 'lump' of the late medieval stone buildings in contrast to the severe truncation otherwise present all around. The postholes of its initial phase (Building 2a) survived as a scatter of postholes, perhaps in two rows.

Post-built (sill-beam?) Structure (Building 2b)

Building 2a was eventually superseded by a structure (Building 2b, Fig. 13) that included a beamslot 2.5m long, 0.65m wide and 0.21m deep, with a flat base. Adjacent to this and to the west, on a roughly similar alignment, lay a wider and loosely L-shaped beamslot or drainage gully. It survived over a distance of *c.* 6m and to a depth of 0.2m with a flat base. Again, this very partial building plan was preserved by virtue of the presence of later stone building remains above. No dating evidence was recovered from Building 2b, although it clearly related to an early phase as it was post-dated by Late Saxon features on differing alignments.

Post-in-slot Structure (Building 3)

In the southern part of the NVRC excavation area lay a remnant of a post-in-slot structure (Building 3, Figs 11 and 13), which may represent part of a domestic building.

An east to west orientated beamslot ran for more than 4m, following which it had been removed for a distance of *c.* 1.8m before appearing briefly again between two later ditches. It was a maximum of 0.46m wide and just 0.10m deep. Four postholes, some with post-pipes, were cut through the slot and two small hollows were uncovered at either end which may indicate additional postholes. One Roman sherd, three Early to Middle Saxon hand-made sherds and a piece of Late Saxon Stamford ware were recovered from the fills of the postholes which, despite the presence of the latter piece, have been attributed to this earlier phase. A short section of a possible ditch or gully interrupted the central part of the wall-line and might represent part of a doorway and/or an internal wall. To the south of the surviving wall-line lay three further postholes, one of which had been recut. One of these larger postholes contained a hand-made Saxon sherd. All of these isolated features might constitute part of this structure but no clarity of form can be discerned. Although dense later activity had removed all other parts of this structure it is likely that it was a domestic building of the later part of the Middle Saxon period, when post-in-slot foundations were quite common.

Also dating to this phase was a part-excavated rectangular cut feature that lay immediately adjacent and to the south of the principal beamslot of Building 3 (Fig. 13). This undated feature was unlike the more amorphous pits containing later material that were located close by and has therefore been grouped in this early phase. Its

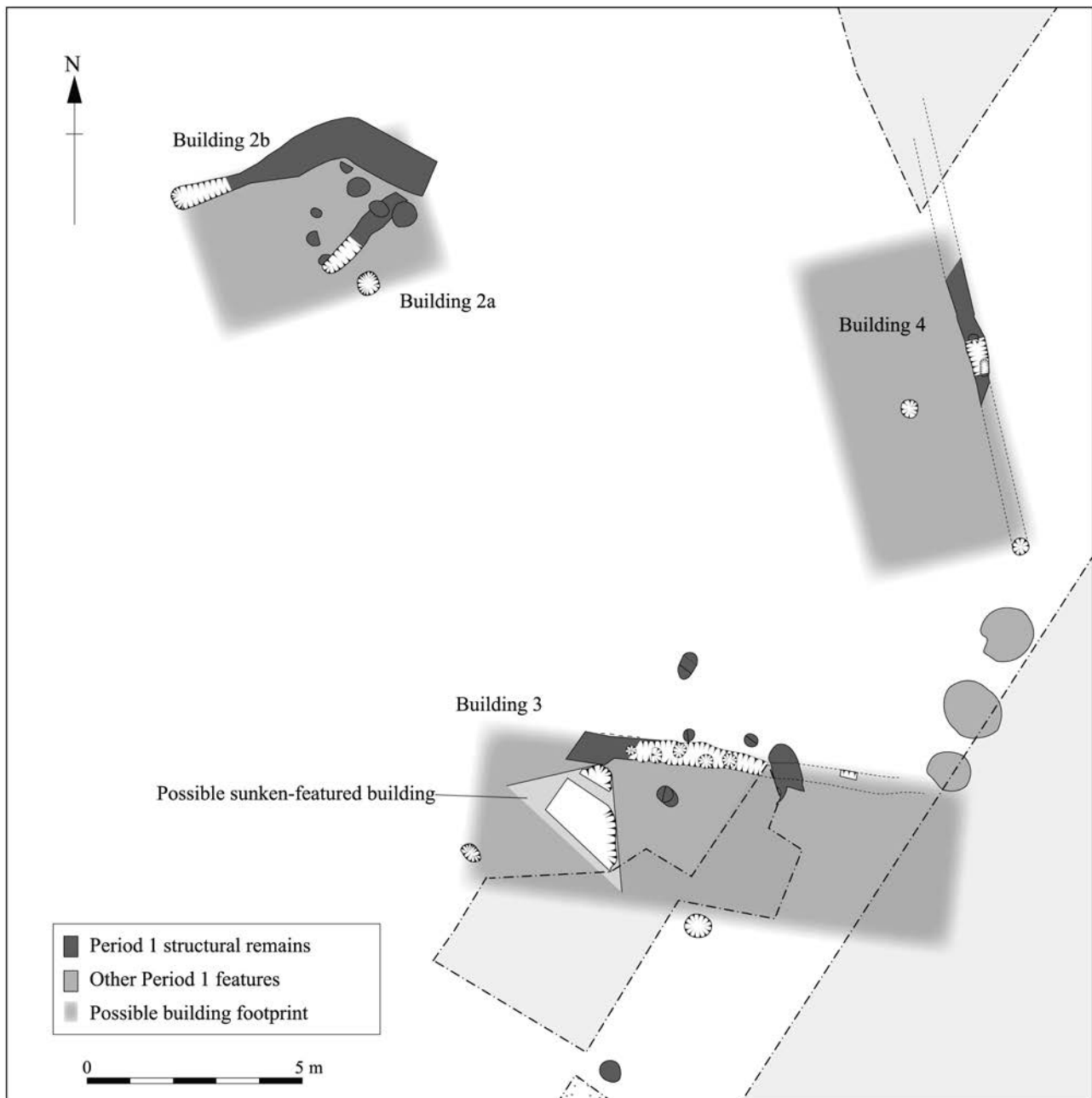


Figure 13 Period 1: Buildings 2–4, Area D/E. Scale 1:150

shape might suggest that it represented the corner of a sunken-featured building.

Post-in-slot Structure (Building 4)

Just to the north-east of Building 3 lay the remnants of another similar post-in-slot structure (Building 4, Fig. 13). The remains of a posthole and an elongated post setting lay within a slot with a maximum width of 0.48m, whilst to the west lay another discrete posthole. No dating evidence was recovered from this group of features but they were similar in form to Building 3 and have therefore been included in this phase. Again they were heavily truncated by later activity on wholly different alignments.

Possible Associated Structural Remains

A group of three circular pits (or possibly large postholes) lay between Buildings 3 and 4 (Fig. 13). They have been

attributed to this phase as a result of the presence of sherds of Early to Middle Saxon pottery alongside residual Roman material. The three features were all shallow with slightly rounded bases. Two were cut by later postholes.

Post-built Structure (Building 5)

In the southern part of the settlement (Area C) lay another possible building (Building 5, Fig. 11), which took the form of a small group of five postholes covering an area of c.9m x 6m. These were almost certainly part of a larger structure that lay beneath later remains, in close proximity to the two pits dated to this phase. The postholes were up to 0.60m in diameter and survived to a maximum of 0.20m deep but, other than a possible north to south long axis, no clear shape to the structure could be discerned.

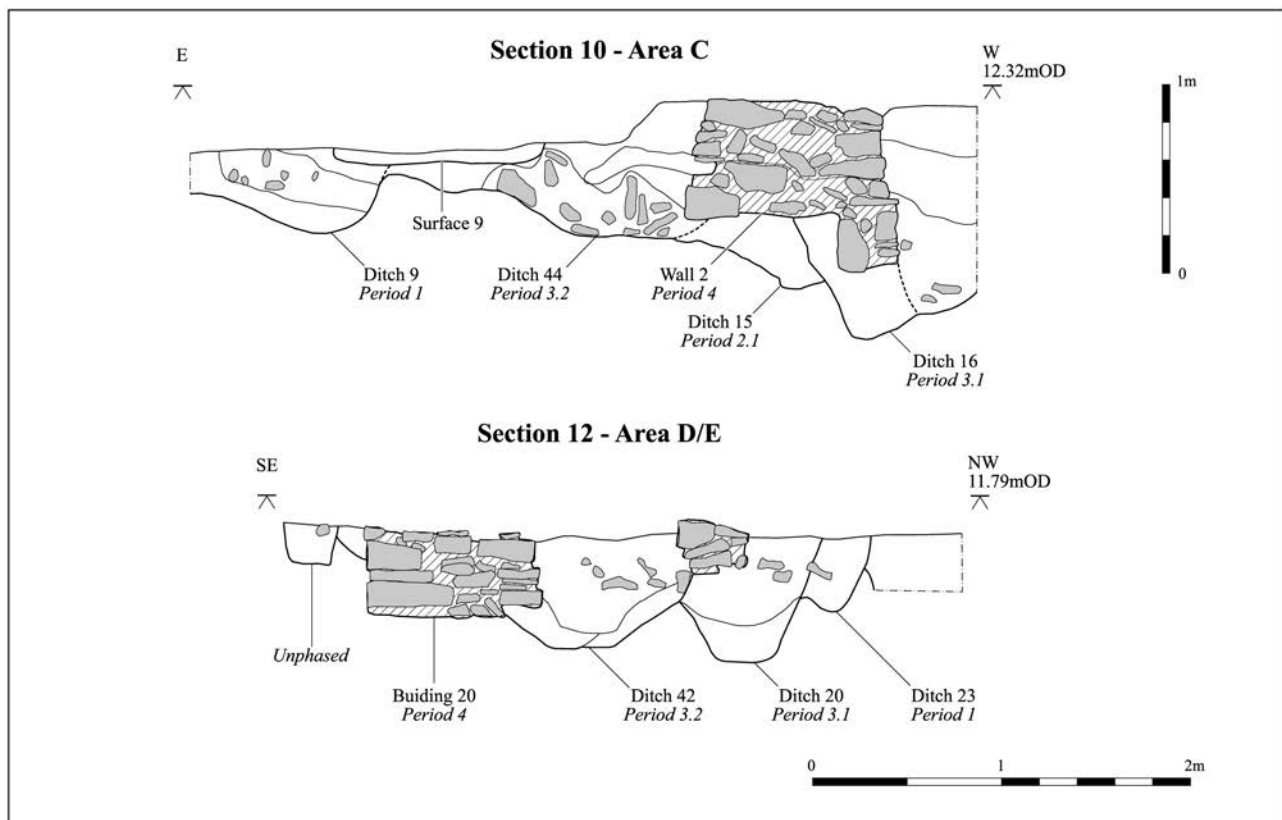


Figure 14 Sections 10 and 12 (located on Fig. 11). Scale 1:40

Pits and Other Features

To the north-west of Building 1, a large pit (Pit 4) may have served as a well, cut into the clay sub-soil. It was 2m in diameter and 0.93m deep with steep sides. Plant remains from its fills include wetland species such as yellow water lily and ragged robin. Its upper fill contained Late Saxon pottery, but this deposit was probably confused with the subsequent long hearth sequence of that date which occupied the same position in a later phase. A second possible well (Pit 14) further north may also have been in use at this stage.

Other features datable to this period include two pits recorded in Area C (Fig. 11). Pit 8 was sub-circular in plan, measuring up to 1.12m in diameter and 0.17m deep. Pottery with mica and igneous rock inclusions suggesting a Middle Saxon date was recovered from its fill of pale grey brown clay/sand/silt containing frequent gravel. Pit 23 was oval in plan, measuring more than 1m across and 0.19m deep. It contained a sterile lower fill and a shallow upper fill that produced twelve sherds of vegetable-tempered Saxon pottery, a type that is not common locally until the 6th century. These pits were accompanied by four other pits in Area C that contained no datable material and with an absence of later remains in close proximity, it seems appropriate to group all of these discrete features in this phase.

Ditches

Associated with these structures and pits were several ditches representing parts of contemporary enclosures and possibly also trackways (Fig. 11). The ditches assigned to Period 1 have some shared features, being often sinuous, devoid of finds and not aligned with the

later rather ordinal arrangements. It is possible that they represent parts of more than one phase of landscape division, but due to the limitations of the evidence they have been included here as a single group.

Furthest to the east, Ditch 8 was only recorded in one short section in the NVRC trench but it appeared to be sinuous, running generally north-north-west to south-south-east, and around 0.9m in width. A recut of the ditch (Ditch 9) extended southwards into Area C and was 1.08m wide and 0.43m deep (Fig. 14, Section 10). It was filled with a sequence of deposits ranging from olive brown silty clay to a dark yellowish brown silty clay. Its fills appeared to have been 'pushed in' or otherwise deposited from the east. A possible cultivation soil survived adjacent to and east of this ditch, extending over an area of more than 3m²; this comprised a 0.25m thick mid brown very silty sand with very occasional limestone fragments (not illustrated). North-west of the probable southern end of Ditch 9 lay another similar, undated terminus (Ditch 83) that might represent the southern end of an enclosure linking with Building 1 and, perhaps, Building 4.

To the north-east of Building 1, another ditch (Ditch 67) was traced for a distance of 30m and was V-shaped in profile, measuring c.0.70m wide and 0.40m deep. No finds were recorded from its fills. The kink observable as it ran under the western baulk of the NVRC trench may match up with a similar kink in Ditch 8 and it is just possible that they represent two parts of one much more sinuous ditch. Alternatively Ditch 67 might have terminated close to Building 1. This ditch, which ran southwards from the north-eastern end of Ditch 84 (see below), was straighter than most of the other ditches assigned to this phase. It was 1.55m wide and 0.4m deep

with rounded sides and a flattish base and it contained two fills for part of its length.

Around 20m to the west of Building 1 lay three undated ditches that have been placed in this phase on the basis of their stratigraphic relationships and from the absence of finds from more productive periods. Ditches 22 and 23 might represent replacements of each other, being aligned together and close-set. Along with Ditch 24 they described a forked shape with its 'tines' pointing northwards, although Ditch 24 appeared to be cut by Ditch 22 at least and may therefore represent part of an earlier sub-phase of these enclosure arrangements. The ditches were between 1.08 and 1.50m wide and 0.30 and 0.56m deep and were filled with single deposits which varied from light brown or olive grey to dark greyish brown clay silts or silty clay (Fig. 14, Section 12). The ditches were undated, although a sample from Ditch 22 notably produced nearly 1,000 cereal seeds, generally consisting of free-threshing wheat as well as some other cereals and wild species.

Ditch 24, that formed the eastern 'tine' of the fork-shape, was traced running in a north-easterly direction for around 7m, with a probable continuation seen in the NVRC trench (Ditch 84). The latter was around 1.3m wide and 0.35m deep with rounded sides and a slightly flattened base. It contained one fill and appeared to be cut by Ditch 67, which might place it in an earlier sub-phase alongside Ditch 24. A further unexcavated, narrow ditch (Ditch 82) was recorded in plan running parallel with Ditches 22 and 23 but around 2.5m to the north-west — its proximity to the other ditches may suggest the presence of a track.

The most northerly ditch (Ditch 6) butt-ended adjacent to a sinuous shallow gully punctuated by contemporary postholes (Ditch 81). This feature was 0.35m wide, 0.08m deep with sloping sides, a flat bottom and a yellowish brown silty clay fill. The associated postholes produced no datable finds, however, the central posthole contained a clear postpipe. Ditch 6 was 1.05m wide and 0.5m deep with sloping sides and a flat base, on which lay fragments of limestone. It contained two fills; a shallow lower fill associated with the limestone and a deep upper fill from which one Late Saxon sherd was recovered. This sherd is taken to relate to the later use of the feature that is otherwise grouped in Period 1.

III. Period 2: Late Saxon to Saxo-Norman (c.1000–c.1200)

Summary

During the Late Saxon period the settlement at Botolph Bridge experienced a major planning episode. Almost everything that had previously existed appears to have been swept away and replaced, with the exception of one major structure. The putative hall (Building 1) seems to have survived as it exerted a powerful influence, not only on the shape of the new property constructed around it, but on the alignment of the new settlement as a whole. Figure 15 shows Building 1 positioned within the new boundary system, and it is clear that its presence in part explains these arrangements. The presence of one Late Saxon sherd in an excavated posthole may also suggest longevity of use for this building.

The Late Saxon re-ordering of the settlement (Period 2.1) was orientated with the hollow way (Route 1), with

four comparatively regular properties laid out to the north, fronting onto a newly created track (Route 2a). Building 1 was incorporated within Plot 2, the second property to the north, which was itself linked to Plot 1. The second phase during the Late Saxon period (Period 2.2) saw a revision of some parts of the settlement, but with the general plan of the individual properties retained. The inter-property boundary system experienced maintenance through partial recutting, whilst the proto-manorial enclosure in Plot 1 was revised to accommodate a large new hall (Building 9).

Dating Framework

Artefactual dating of features attributed to this phase is almost entirely based on the presence of pottery sherds. The bulk of the Eastern English Late Saxon pottery assemblage constitutes three key wares: St Neots type ware, Thetford type ware and Stamford ware. The former two are generic 'types' made at several production centres in differing locations, using specific raw materials and technology, coupled with a set of vessel types and decorative traits to deliver the recognisable 'tradition' or ware. Stamford ware, as far as is currently known, was made at one centre only, with white-firing clays of limited availability and utilising glaze technology that was clearly not understood by others in England at that time. All three types appeared during the later part of the 9th century and all were manufactured well into the 12th century, often with little change in technology and form during the intervening 300 years. At Botolph Bridge some Period 1 features include a small number of sherds from these wares, suggesting a dating bracket that may have ended in c.875 for that phase, although on balance a date of c.900 appears more likely.

Although fully Late Saxon remains can be quite easily dated through the presence of contemporary pottery, fine dating within the period is often much more problematic, relying on small stylistic changes that are not usually observable in small fragments. Fine dating is therefore reliant on, for example, a few clear stylistic changes in the Stamford ware, or St Neots type ware, when present. At Botolph Bridge only a very few sherds of these fabrics were classifiable as 9th- to 10th-century types and, where datable, the pottery was usually indicative of the 11th to 12th centuries. During the 11th century the regional pottery assemblage was supplemented by Early Medieval ware (EMW), a much looser generic type, of which modest quantities exist here. Also by the 12th century Developed St Neots type ware forms are present; in some cases these are found in combination with a related, but different, fabric type that constitutes Shelly ware (SHW), known in Northamptonshire as Lyveden A ware in the later 12th century (Blinkhorn 2009), and which evolved from St Neots type products. Hard dating for any of these changes is not available — the process was gradual or incremental and those changes necessary for some vessels to be classified as SHW may have been underway before 1100. Period 2.1 features at Botolph Bridge usually include the original triumvirate of Late Saxon pottery types, but in some cases EMW and SHW are also present. Many features were clearly infilled later during this timeframe but there is scant evidence for activity during the 10th century. It is therefore appropriate to suggest a later date-range for this sub-period of perhaps c.1000–1150. This introduces a gap of a century or more

between Periods 1 and 2.1, but it is difficult to see how the evidence can be otherwise interpreted.

During the mid-12th century the ceramic assemblages came to be more dominated by developed St Neots type ware and Shelly ware (SHW) and these existed alongside examples of the other wares until the appearance of new fabrics, mostly in the 13th century. Many Period 2.2 assemblages include quantities of EMW and/or SHW alongside the earlier types, thus broadly placing this sub-period in the later 12th century. This could otherwise be called a Saxo-Norman phase, but it has been included in Period 2 to emphasise the continuity between the remains represented here.

At Botolph Bridge, Late Saxon pottery (not including SHW) is the second most common period group, with 24.5kg being present, emphasising the importance of the deposition of material relating to occupation at this time.

Period 2.1: A Planned Settlement (c.1000–c.1150)

Routeways

(Figs 15 and 18)

Hollow Way (Route 1)

By the Late Saxon period, this route was perhaps already a hollow way along part of its length, since by this time it was already ancient. The initial archaeological evidence for its presence took the form of the earliest cut of the northern flanking ditch (Ditch 17). Visible only in section (Fig. 18, Sections 14 and 15), this first ditch seems to have dated to this period and was perhaps aligned with the inter-property boundaries established to the north at this time (see below). This large feature was perhaps around 4m wide but little more than 1m in depth. Artefactual evidence from the fills of later recuts suggests that this first phase was infilled after c.1150. Ditch 17 appears, from earthwork evidence and from its absence from Area C, to have ended between the excavation areas which would therefore have maintained open access to both Plot 1/Enclosure 1, and to the new trackway (Route 2a).

Although it seems likely that the hollow way was surfaced in this period, none of the original metalling survived as it had been regularly resurfaced throughout its use until the post-medieval period. The southern flanking ditch appears to relate to this phase (Ditch 14, Fig. 18, Section 3), having been repeatedly cut by later roadside ditches. The initial ditch was more than 1.25m wide and 0.51m deep and its single fill contained pottery dating to the Late Saxon period, with one later sherd that may represent contamination from later recutting.

Trackway (Route 2a)

A second possible routeway was established in this period and, if this interpretation is correct, it was positioned roughly at right angles to Route 1 and perhaps provided frontage for newly established properties. Route 2a was delimited on its western side by Ditch 65=8 and on its eastern side by Ditch 15. The latter was only observed as a number of part-sections and fragments, with no dating evidence provided; nonetheless, it seems clear that this boundary, that was repeatedly re-stated over the following centuries, had its origins at this time. Few dimensions were recoverable, but it evidently turned a corner to the west at its southern end, and following this it probably butt-ended, permitting access to the main track (Route 1).

The western ditch (Ditch 65=8) was sampled within Area C and the NVRC excavations and ran for at least 45m before butt-ending to the south-west. It became less substantial towards the butt end, being 2.2m wide and up to 1.0m deep in the NVRC excavation (Fig. 19, Section 28) and 1.8m wide and 0.55m deep in Area C. In some of the recorded sections there was extensive evidence of weathering. Redeposited natural, a very clean and sterile orange brown sandy silt, had been washed in on both sides of the ditch, implying that it had been left open for some period before finally being backfilled. The two uppermost fills were a grey brown and a dark grey brown silty sand. Both slots excavated in Area C produced sherds of Late Saxon pottery and amongst the animal bones recovered were eight grass snake bones. Two environmental samples from the ditch produced cereal grains, dominated by wheat, as well as wetland species indicative of waterlogging. The section recorded in the NVRC trench produced a large assemblage of more than 200 sherds of Late Saxon pottery, alongside a few sherds of EMW (of 11th- to 12th-century date) and a tiny amount of SHW that is usually dated after 1150; it seems probable that this feature remained partially open into the following phase of activity. This assemblage clearly indicates deposition from Late Saxon domestic activity located close by, perhaps from within the property associated with Building 1 immediately to the north. This ditch was evidently left open for some considerable time, its final backfilling perhaps occurring in the later 12th century.

The surface of the track was recorded in the NVRC trench, where a minor 'bank' (*i.e.* the remnant of cambered surfaces) was recorded as surviving up to 0.30m high between the ditches (Fig. 19, Section 28), consisting of mid to light brown loam, sealing the natural subsoil. This layer yielded three sherds of pottery dating to c.1050–c.1200. The earthworks recorded in this location in the 1980s may relate in part to this feature, although their shape as planned (as shown on, for example, on Fig. 25) partially crossed Route 2a and thus this association has not been shown in the plan for Period 2.1.

The Proto-Manorial Property (Area D/E and C) (Figs 15–19, Plates VII–IX)

PLOT 1

Property Boundaries

The first parcel of land to the north of the hollow way (Plot 1) was wider, at 41m, than those further to the north, and was interrupted by the presence of Enclosure 1 that incorporated its frontage onto the adjacent track (Route 2a, Figs 15 and 16). In addition the northern plot boundary (Ditch 3) was an incomplete barrier providing access to Plot 2. Arguably these two properties, and Enclosure 1, were one large unit, perhaps representing the primary property of the settlement — the proto-manorial unit.

Ditch 3 was recut twice in subsequent phases (Ditches 58/59; Fig. 18, Section 5; Plates VII and VIII), but this initial phase was far larger than either of the recuts with a slack-sided U-shaped profile, measuring up to 3.63m wide and 0.89m deep. It contained a sequence of five fills, all producing 11th- to mid 12th-century pottery alongside a small amount of shelly pottery (SHW) that first appears around 1150, suggesting a slightly later date for its final infilling. Along with a small quantity of animal bone, two



Plate VII Ditch 3 (Period 2.1), with fills of its recuts (Ditches 58 and 59) clearly visible and containing redeposited hearth material, viewed from the east

environmental samples suggest that cereal grain was also thrown into the first phase of the ditch, although the presence of spelt wheat indicates a degree of residuality. Again, the presence of wetland species suggests wet conditions.

Post and Beamslot Structure (Building 6a)

A new building (Building 6a) was positioned approximately where Building 2 had lain in the previous phase (Fig. 17). This structure and its rebuilds (Buildings 6b and c) represent a sequence of timber building foundations, both postholes and beamslots, positioned on the general site of the demolished Building 2, but with a new alignment and specific wall positions that were

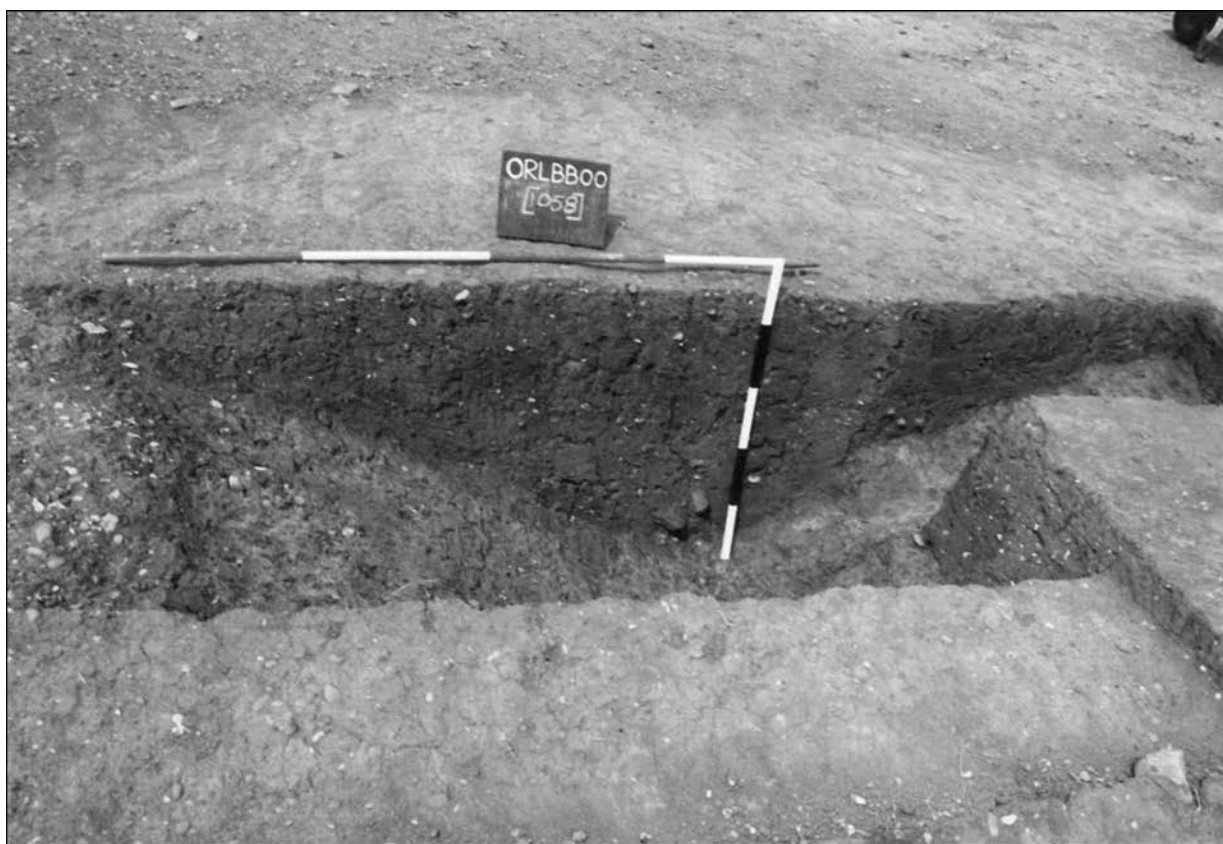


Plate VIII Ditch 3 (Period 2.1) and, just visible, its recuts. Viewed from the west

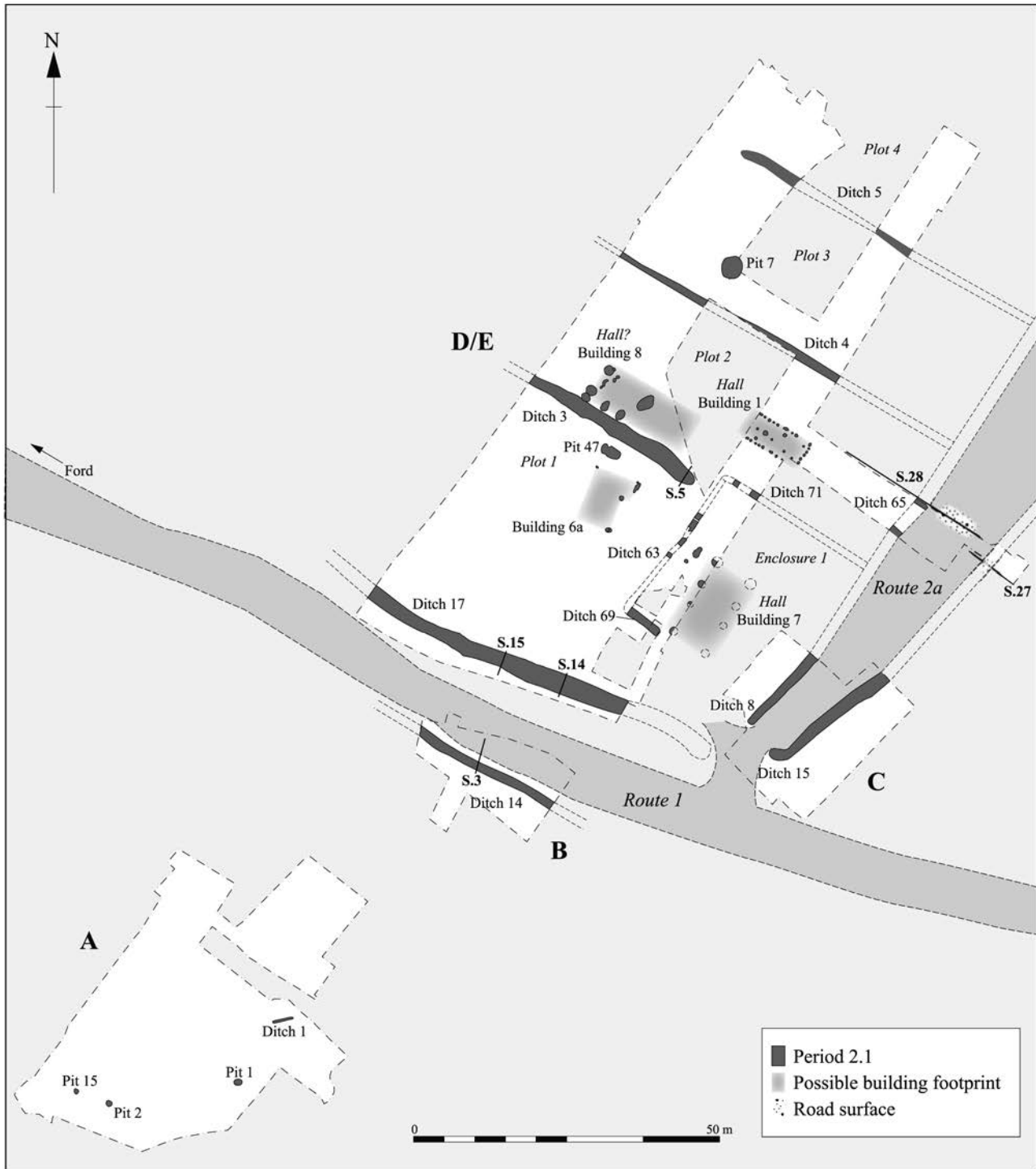


Figure 15 Phase plan: Period 2.1 (c.1000–c.1150). Scale 1:1000

maintained over several rebuilds and which was ultimately also used for Building 19 (a later ‘replacement’ in stone at foundation level).

The first version of this building is shown in Figs 15 and 16, with the structural evolution over several phases in Fig. 17. Its surviving remains included a beamslot (1263) terminating at its northern end with a posthole (1152). South-west of these lay a group of three large postholes, that might have been interpreted as pits had their fills contained any evidence of refuse disposal or organic material. These postholes were intercutting and clearly not contemporary, and thus only the earliest (1089) has

been included in Building 6a. The following two postholes in this sequence were successively repositioned further eastwards, showing a ‘drift’ in the rebuilding of this structure. The position of each of these three postholes can perhaps be interpreted as representing part of a cross-wall. Around 5.5m further south lay another posthole (1308), interpreted as the south-eastern corner of the building. This posthole was initially wide (0.75m) and shallow, but it contained the dark fill of a post-pipe that was 0.5m across and lay in a recut, possibly deriving from the post’s removal, that was much deeper. Little more of this structure had survived. The western wall was only

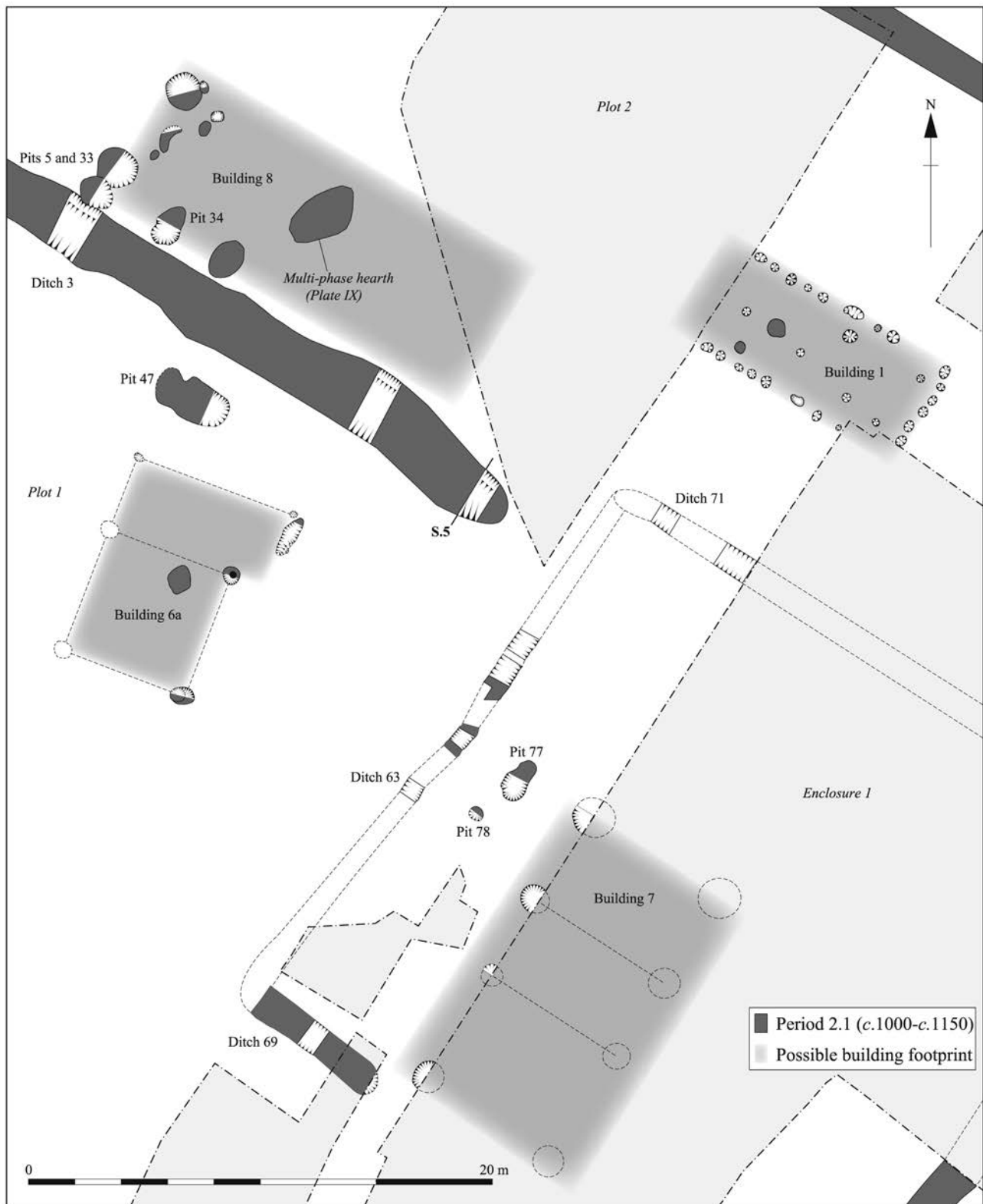


Figure 16 Period 2.1: Buildings 1, 6a, 7 and 8 and related enclosures, Area D/E. Scale 1:250

represented by a single posthole (1146) that may have been paired with 1152 in the eastern wall. Within its plan only feature 1113 was perhaps contemporary, this being perhaps the base of a storage pit, since there was no evidence for burning to suggest it was a hearth base. With such a partial view of the remains it is impossible to know exactly what type of building this was, however, the

remains suggest it was of some considerable size and it may therefore have been a primary dwelling house.

Immediately north of Building 6a was a bi-lobate pit (Pit 47, Fig. 16) that was perhaps 2m across but only 0.3m deep and which contained a single fill that produced an assemblage of Late Saxon pottery. This pit was probably contemporary with the building.

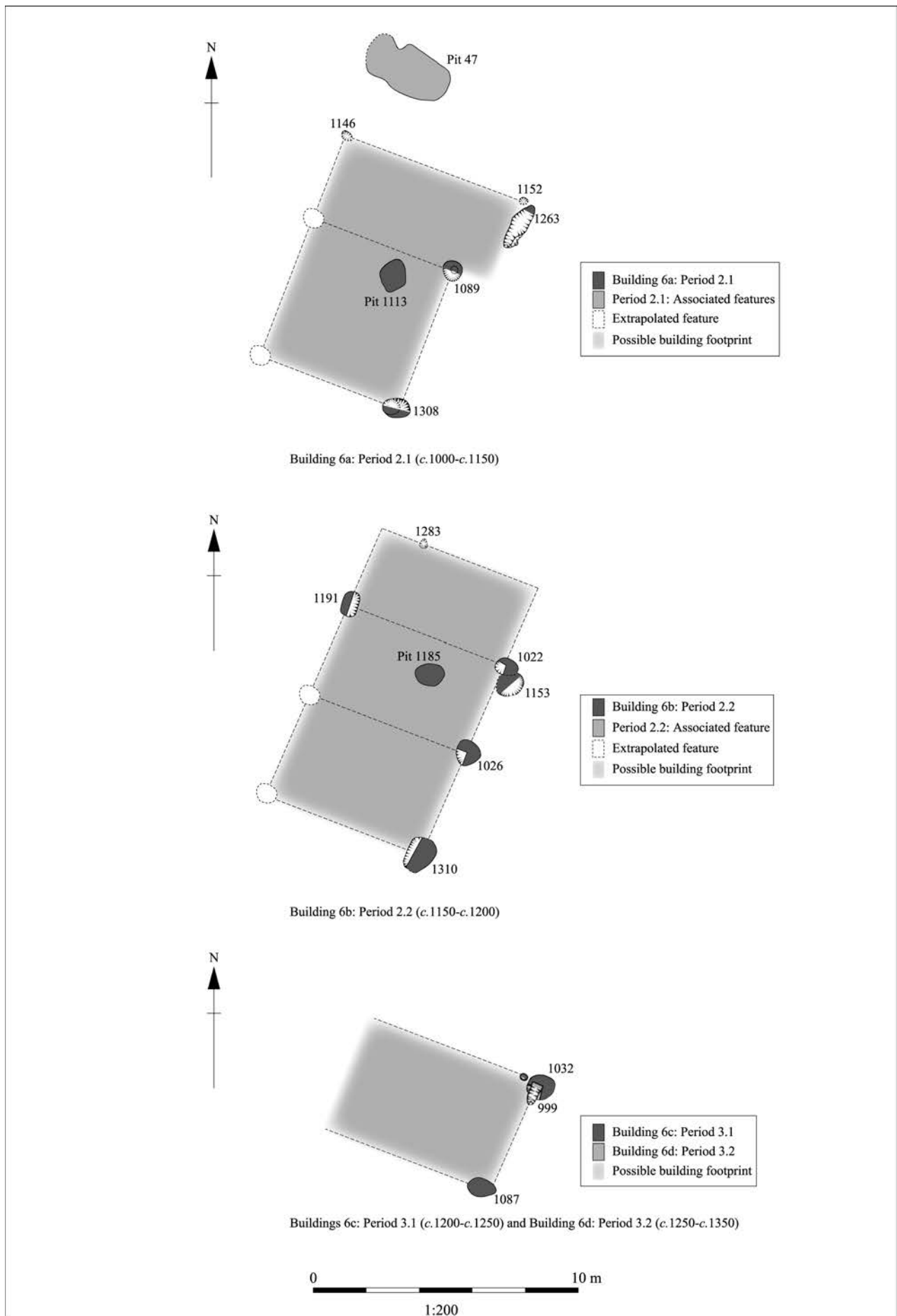


Figure 17 Periods 2.1–3.1: Building 6a, b and c, Area D/E. Scale 1:200

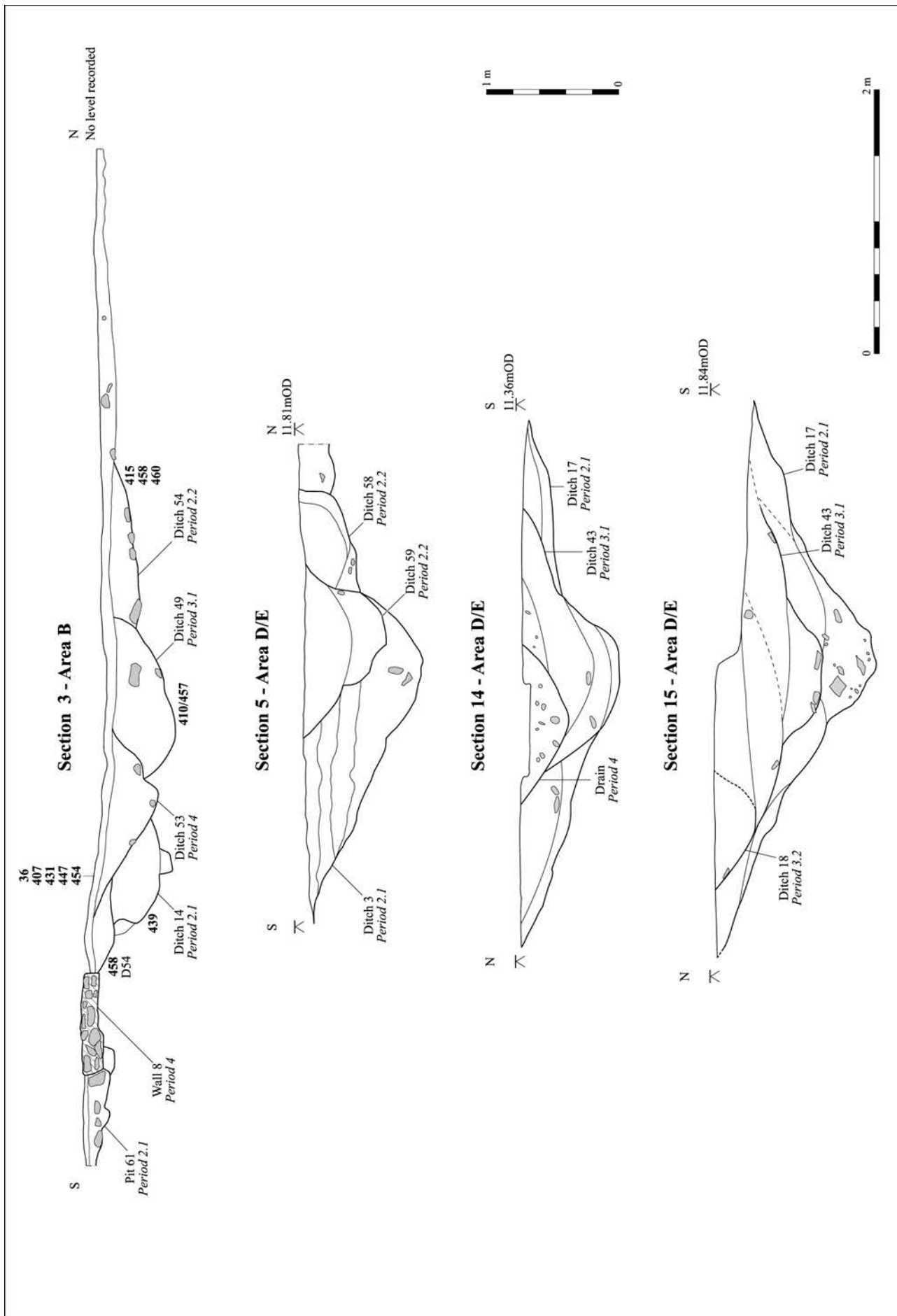


Figure 18 Sections 3, 5, 14 and 15 (located on Fig. 15). Scale 1:40

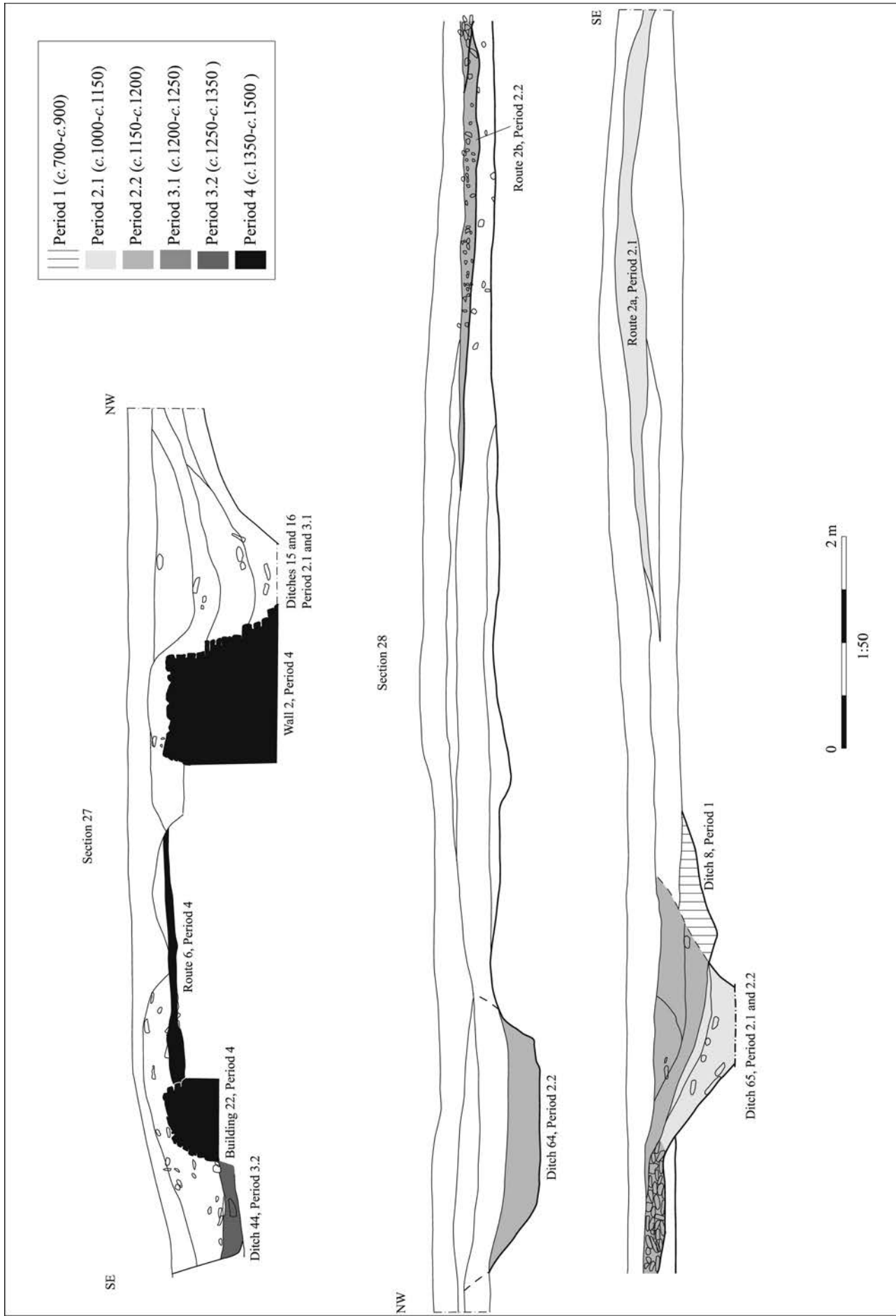


Figure 19 Sections 27 and 28, across Routeways 2a, 2b and 6, with associated boundaries and Building 22 (located on Fig. 15). Scale 1:50

Enclosure 1

Enclosure 1 incorporated the frontage area of Plot 1, being bounded on its eastern (frontage) side by Ditch 65=8 (Fig. 15). Its northern edge was formed by a 1.2m wide ditch (Ditch 71) seen in the NVRC trench but not fully investigated, that completed the slightly staggered boundary with Plot 2. Its western boundary was formed by Ditch 63 and its southern side was only part-enclosed by Ditch 69 (Figs 15–16). Ditch 63 was slightly sinuous, and was recorded over a length of 19m — it has been reconstructed as joining with Ditch 69 at its southern end, with several sections or part-sections being drawn during the NVRC excavations. Although quite variable in its morphology, in general terms the NVRC excavation recorded it as flat bottomed and V-shaped, measuring c.0.70m wide and 0.40m deep. Its fills contained eleven sherds of Late Saxon pottery. Ditch 69 itself was 1.3m wide and very shallow at 0.3m, with a slightly rounded base. It produced no finds.

Post-built Structure (Building 7)

A substantial structure (Building 7) lay within, and was aligned with, Enclosure 1 and clearly sat at its southern opening, close to the terminal of Ditch 69. Its ground plan has been reconstructed from four postholes that might represent exactly half of its original earthfast foundations (Fig. 16), but there are problems in interpreting its form (see Chapter 6.VIII), meaning that it is perhaps safer to view its location and presence as significant, while its actual form remains inconclusive. Taken at face value, the evidence suggests that the building possessed four pairs of posts. Incomplete 1980s records indicate that the postholes ranged in size from ‘at least’ 0.7m wide to 1.5m wide and all were shallow at around 0.25m deep, at least two having flat bases. Each contained a single fill, and three produced Late Saxon sherds. If the postholes represent posts that sat within the original line of walls constructed from perhaps wattle and daub, then the building would have been 14m long. The common variations in Anglo-Saxon hall dimensions might give it a width of 6m or more in that case, but this building possessed widely-spaced posts that cannot be taken as indicative of the normal wall-post, or primitive, structure. The proximity of the end of Ditch 69 suggests that the side walls would not have lain more than 1m outside of the aisle posts, giving a width for the building of perhaps 5m or more, and its length in that case might have been more than 16m.

Immediately to the north-west of Building 7 lay a posthole (Pit 78) containing one slightly gritty clay-rich fill, and another larger post pit (Pit 77) with a mid-brown/orange-flecked clay-rich fill that included several burnt stones, deemed by the excavator to have been deposited there in that condition as post-packing. Both features contained Late Saxon pottery; however, with such small assemblages from smaller features, dating is unavoidably imprecise, meaning that they may have existed in the subsequent phase. These features suggest the presence of fences or ancillary structural members adjacent to Building 7.

PLOT 2

Property Boundaries

The northern boundary of Plot 2 comprised another ditch (Ditch 4, Fig. 15) and in the subsequent phase its recut (Ditch 2). The initial ditch was more than 1.75m wide and survived to between 0.68m and 0.95m deep: it contained five fills which yielded few finds. Taken at face value, this might suggest limited occupation in Plot 2 during this phase although the presence of two buildings in the plot at this time, albeit positioned towards its southern boundary, belies the evidence from this artefactually poor northern boundary ditch, as does the large pottery assemblage recovered from the property’s frontage ditch (Ditch 65 in the NVRC trench). Nonetheless it is probably reasonable to suggest the relative emptiness of Plots 3 and 4 to the north at this time as an explanation for a lack of cultural material in these fills.

Hall (Building 1)

Building 1 is believed to have survived from its Middle Saxon origins into the Late Saxon period and its presence clearly influenced the enclosures created around it, although this general alignment may in fact have originated in the course of the hollow way (Route 1).

Post-built Structure (Building 8)

The presence of another building (Building 8) is inferred from the presence of a long sequence of hearth deposits that existed to the west of Building 1 during the Late Saxon period (Fig. 16 and Plate IX). The preserving effect of the latest hearth stones, which inhibited truncation through agriculture, meant that an island of stratigraphy had survived here, whereas much of the evidence for the building’s wall lines had disappeared. The position of the hearth perhaps implies a central point for a hall type structure. A few pits or large postholes that lay some 8m to the west of the hearth might conceivably represent a western ‘end’ wall of this structure or, alternatively, they represent pits aligned with, and immediately outside of, the building’s wall. Two of these pits were intercutting and shallow (Pits 5 and 33) and were infilled with deposits containing a small amount of pottery dating after 1150; this probably post-dates their use as the later of the two was in turn cut by Ditch 58 (Period 2.2). To the north were another shallow circular pit and a small number of postholes that might have been associated with internal elements of this building. The southern wall line may be partially represented by a shallow feature containing Late Saxon pottery (Pit 34) and another similarly sized and aligned, but unexcavated, pit a little to the east. Alternatively, again, these pits might have sat outside of a wall line for which no direct evidence survives. The entire eastern half of the structure had been lost. A significant quantity of fish bone was recovered from the remnants of this building, dominated by herring.

The initial phase of the hearth (Plate IX) constituted a succession of two undated clay layers in a shallow depression. These were later truncated by a 1m wide and 0.35m deep cut that was filled with a sequence of three clay-rich layers containing a high proportion of charcoal. A second possible cut 0.18m deep and at least 0.5m wide was then filled with two further silty clay layers containing burnt material and ash. This was followed by another hearth cut 0.3m deep and 0.7m wide which

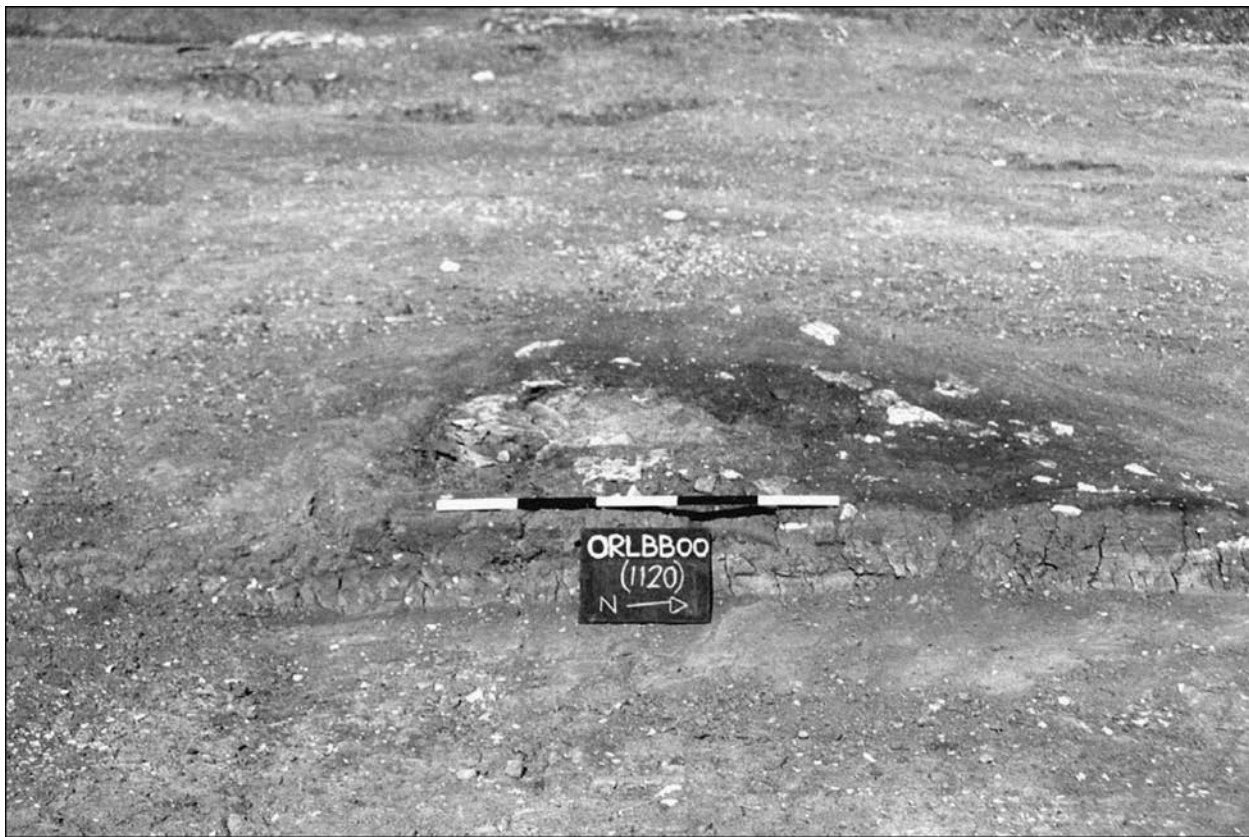


Plate IX Multi-phase hearth within Building 8 (Period 2.1), showing the severe truncation in the surrounding area. Looking west (Area D/E)

contained three clay-rich layers that were again also very ashy and included much charcoal. From the uppermost of these three deposits, a few Roman sherds and nine sherds of Late Saxon pottery were recovered. This layer was sealed by a 0.9m wide circular layer of burnt hearth stones (limestone and flint to 0.24m) set in baked clay. This last, and most complete, phase of the hearth was undated.

Given the lack of evidence, the building's dimensions can only be approximately reconstructed. The admittedly limited evidence suggests that Building 8 was a domestic structure of earthfast post construction, and/or perhaps with posts on postpads (later truncated), probably with a centrally located hearth. A building of dimensions of around 19m x 8m has been suggested on Fig. 16. It is possible that this building replaced Building 1 as the principal dwelling in what became Plot 2 of the Late Saxon planned settlement, although the two clearly co-existed during this phase.

PLOTS 3 and 4

Parts of two further properties were found within the main excavation area and the overlapping 1987 NVRC trench (Fig. 15). The inter-plot boundary (Ditch 5) provided a width for Plot 3 that, at 26m, was almost identical to that of Plot 2, implying a common origin. These properties continued eastwards for more than 40m, taking them beyond the excavation area where they perhaps ended at a frontage on Route 2a. Ditch 5 was 1.43m wide and 0.52m deep with no obvious recut. Its fills contained few finds but pottery suggested a Late Saxon date. A possible well (Pit 7) within Plot 3 had been backfilled with a series of deposits ranging from yellowish brown silty clay to dark grey silty clay. Finds included animal bone and a possibly

intrusive lead offcut which may have been trimmed from flashing or roofing.

Although most of the frontage areas of Plots 3 and 4 were barely investigated, it seems likely that these properties were not densely occupied or well-used at this time. As is the case with settlement planning elsewhere, the laying out of the plots at Botolph Bridge might have been in part speculative, with the 'best' positions (the proto-manorial complex in Plots 1 and 2) quickly filled, but others remaining relatively unused, whatever the hopes or expectations of the creators.

The Southern Area (Area A)

(Fig. 15)

Very little Late Saxon activity occurred in the southern part of the site (Area A). That recorded comprised only a single truncated stretch of ditch (Ditch 1), and three pits (Pits 1, 2 and 15). These were a maximum of 1.50m in diameter and 0.50m deep. One example contained a small quantity (0.286kg) of smithy hearth bottom, while environmental samples taken from the ditch and another pit contained cereal crop remains suggestive of waste from domestic hearths.

The NVRC House Site

Although no remains were assigned to this phase in this trench, in its southern part lay a keyhole-shaped oven that may date to this period, since it yielded Late Saxon pottery. This feature is, however, discussed in the following phase since an association with the adjacent building (Building 11, Period 2.2) appears likely.

Period 2.2: Revision and Restatement (c.1150–c.1200)

Routeways (Fig. 20)

Hollow Way (Route 1)

The primary route was again maintained during this period, with only the southern ditch being recut, this time as a very wide and quite shallow feature (Ditch 54, Fig. 20). This was up to 4m wide and only 0.4m deep and may represent a general grading down of the trackway on its southern side, rather than a formal ditch recut (Fig. 18, Section 3). By way of contrast, the northern flanking ditch (Ditch 17) was allowed to continue to silt up, a process which was complete by the end of this period. It seems likely that this feature was a far less significant barrier than it had been previously, its eastern end being infilled sufficiently to permit passage of a new track (Route 2b) which lay to the west of its predecessor.

Trackway (Route 2b)

Interpretation of the evolution of the two minor tracks (Routes 2a and 2b) which led off the main hollow way has proved difficult, since the partial nature of the plan evidence offers many possible interpretations. The one favoured here sees the northern part of the western flanking ditch of Route 2a (Ditch 65, Fig. 20) maintained as the eastern ditch of Route 2b, with a new ditch (Ditch 64) being introduced on its other side, giving an internal width of 10.7m. This latter ditch was perhaps placed so as to encompass Building 7 on its western side. Ditch 65 has been described in the previous phase and it is clear that the history of its infilling differs from north to south, with that portion recorded in Area C (Ditch 8) going out of use earlier than that part further to the north. This has been represented in Fig. 20. Ditch 64 has been extrapolated to continue almost as far as the hollow way (Route 1), but the exact arrangements here to provide access to Route 2b and also to allow entrance to Plot 1 and Enclosures 2 and 3, are not known.

The western ditch (Ditch 64) was slightly larger than its partner at up to 2.75m wide and more than 0.65m deep. It was filled with a single deposit containing Saxo-Norman and later pottery. The backfill of Ditch 65, which may by now have reduced in width, contained a large quantity of pottery (232 sherds), all of which pre-dates c.1200.

Between the two ditches, the surface of Route 2b was recorded as a compacted stony lens of mixed pebbles, ranging from large gravel to small grits: this deposit was 4.2m wide and 0.15m thick at its centre. Overlying this to the east and perhaps sealing some fills of Ditch 65 was a 1.8m wide band of limestone fragments laid on the eastern lip of Ditch 65 in the NVRC trench (Fig. 19, Section 28). The limestone pieces were between two and three layers thick, with the individual fragments measuring 0.15m by 0.10m and 0.03m deep. This may represent a former boundary wall (although no others are known from this phase) or a secondary partial re-surfacing of the route.

The Proto-Manorial Property (Areas D/E and C) (Figs 20–22)

PLOT 1

Enclosures 2 and 3

The southernmost plot (Plot 1) adjacent to the hollow way was redefined in this phase to incorporate a new enclosure surrounding a major new construction, Building 9 (Figs 20 and 21). The previous arrangement that probably saw Plot 1 extending eastwards to form a frontage on Route 2a was revised, so that Route 1 merged into the entrance onto the newly defined Route 2b. The exact arrangement is again hard to determine, however, what is clear is that the introduction of Enclosure 2 interrupted whatever frontage arrangements had previously existed. Enclosure 2 was demarcated on its southern side by Ditch 60, found during the 1987 excavations. The ditch was only 0.65m wide and 0.18m deep and was filled with mid brown sandy clay containing pottery pre-dating 1150. This ditch did not extend the full depth of the property, instead terminating near a new structure (Building 10) and a very large tree throw from a tree that was probably in existence as a mature specimen throughout the medieval period. To the west of the tree, quarrying had removed most evidence for any previous continuation of the ditch.

Ditch 60 was seen in the NVRC excavations to turn an approximate right angle at its eastern end, and merge with a more substantial boundary feature (Ditch 61). This was investigated at eleven positions where, for the most part, it intersected with earlier and later features. It ran in a slightly curving line northwards for around 32m. At its southern end it was up to 1.2m wide and 0.9m deep, with a U-shaped profile, although the 1980s records did not usually fully differentiate its cut and fills in relation to those of adjacent features. Where recorded it had two fills. The upper deposit infilled much of the feature and was described as a gritty grey-brown loam containing much charcoal and variable amounts of gravel. The lower fill was described similarly, but it contained less gravel and was at most 0.25m deep. Not all of the finds recovered from this feature were in fact attributed to it contextually, but where they were, the small assemblage has Roman, Middle Saxon and Late Saxon sherds and nothing later. Ditch 61 narrowed significantly towards its northern end, although this was probably in part due to increased truncation. Its position was clearly designed to replace the former frontage arrangements in Plot 1, to demarcate the position of Building 9, and to funnel movement between Plots 1 and 2. It is also probable that Ditch 61's position was deliberately designed to separate the newly demarcated space around Building 9 from that around the existing structure (Building 7), which the evidence suggests must have been maintained at least into the initial part of this phase. Ditches 60 and 61 thus defined Enclosure 2, whilst Ditch 61, along with the putative extension southwards of Ditch 64, also defined Enclosure 3.

The boundary between Plots 1 and 2 was also revised at this time. Ditch 3 was replaced by Ditch 59, itself at least in part recut by Ditch 58 during the same period (Plates VII and VIII). The new ditches were up to 1.7m wide and up to 0.62m deep, both producing large assemblages of Late Saxon pottery with almost no later material. Some of this may well have been residual material derived from their precursor (Ditch 3), or from the dumping of 'old'

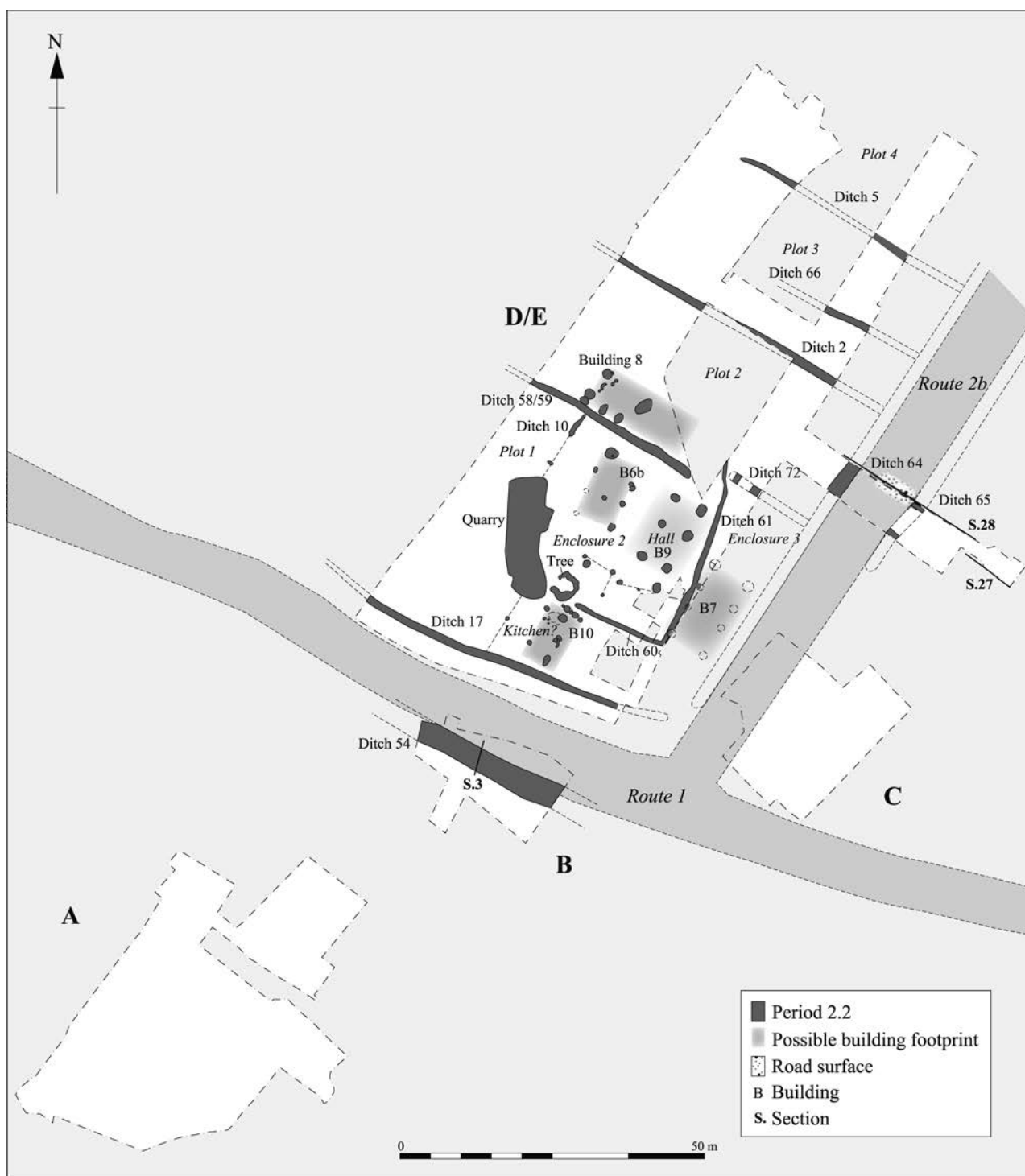


Figure 20 Phase plan: Period 2.2 (c.1150–c.1200). Scale 1:1000

occupation debris in these ditches following demolition in either Plot 1 or Plot 2; however, it is also possible that both Ditches 58 and 59 were cut prior to c.AD1100. As well as pottery, the fills of the recuts contained a whetstone and a possible rubbing stone. As in the previous phase these ditches were interrupted to provide free access between Plots 1 and 2, but in this phase the gap was slightly wider at around 8m, and it opened on to the north end wall of Building 9. In the eastern part of Plots 1 and 2 the inter-plot boundary was formed in this phase by Ditch 72, replacing Ditch 71. The new feature was slightly wider at c.1.4m, but no detail of its profile was recorded and,

although a rounded butt-end adjacent to Ditch 61 is postulated, this was not confirmed through excavation.

The rear boundary of the area of occupation in Plot 1 at this time may be suggested by the presence of another ditch (Ditch 10) placed at right angles to the northern plot boundary (Ditch 58/59) which it clearly respected, but cutting the infilled original boundary feature (Ditch 3). This minor ditch was 0.50m wide and 0.24m deep and was filled with an olive brown silty clay containing 10th- to mid 12th-century pottery. A recut posthole c.5m to the south aligned with Ditch 10 and probably represents a

continuation of this boundary. The two features together clearly aligned with the corner of a quarry.

Quarry

An extensive area of quarrying ran across most of the highest ground in the western part of Plot 1 and evidently had a long period of use; fills from various of its hand-dug elements typically produced a mixture of pottery dating from the 11th to 13th centuries. It may well have started out as more piecemeal and casual extractive efforts, aimed at recovering gravels at the top of the natural sequence; the quarries here were typically only up to 0.5m deep and they clearly 'avoided' natural lumps of clay, following adjacent 'seams' of good gravel. The presence of limestone at greater depth seems to have been a more significant draw in later centuries, but no evidence was recorded for the quarrying of limestone in this location during the medieval period. The quarrying was clearly sufficiently incompatible with the domestic occupation adjacent that fences were probably erected dividing the two.

Aisled Timber Structure (Building 9)

Within the eastern part of this plot lay a probable rectangular building (Building 9, Figs 20 and 21), with its longitudinal axis roughly parallel to Route 2b. The evidence for this building consisted of two parallel sets of three post-pits. These six postholes described an area 12m long and 9.75m wide, representing three pairs of posts once joined by trusses defining a two-bayed timber-framed structure.

The six postholes were all sub-circular in plan measuring between 0.95m and 1.60m in diameter, with steep to vertical sides and a maximum depth of 0.50m. All of the features contained frequent pebbles, chalk and stone inclusions, accounting for up to 50% of the fills. No post-pipes were observed, although one post pit contained frequent charcoal flecks in the upper part of its fill. All of the fills consisted of dark brown to very dark greyish brown clayey silt. One post-pit was undated while the others contained a total of 88 sherds of, mostly, Late Saxon pottery alongside a few sherds of post-1150 Shelly ware. The two long walls of this structure were excavated in each of the two fieldwork campaigns and the slight irregularity in alignment evident in Fig. 21 may therefore be attributable to recording error (although, based on the existing plan, it would still have been possible for the posts to have been placed so that they aligned, albeit not centrally within the post pit). Nonetheless this is clearly an imposing set of foundations to a building of significant proportions. Further discussion for the parallels and context for Building 9 is given in Chapter 6.VIII.

Post-built Structure (Building 6b)

The partial foundation plan defined as Building 6a appears to have been replaced by a rebuild in a very similar position (Fig. 17). The revision of the most southerly posthole saw posthole 1310 replace 1308 in a new position slightly to the north and east. Aligned with this to form part of the east wall were further posts (1026, 1153 and its replacement 1022). Opposite the northernmost post was another posthole (1191) representing its pair on the west

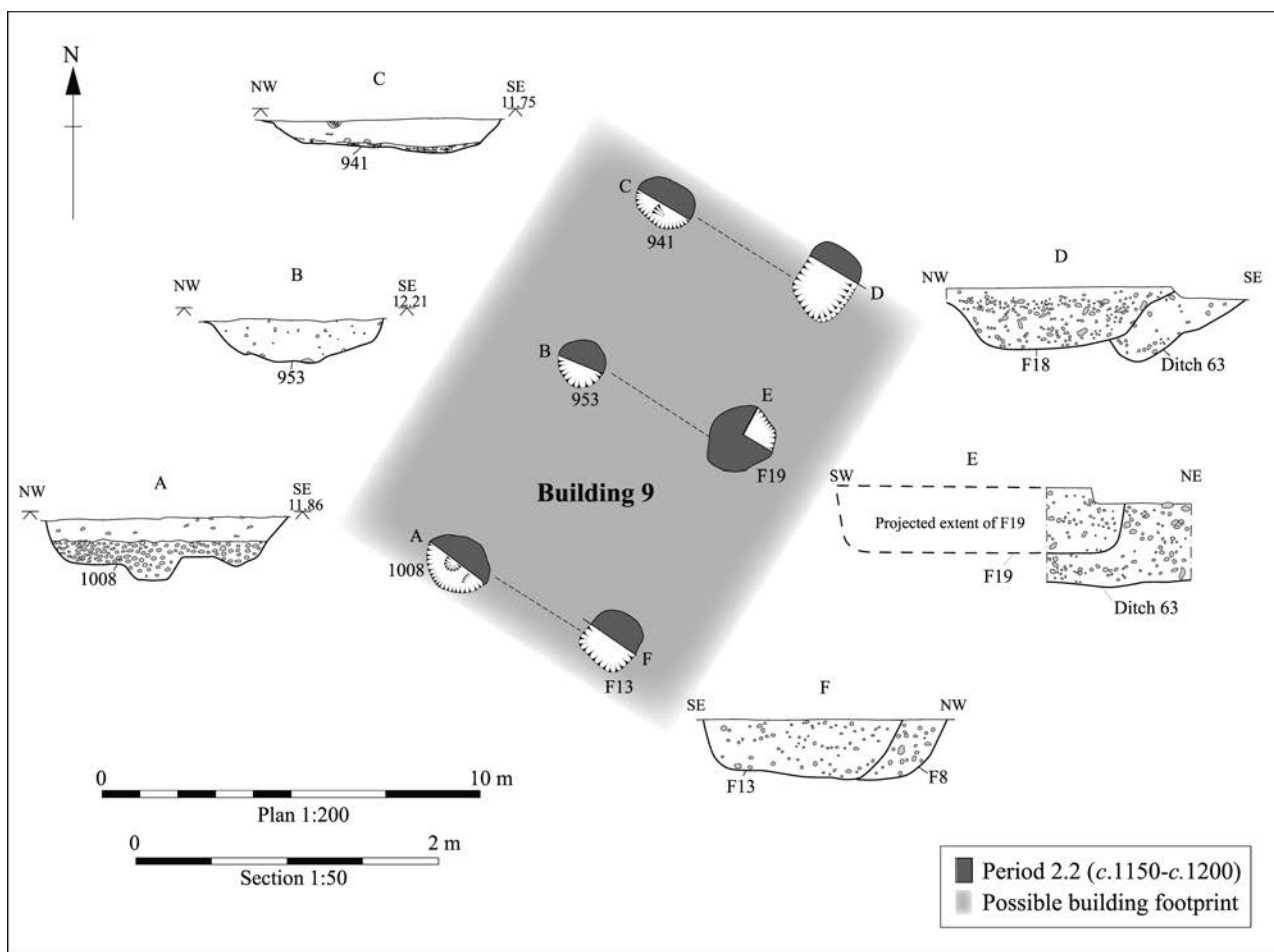


Figure 21 Period 2.2: Building 9, Area D/E. Plan scale 1:200, section scale 1:50

wall and itself a replacement for 1146. It is very likely that this structure continued further northwards, as another posthole (1283), that cut Pit 47 from the previous phase, lay under a later stone crosswall. The building was restricted to the north by the presence of Ditch 3 and its dimensions were perhaps 7m east to west by 11m north to south, as reconstructed in Fig. 17. Within the structure itself a pit (1185), with stakeholes in its base, was dug into the backfill of Pit 1113. This is likely to represent part of the internal arrangement of this phase of the building.

Post-built Structure (Building 7)

The precise positioning of Ditch 61 (which, with Ditches 60, 64 and 72, created Enclosures 2 and 3) appears to have been chosen to accommodate the existing position of Building 7, between Building 9 and Route 2b (Fig. 20). This new ditch (Ditch 61) abutted the south-western corner of Building 7, and in fact the ditch profile appears to have slightly skirted around the posthole in this location. The alternative interpretation, that Building 7 would have been demolished to allow a functioning enclosure ditch to be dug this close by, has been considered and eschewed in favour of contemporaneity. It is hard to imagine why a division would have been needed here if the building had already been removed; its very presence explains the creation of a division of space between the zones that thus became the interior of Enclosures 2 and 3. This also implies that the activities that took place within and adjacent to each of Buildings 9 and 7, were incompatible. With Building 9 being interpreted as the manorial hall, Building 7, which was possibly the precursor in this role, might have continued as secondary domestic habitation or may have changed to an agricultural, perhaps stock-holding, function in this period. It is likely that it ceased to exist during Period 2.2.

Post-Built Structure (Building 10)

Where the existence of overlying deposits had prevented truncation, the partial remains of a timber structure (Building 10, Figs 20 and 22) were preserved adjacent to the Route 1 frontage within Plot 1. This building was positioned end-on to this frontage and was approximately aligned with the Enclosure 2 boundary (Ditch 60) to the north, rather than with the roadside ditch of Route 1 to the south. It is possible that the earliest cut of this latter feature (Ditch 17), of which only a fraction was visible, may also have had this alignment, but its recut (Ditch 43) did not. Building 10 measured perhaps 10m long and 5m wide. As a result of the presence of later structures in this same position it is difficult to determine which features relate to each building and phase. Nonetheless the remains of Building 10 have been taken to include all postholes on a roughly common alignment, along with a number of stone-built elements. The north-eastern end wall was marked by a line of five postholes, some of which were deliberately dug out on demolition. They were up to 0.50m and 0.23m deep and one of the larger postholes may have had an internal post pipe, measuring 0.20m in diameter. The north-western side wall survived as three postholes; the southern and south-western walls were entirely lost.

A few stakeholes or small postholes were scattered across the floor of the building, close to its northern end, and these might have related to internal divisions or fixtures. Both within the building's footprint at its

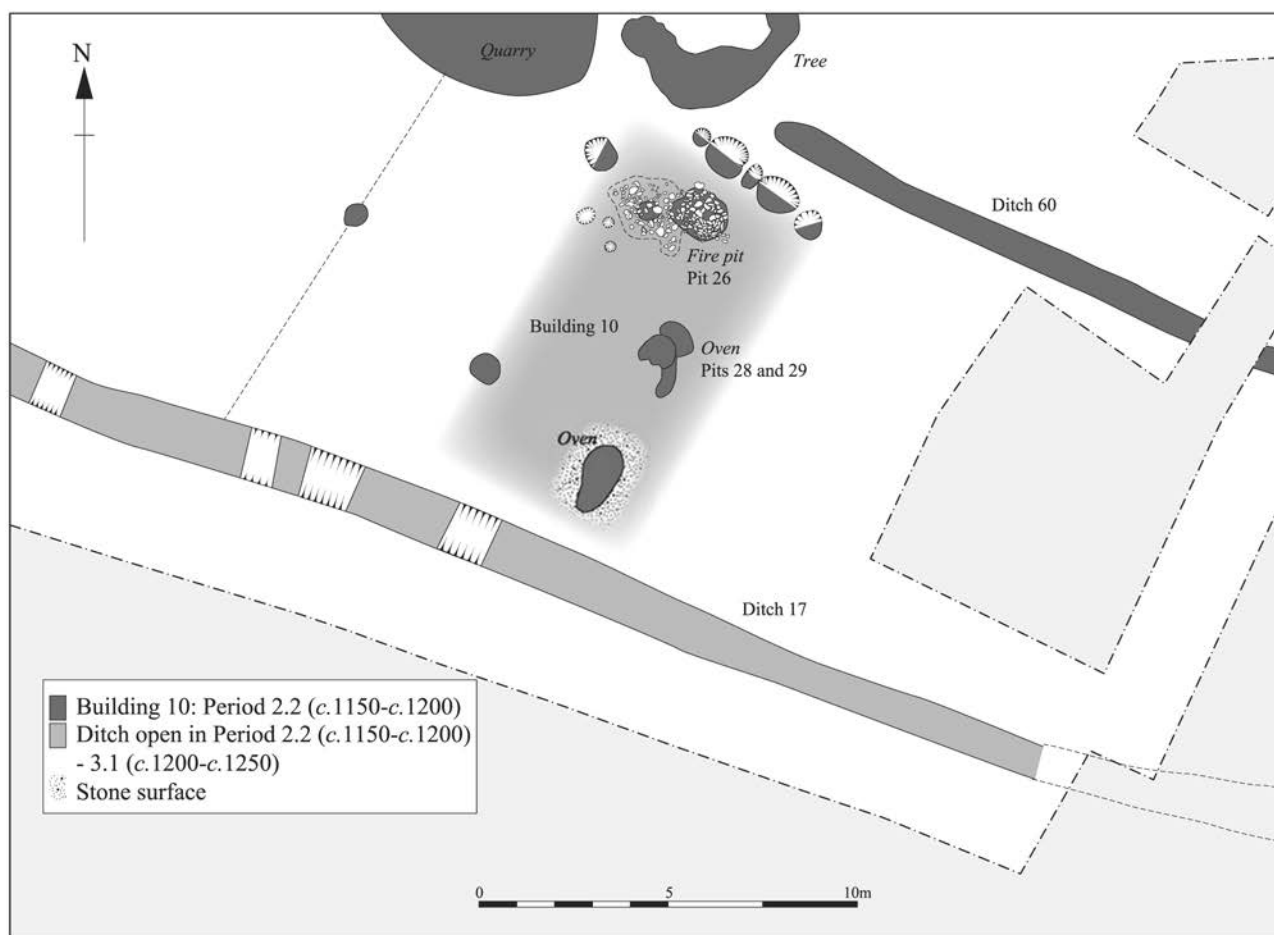
northern end and also immediately to the east of its eastern wall-line (not illustrated) were vestiges of stone surfaces that might relate to this structure and/or possibly to the later Building 18. An external yard surface to the east consisted primarily of rounded and crushed river cobbles with limestone pieces. Part of an internal stone surface surviving in the north-western corner of the building was primarily limestone pieces with perhaps 20% cobbles. At its northern end was a stone-lined pit (Pit 26, Fig. 22). This was roughly circular with a diameter of *c.* 1.6m and 0.37m deep and its lining consisted of pieces of limestone up to 0.3m in diameter and around 10% cobbles of up to 0.15m. Its upper fills contained much charcoal and it may have functioned as a hearth or fire pit. This feature contained 268 sherds of pottery, many from its lining as well as its upper fills. This pottery included Late Saxon fabrics but was dominated by Shelly ware, with a total absence of other 12th-century or later types. This should therefore be seen as a mid to late 12th-century group.

The central part of the building initially appeared to have included a complex of three intercutting pits (Pits 28, 29 and 31) that again produced an assemblage of pottery including Stamford ware and Shelly ware; probably dating to the later 12th century. Subsequent study of the records indicates the presence of burning here and it is clear that two of these pits (Pits 28 and 29) actually represented the base of a keyhole-shaped oven (Fig. 22). The southern part of the building may have contained a second hearth or oven, or this could have lain just outside it. This was oval in plan, on a north to south alignment, and was 1.75m long, 0.90m wide and up to 0.10m deep. It was filled largely with occasionally scorched limestone fragments (0.09m to 0.18m in length), as well as gravel and olive slightly sandy clay. Surrounding it were traces of the floor surface which consisted of a layer of stone, comprising limestone pieces (0.05m to 0.30m in length; 80%) and cobbles (0.03m to 0.15m in length; 20%). This hearth or oven produced a small assemblage of pottery attributable to the later 12th century.

Based on the ceramic evidence, Building 10 appears to have been last used, if not constructed, during the latter part of the 12th century. It lay just north of Ditch 17, and may have continued in use following the recutting of this boundary (Ditch 43), although this traversed perilously close to the building's southern end if it did in fact encompass the southernmost hearth or oven, and may therefore post-date it. Given the fire pit and ovens/hearths found within it, Building 10 may have been a kitchen; this suggestion is supported by the recovery of fish remains, dominated by eel. Its size and position in relation to Building 9, the primary 'hall' of this proto-manorial complex, supports a functional interpretation as an ancillary structure.

Other features within Plot 1 and Enclosure 2

A number of pits and/or postholes lay within Enclosure 2 and Plot 1, some of which have been placed in this phase (Fig. 20). To the south of Building 9 was a group of such features that may represent part of another structure, although in the absence of corroborative data, they have been interpreted as part of one or more fence-lines. Three of these pits, of variable size, contained datable pottery and this places their backfilling in the 12th century, but with Late Saxon material also present.



Fire pit (Pit 26), viewed from the west



Keyhole shaped oven (Pits 28 and 29), viewed from the south

Figure 22 Period 2.2: Building 10, Area D/E. Scale 1:200

PLOT 2

Ditches

As previously indicated, the southern boundary of this plot was formed by Ditches 58 and 59, recuts of Ditch 3 (Fig. 20). The northern plot boundary, which had been allowed to infill during the long period of the previous phase, was recut as a much smaller feature (Ditch 2). This was c.1.25–1.75m wide, and up to 0.56m deep, with a U-shaped profile; it yielded a single sherd of Late Saxon

pottery. Again the contrast in finds density with features to the south is marked, and it is likely that there was only minimal occupation activity here and to the north.

Post-built Structure (Building 8)

It seems likely that Building 8 (detailed in Period 2.1) continued in use into this phase. The very long sequence of hearth remains tends to require longevity of use for the structure itself and in addition the absence of evidence for other structures in this plot and the high density of

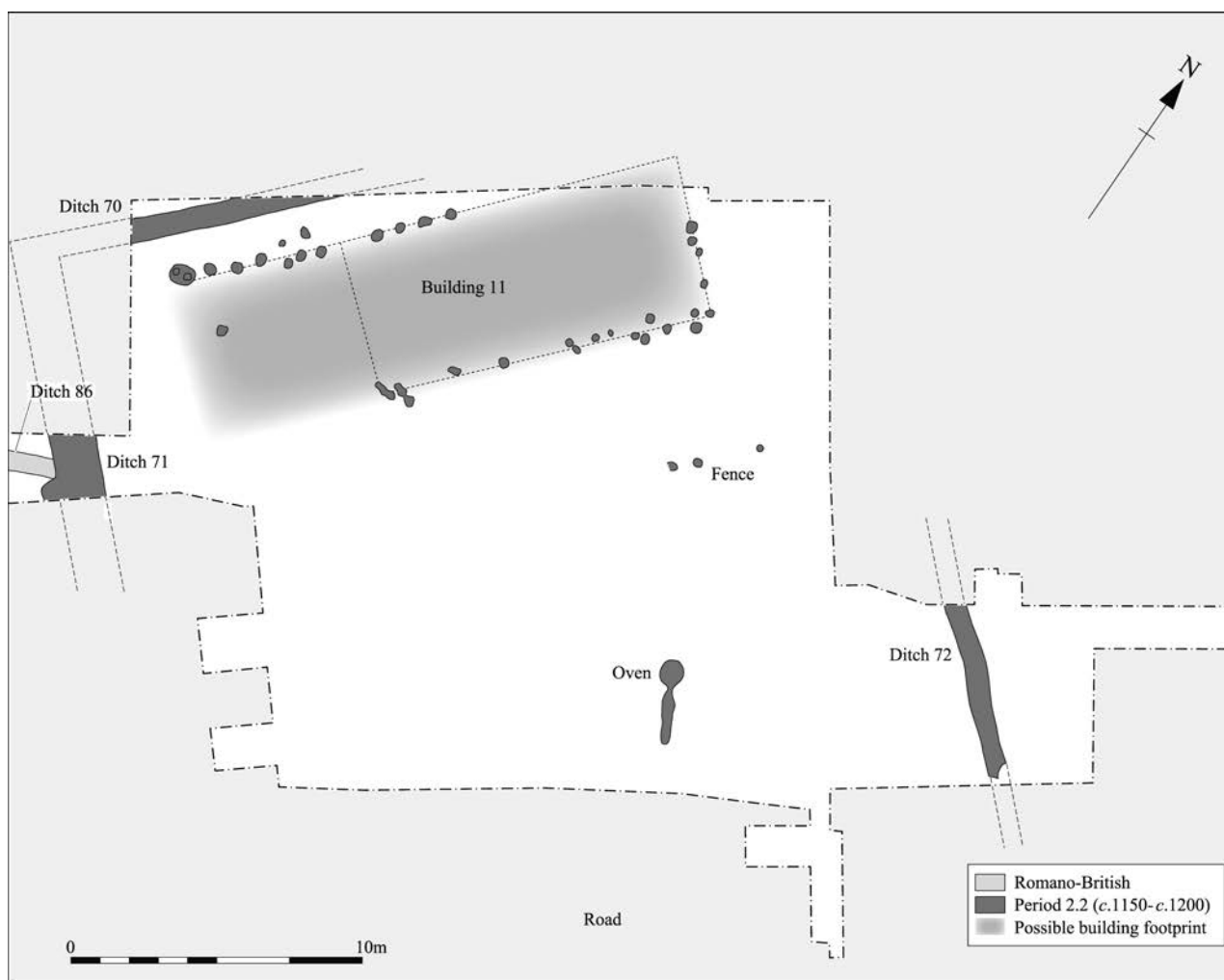


Figure 23 Period 2.1–2.2: Building 11 and associated features, House Site. Scale 1:250

artefactual remains in excavated features, supports the interpretation that primary occupation continued here.

PLOTS 3 and 4

As in the previous phase, there was little evidence for occupation in Plots 3 and 4 (Fig. 20). Ditch 5 may well have remained, albeit partially infilled, and as indicated above, Ditch 2 was itself a less substantial boundary than in the previous phase. The cutting of Ditch 66 appears to date to this time, perhaps suggesting a subdivision of Plot 3 — it may indicate activity on the frontage, outside the excavated area.

The NVRC House Site (Figs 23–24)

Ditches

Excavation at the NVRC House Site exposed part of a single house plot of possible Saxo-Norman origin which would have been roughly square in plan (Fig. 23), measuring *c.*28m across. In its earliest phase it was bounded by three ditches (Ditches 70, 71 and 72) which ran roughly north to south and east to west. It is possible, however, that Ditch 70 represents a drainage ditch rather than a backplot boundary, with the actual boundary lying further to the north-west. The easternmost ditch (72) was the first in a sequence of recuts along what was to become

a long-standing boundary. The wide south-western boundary ditch (Ditch 71) was also recut several times. Fills of both ditches contained Late Saxon to Saxo-Norman pottery.

Post-built Structure (Building 11)

A single rectangular domestic building (Building 11) lay centralised at the rear of the plot, with its longitudinal axis on the same alignment as the plot boundary ditches and presumably parallel to the Peterborough to Oundle Road. The building was at least 18m to the north of the road and measured either 11.2m or 16.6m long, depending on whether part of the alignment on the northern side at the western end is taken to be the building or an adjacent fence line. The structure was 5.8m wide and comprised relatively regular postholes about 0.4m in diameter, spaced *c.*0.5m apart; it is probable that these were angled at the south-western corner which would confirm the shorter-sided interpretation. The postholes forming the south-eastern wall had been replaced at various intervals.

To the south-east of the building was a possible fence line represented by three postholes. Further south lay an elongated keyhole shaped oven (Fig. 24). This was 3.2m long and comprised a flue, 2.10m long and up to 0.35m wide which contained burnt material including stones. The sub-circular hearth area was 1.10m in length and 0.70m wide, with moderately sloping sides and a slightly

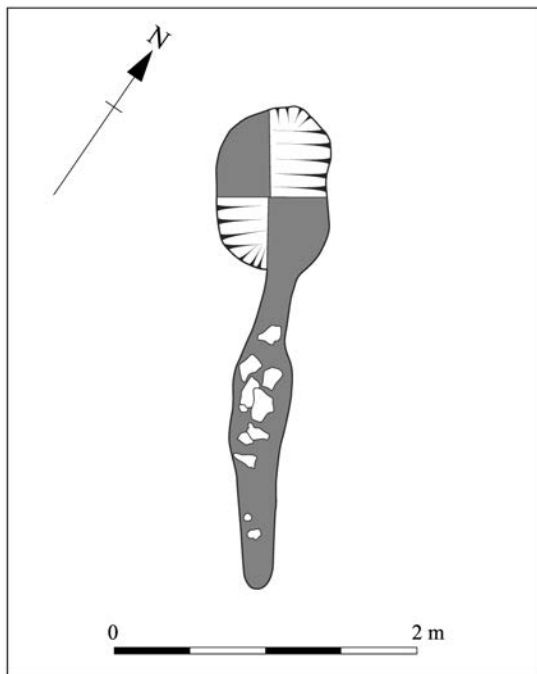


Figure 24 Period 2.1: Detail of oven, House Site.
Scale 1:50

concave profile. A few sherds of Late Saxon pottery were recovered, although the oven has been assigned to this phase since an association with Building 11 appears likely.

IV. Period 3: Medieval (c.1200–c.1350)

Summary

During the first half of the 13th century (Period 3.1), the formal plan of properties fronting onto Route 2b in the northern part of the site was mostly swept away (Fig. 25), along with the trackway itself. These features were replaced by a large curvilinear enclosure encompassing all excavated areas north of the hollow way (Route 1), its eastern boundary being in Area C where excavation demonstrated a great deal of investment in its construction and maintenance. Otherwise, this phase saw a continuation of what had gone before in Area D/E, but with no significant new building work. There was then a steady decline in activity in the excavated part of the manorial site, with only sporadic evidence for occupation here; it can be surmised that the main hub of activity in this period north of the hollow way was in the unexcavated western portion of the new curvilinear enclosure (close to the probable manor house remnants located by geophysics). In addition a new stone-built farm building was constructed to the south of the hollow way, along with several fields or enclosures and two trackways (Area A).

No direct evidence was found for strip farming (*i.e.* ridge and furrow), which had been recorded by the earthwork survey just to the east, between the manor and the row of tofts (Fig. 4), and in fact it seems that the trackway still ran here on the old Roman-derived alignment, with occupation fronting it and abutting the new manorial enclosure. Much further east, at the NVRC House Site, the earlier building was replaced by an area of pitting with a circular structure surrounded by its own

ditched enclosure, although the plot boundary towards the main road appears to have been maintained.

The later 13th century (Period 3.2, Fig. 31) saw the recutting of several ditches forming established boundaries. Other changes included a new building with stone foundations close to the Route 1 frontage, a small post-built structure and new minor enclosures. To the south the hall building interpreted as a farm received a major extension, whilst its own enclosure was revised and some of the earlier small fields and trackways appear to have been abandoned and the field/enclosure layout simplified. The property recorded at the NVRC House Site reverted to a domestic frontage plot, with a new post-built house being constructed.

Dating Framework

Artefactual assemblages dating to this period are for the most part rather smaller than for the preceding centuries in the main excavation area. An illustration of this is the number of sherds of 13th- to 14th-century glazed wares, which constitute around 1% of the total assemblage from the NVRC Manor Site, and 4% of the assemblage in the adjacent Areas D and E. This compares with 13% of the Area A assemblage or 11% of the total assemblage from the NVRC House Site, on the Oundle Road frontage 300m to the east of the main excavation area. All of these, however, are in contrast to Area C, where 38% of the pottery is from 13th to 14th-century glazed wares. These figures are useful indicators of relative activity in these centuries, regardless of whether these sherds derive from stratified contexts. It is clear that 13th- to mid 14th-century activity involving the disposal of pottery vessels was concentrated near Area C, in Area A and at the Oundle Road frontage and *not* in Areas D and E.

The Period 3.1 pottery assemblage is dominated by Shelly ware, with very small amounts of Late Saxon wares, but generally without any medieval glazed wares except for the occasional sherd of Lyveden B ware. As a group it is perhaps characteristic of the early 13th century. The Period 3.2 assemblage contains many more sherds of Lyveden B ware, alongside glazed sherds from the Bourne, Brill, Grimston, Ely and Toynton industries and thus a date-range starting in the mid-13th century and running on to the mid-14th century has been assigned.

Period 3.1: The Medieval Manors (c.1200–c.1250)

Manorial Enclosure? (Areas D/E and C)
(Figs 25–27)

ENCLOSURE DITCHES

A major new enclosure containing an area *c.*120m in diameter was recorded through excavation, and its later medieval incarnation through earthwork survey by Adrian Challands in 1982 (Figs 4 and 25). The north-eastern corner of the enclosure (where its otherwise sub-circular form is interrupted) reflects the position of the church, respecting its sub-square platform. This enclosure may well have contained a rebuilt manor, constructed during Period 3, suggested here as perhaps in Period 3.1 and in part replacing the original function of Building 9 and other structures described in Period 2. The evidence suggests a shift in focus to a new position to the north of the excavated area, as shown on Fig. 25. The manor building(s) themselves probably lay within the *c.*50m by

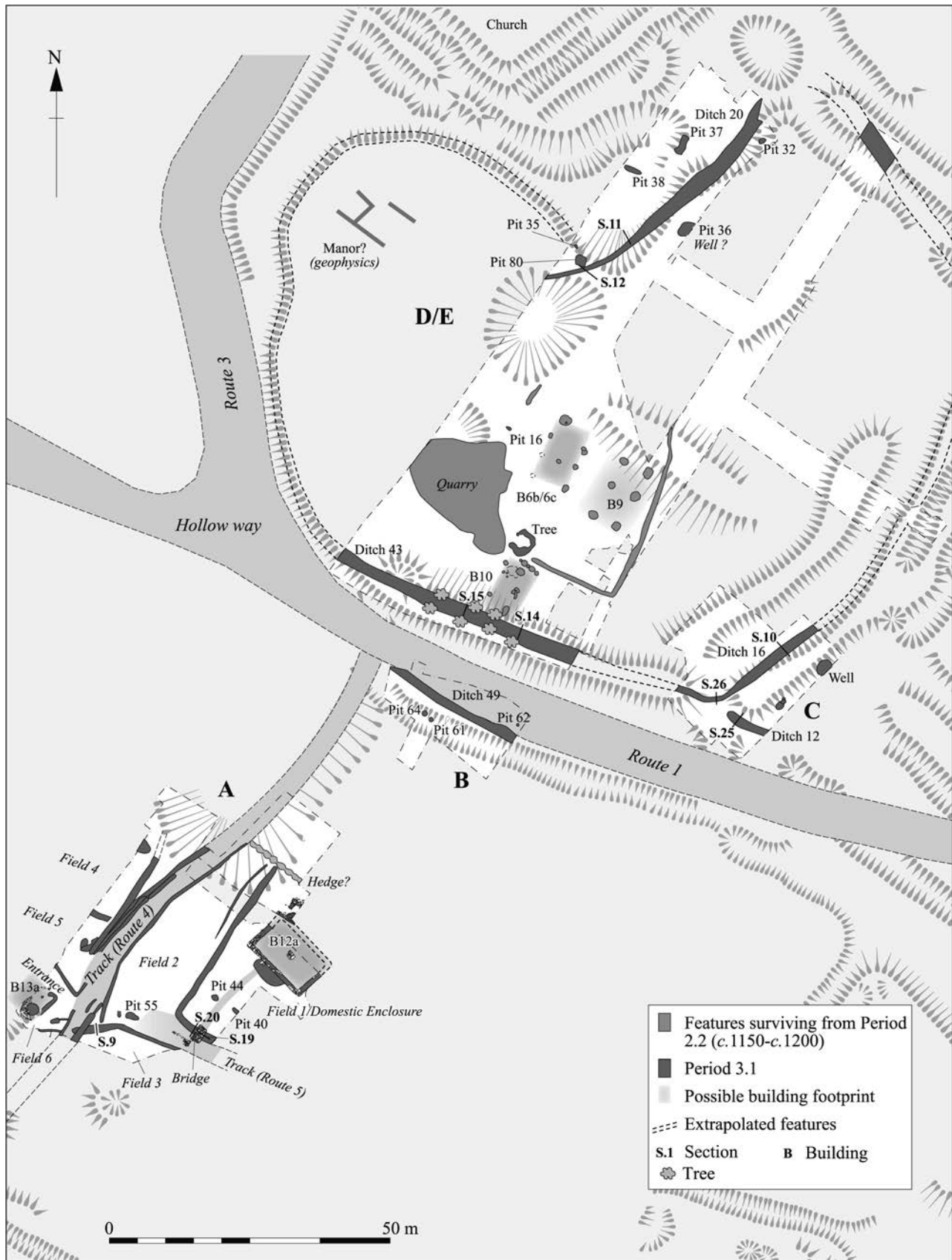


Figure 25 Phase plan: Period 3.1 (c.1200–c.1250). Scale 1:1000

c.40m area immediately to the north-west of the excavation area, in the position of anomalies recorded by geophysical survey. Both magnetometer and resistance

survey were carried out and the fact that these anomalies derive from the latter indicates the presence of stone walling (see Chapter 1.IV). The southern limit of the

enclosure respected the line of the hollow way (Route 1), an offshoot of which is likely to have run around the manor on its western side towards the church (Route 3).

Boundary ditches for the new curvilinear enclosure were sample excavated to the north, south and south-east. To the south-east (Area C), the initial cut was V-shaped in profile and, although truncated by later recutting, appears to have been up to 1m deep and to have had a maximum width of 1.5m (Ditch 16, Fig. 14, Section 10). Unlike previous ditches in this position, it turned westwards at its southern end to run across the previous line of Route 2b in the general direction of Area D/E, where it was probably associated with Ditch 43. In the eastern sections the fills (of light olive brown, yellowish brown and dark grey brown slightly clayey sandy silts) contained a few finds, including a little medieval pottery.

The continuation of the enclosure ditch in Area D/E (Ditch 43) also formed the northern flanking ditch of Route 1. Here it was U-shaped in profile, with a pronounced 'step', and was perhaps 3.2m wide and 0.8m deep (Fig. 18, Sections 14 and 15), although it does appear to have been quite variable in shape. Pottery from its lower fills suggests use/disuse from the later 12th century or a little later. Ditch 43 survived as a partially infilled ditch for some considerable time since its very uppermost fills include pottery dating to after 1430, but its dating in lower fills was secure. Other finds included a 13th- to 14th-century key (Fig. 43, SF 101) and a piece of glass. One stretch of the ditch contained the partial skeleton of a medium-sized dog.

During this period a number of mature trees were allowed to grow up on either side of Ditch 43 (within the partially infilled Ditch 17); the holes for their root boles were up to 2m across and there is evidence for perhaps four on the south side of the ditch adjacent to the hollow way, and for three on the northern edge, within the comparatively short excavated section. They may have been spaced around 5m apart and can perhaps be interpreted as pollarded willow or similar.

In the northern part of Area D/E, immediately to the south of the church enclosure, another ditch (Ditch 20, Fig. 25) may relate to the manorial boundary, although besides being a boundary it clearly also functioned as a drain. This ditch was recorded over a length of more than 45m and was slightly curvilinear in plan. It was butt-ended to the north although its southern course continued into the western baulk, beyond which it probably drained into an area later to become a pond and which was doubtless always low-lying and wet. The ditch was up to 1.9m wide and 0.66m deep with moderate to steep sides, filled with dark greyish brown silty sand and clay (Fig. 27, Section 11 and Fig. 14, Section 12). Finds included early medieval pottery.

Just to the east, the 1980s NVRC Manor Site excavations recorded the position of the boundary ditch (un-numbered) on the extreme north-eastern edge of the enclosure.

Outside the enclosure to the south-east in Area C, another ditch (Ditch 12) ran eastwards from the corner of the new manorial enclosure. It ended slightly short of Ditch 16, probably to provide access between Route 1 and land to the north (Fig. 26A). This feature was only investigated in one section (Fig. 27, Section 25) and was found to be 2.1m wide, 0.7m deep, V-shaped in profile with a flat base around 0.6m wide and containing three

original fills. No datable finds were recovered. This feature was not aligned with the modern course of the hollow way (as shown on Fig. 4, replacing Route 1), and with which the ridge and furrow recorded over the whole area to the north aligns. The implication is that Route 1 previously traversed the landscape south-east of Area C at perhaps 10–15m to the north of the line of the more recent incarnation of the hollow way (as recorded in Fig. 4). Implicitly it probably met the Oundle Road in a position to the north of its early modern confluence and owed more to the suggested line of the earlier Roman Road (Fig. 8), than it did to the trackway of later centuries.

ACTIVITY WITHIN THE MANORIAL ENCLOSURE

Enclosure 2 and Building 9

It is not clear how many structures and how much of the domestic-type activity that characterised the previous period in Area D/E were maintained and continued in use into Period 3.1 (Fig. 25). A small amount of pottery that might date to the 13th century came from the fill of the boundaries of Enclosure 2, suggesting that the boundaries, and thus Enclosure 2, were still in use. Although a new 'manor house' might have been constructed at some point to the north-west of the excavated area, prior to that — and possibly for some considerable time during this period — Building 9 was probably still standing and would have maintained an important function.

The features that constitute Building 9, and those of the later Building 19 that lay in a similar position, all contained assemblages of pottery that include both Stamford ware and Shelly ware. These types only had a short period of co-existence in the mid-later 12th century and, to make sense of these groups in this context, the Stamford ware has been for the most part assumed to be residual. Shelly ware was produced until the mid-14th century and on its own, or alongside more modest quantities of glazed Lyveden B ware that was not widely circulated until the mid-13th century, provides a generally 'high medieval' date. With such broad dating brackets, the complexities of the stratigraphic progression at Botolph Bridge, which is itself partial and spatially dispersed, have made assigning phases and dates to many groups of features particularly difficult. Thus decisions of great significance such as, for example, assigning an end date to Building 9 and a start date to its successor Building 19, have been problematic. The dating of Building 19 is discussed in Period 3.2; it suffices for now to indicate that Building 9 is taken to have continued in existence in Period 3.1, and Building 19 was yet to be constructed.

Post-built Structure (Building 6c)

The structural revision that constituted Building 6c (Fig. 17) was a new beamslot (999) and posthole (1032 and 1087) foundation that lay over the infilled rubbish pits that were to the north of, and associated with, Building 6b. The latter may have remained in use during this later phase, nonetheless it is clear that these one or two smaller buildings were probably not a direct replacement of Building 6a in terms of their function and significance. These remains have not been artefactually dated, but are placed here to emphasise that there was clearly longevity of use of the site of Building 6, and this perhaps continued well into the decades after 1200.

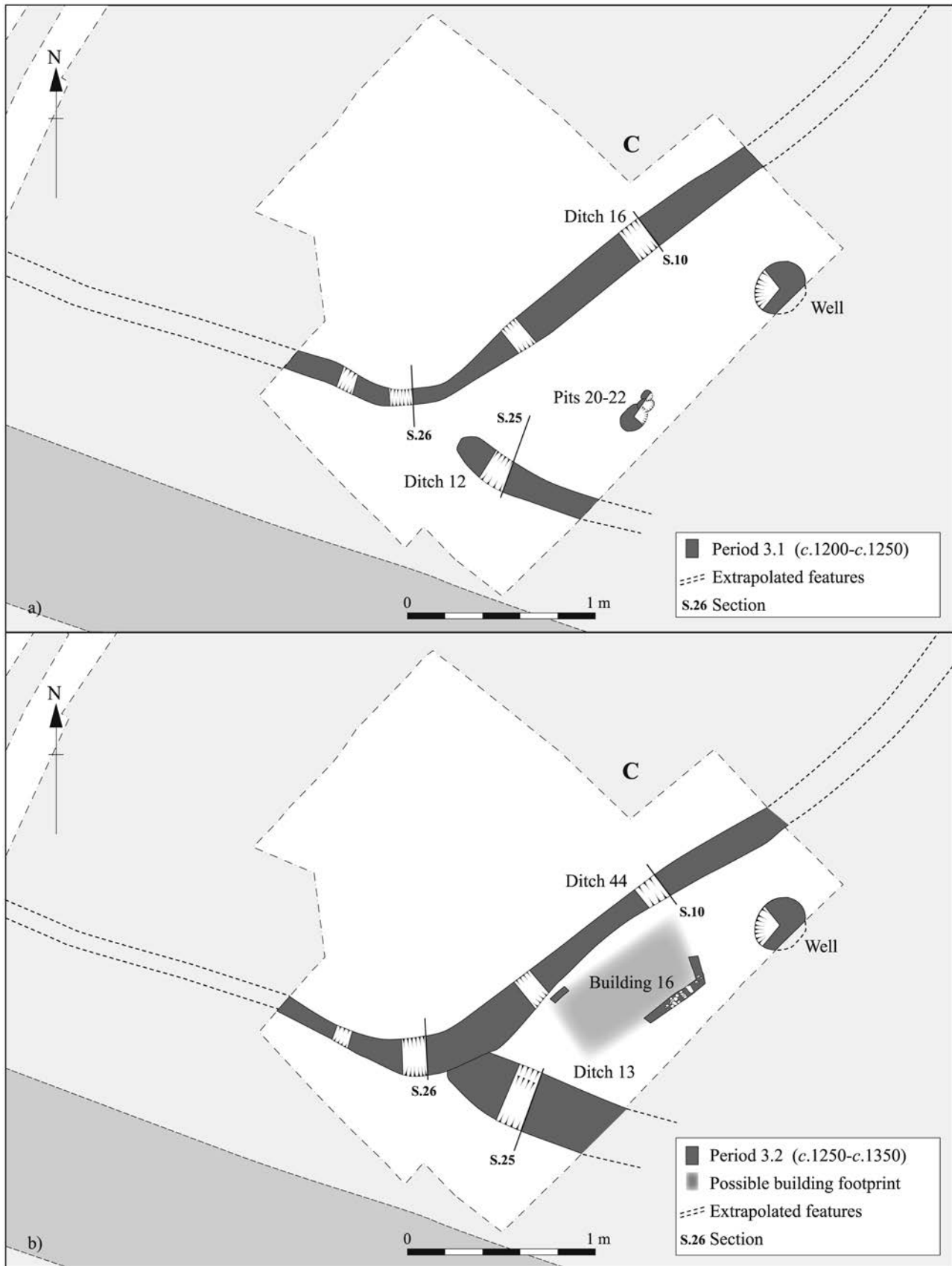


Figure 26 Area C in Periods 3.1–3.2. Scale 1:300

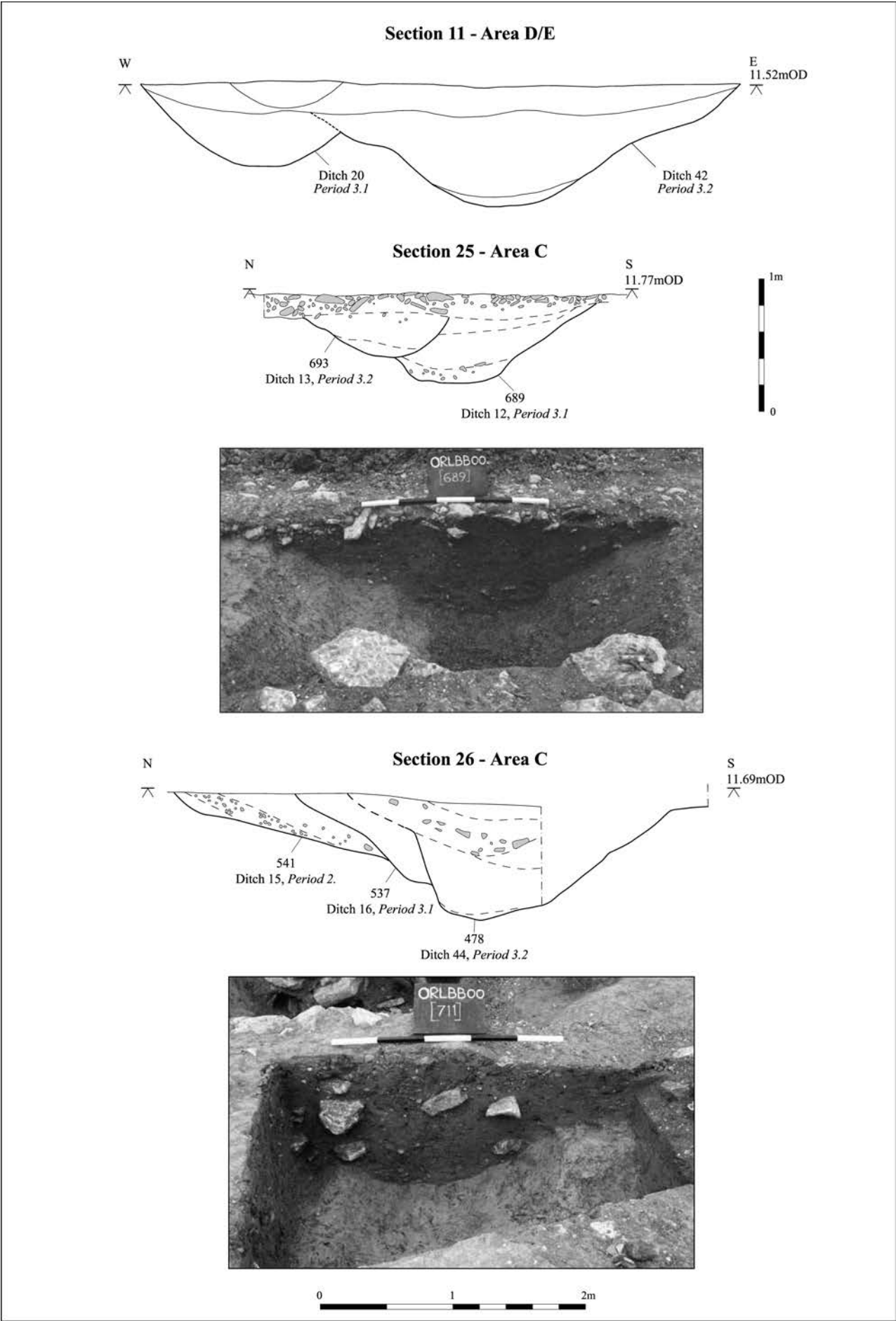


Figure 27 Sections 11, 25 and 26 (located on Fig. 25). Scale 1:40

Pits and Quarries

Several pits dating to this phase were recorded in the northern part of Area D/E, some of which lay between the manorial enclosure and the church (Fig. 25). These latter features comprised two very shallow oval pits. At 0.08m deep, 3.5m long and 1.5m and 2m wide, their original function may have been similar, although their fills differed. Pit 38 contained more than 80 sherds of pottery dating to the 12th to 14th centuries in a very charcoal-rich silty clay fill, whilst Pit 37 had little charcoal but many limestone fragments and only one sherd of pottery. Two other pits in the vicinity (Pits 35 and 80) were unremarkable. A little further south-east (inside the manorial enclosure) were two further pits of uncertain function (Pits 36 and 32). Of these, large Pit 36 may have been a shallow well at 0.62m deep and 1.2m wide: it contained three fills producing Late Saxon to medieval pottery.

As indicated in Period 2.2, towards the south-western end of Area D/E was a dense concentration of intercutting pits representing quarrying activity, which extended in a linear north to south band over a recorded area of 20m by 7m. Seventeen of these interlinked quarry pits were sample excavated. The quarrying indicates gravel extraction, probably relating to local building works. Excavation revealed that a large 'outcrop' of natural clay had been left in the middle of the pitting and that the surrounding sinuous pitting resulted from chasing seams of gravel. The pits were fairly large, reaching up to 2.60m in size with most at least 2m in diameter. They were up to 0.48m deep and contained very similar fills of dark brown or dark greyish brown silty sand with varying amounts of clay. Amongst the pottery recovered from the quarries was a great deal of Late Saxon to Saxo-Norman pottery as well as medieval sherds, but none dated later than *c.* 1350. The few other finds comprised a 13th- to mid 14th-century horseshoe and a Roman tile.

OCCUPATION

It is possible that a building lay outside and to the south-east of the manorial boundary in this period (Area C), approximately where, in the following period, a stone-built building was later constructed. A possible well could have served this structure, and three pits (Pits 20–22) lay close by (Fig. 26A). These pits were cut by the foundations of the building constructed in Period 3.2, which explains why the latter could not have also been in existence in the earlier phase. The putative well was probably circular or sub-circular in plan with a diameter of 3m. It was more than 0.75m deep but was not fully excavated due to the high water table. It contained pottery pre-dating *c.* 1350. Two possible sandstone roof tile fragments were also recovered.

No traces of a building associated with these features were found, but the presence of the pits and the well suggests that a structure probably lay in the vicinity. Clearly the area to the north and east of Ditch 12 (and its successor, Ditch 13) was not exclusively agricultural, as was the case in much later centuries. This initial occupation appears to have lain outside the new manorial enclosure and presumably pre-dated the ridge and furrow recorded in the area in the 1982 earthwork survey.

Hollow Way (Route 1)

(Fig. 25)

Alterations were made to the hollow way during this phase. Its northern flanking ditch was recut as described above (Ditch 43, Fig. 25), and its southern flanking ditch was also recut (Ditch 49). It was sectioned in three places, varying in size between 1.10m and 2.06m wide and 0.54 and 0.64m deep, with moderately to fairly steep sides and a slightly concave base (Fig. 18, Section 3). Pottery recovered from its fills dates to the mid 13th to mid 14th century. No surfacing could be directly attributed to this phase. A possible pit or natural hollow (Pit 62) found beneath the course of the road itself was *c.* 0.50m in diameter and 0.08m deep. Two shallow pits (61 and 64) lay adjacent to the south and were up to 1.1m in diameter and 0.29m deep.

South of the Hollow Way (Area A)

(Figs 25, 28 and 29, Plate X)

TRACKS (Routes 4 and 5)

To the south of the hollow way was a new domestic enclosure and two tracks running between six putative fields or enclosures (Fields 1-6; Figs 25 and 28). One of the tracks (Route 4) linked the new settlement to the hollow way and was aligned south-west to north-east, being recorded over a distance of more than 40m. The south-westerly course of this track beyond the excavated area was traced in the earthwork survey (Fig. 4), demonstrating that it continued for a distance of a further *c.* 40m before meeting another track. As recorded by excavation, the track was about 4m wide and was bounded on either side by a ditch. Its easternmost ditch (Ditch 27) curved slightly to the south at its southern end, where it butt-ended adjacent to another ditch (Ditch 25). It was up to 0.70m wide and 0.28m deep and was filled with mid brown to dark grey sandy clayey silts. Finds recovered from these fills indicate domestic activity and include a horseshoe, a possible whittle tang knife, a moderate quantity of pottery (with the latest sherds dating to *c.* 1200 to *c.* 1350) and a medieval tile fragment. Most of the surviving plant macrofossils from the ditch fills were cereal grains, dominated by wheat.

The western flanking ditch (Ditch 68) had gaps along its length relating to access points to adjacent fields. The entrance to one field (Field 4) was 0.5m wide, later recut twice. Ditch 68 was recut several times, each of the recuts ending at the same point to the south and indicating the presence of an entrance into Field 5, respected by the field boundary ditch (Ditch 35) further south. A *c.* 2m wide entrance led into 'Field 6', although the presence of a building here suggests that this may have been some other form of enclosure. Ditch 68 and its recuts (including Ditch 29) were up to 1m wide and 0.38m deep. Again, domestic waste had found its way into the ditch fills and comprised medieval pottery, three medieval quern fragments, a probable rubbing stone and two Roman tile fragments. The only evidence for the presence of goat from the entire site (part of a horncore) was found in one ditch segment. Environmental samples from Ditches 29, 30 and 68 were dominated by free-threshing wheat.

Two parallel fragments of ditch (Ditches 26 and 48; the latter eventually replaced by larger Ditch 31) lay within the line of the route: their function is unclear but they may relate to the various entrances to fields at this point.

Environmental samples from the ditch fills produced a mixture of cereal grains, particularly wheat.

The second track in this area (Route 5) lay to the east and ran north-west to south-east. It was effectively formed by a gap between adjacent field boundaries (running between Field 1/the domestic enclosure and Field 3) and led into Field 2. The track was less than 4m wide: its relationship to the other track remains uncertain, since the eastern ditch of Route 4 effectively blocked it. No evidence for this route was found in the earthwork survey, although it ran roughly parallel to a more south-westerly track (to which Route 4 appears to have led). Access between this route and the farmhouse was by means of a minor footbridge and associated path (see below).

FARM

Field/Domestic Enclosure (Field 1)

The new farm was established more than 30m to the south of the hollow way (in Area A, Figs 25 and 28). Here, a group of buildings gradually developed, most of which had been extensively robbed, although some possible functions can be suggested. The farm was surrounded by its own enclosure (Field 1/Domestic Enclosure), itself part of a group of newly laid out fields. This enclosure lay on the north-eastern side of Route 5, bounded by a ditch (Ditch 34 and its recut, 33) forming its south-western corner. This may indicate the presence of a sub-rectangular enclosure, to which a further ditch (Ditch 32) adjacent to the west may relate. The part of the enclosure examined measured at least 63m long and 15m wide. The boundary ditch and its recut were of similar dimensions, being more substantial to the south (ranging from 1.90m wide and 0.52m deep) and reducing to 1.65m wide and 0.30m deep to the north (Fig. 29, Section 20). Numerous backfills noted within the recut ditch may indicate deliberate and/or rapid infilling. Pottery from the Late

Saxon period onwards was present, but the majority of the group can perhaps be assigned to the 13th century.

Farmhouse (Building 12)

The group of connected buildings that began with a single-celled structure in this phase have been interpreted as a 'farmhouse'; the centre of farming in an estate, or part-estate rather than a feudal tenant's dwelling. In Period 3.1, only a single structure may have existed (Building 12a, Fig. 28, Plate X). This was of classic open hall type with a central fireplace. It was 13m long, with an internal measurement of 11.30m, and more than 5m wide (extending beyond the excavated area to the north). The hearth presumably lay directly in the middle of the building, suggesting a width of *c.*8.6m (*c.*7m wide internally). The foundation trenches had been cut into the natural subsoil and were up to 0.25m deep. Only a single course of limestone wall survived in some areas. The walls themselves were 0.90m wide and comprised faced limestone blocks (up to 0.40m long, 0.35m wide and 0.35m thick) with an internal core of limestone rubble. There was no discernable bonding and a dark brown silty sand or a mid brownish grey sandy silt was found between the stones. The southern wall was later strengthened with an internal wall, parallel to the outer wall: this may indicate structural problems relating to the subsequent addition of another wing (Building 12c, Period 4).

The only surviving internal feature was the central limestone fireplace plinth which was 1.30m long and 1m wide with a flattish top. The limestone blocks were up to 0.70m long and 0.35m wide and were unmortared. The plinth was not removed during excavation. Opposing entrances to the building would presumably have lain just to the east of its junction with the later extension (Building 12c), with the southern door leading onto a path linking to a pedestrian bridge which lay 15m to the south (see below and Figs 28 and 29).



Plate X Building 12a and b (Area A), showing the impact of the development's haul road

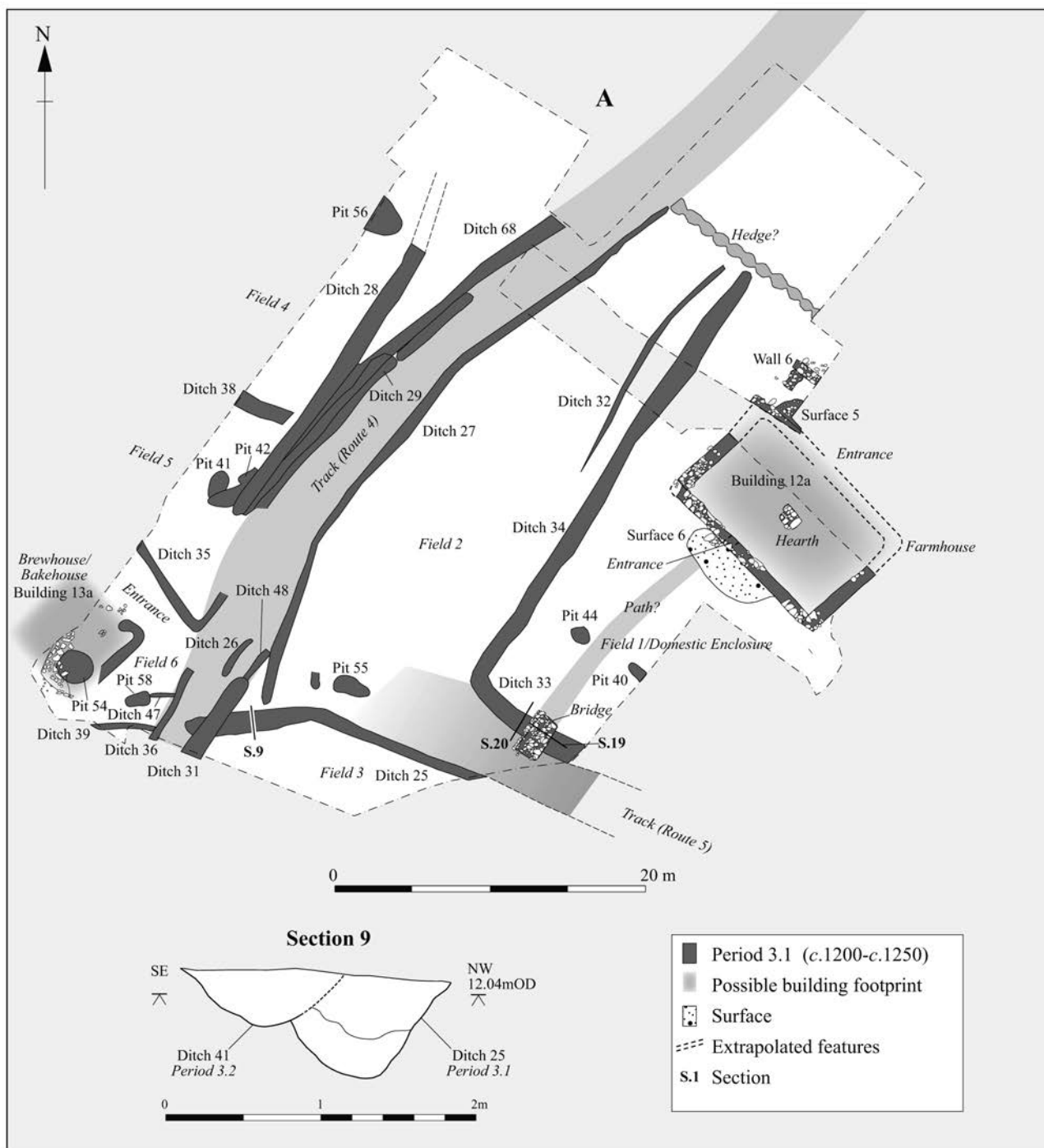


Figure 28 Period 3.1: Building 12a and related features, Area A. Plan scale 1:400, section scale 1:40

Other Structures and Features within the Enclosure

To the north of the main farmhouse was a short section of wall (Wall 6), of similar size and build as the foundations of Building 12a and which contained pottery of 12th-century date. It turned a right-angled corner and ran under the baulk to the south-east, describing the corner of another room or, perhaps an external yard. The presence of the remains of a cobbled surface (Surface 5) in the space between this wall and the adjacent building suggests that it contained a yard. The area around these buildings was devoid of other contemporary features.

Path and Bridge

Outside the postulated southern entrance to the main farmhouse was an external surface (Surface 6) consisting of limestone fragments covering an area more than 4.5m long and 3m wide. This appears to have formed part of a path leading towards a footbridge constructed across the domestic enclosure ditch (Ditch 34, Figs 28 and 29). The bridge was well-founded and was c.3m long, 1.50m wide and 0.50m deep. It consisted of several courses of limestone walling, faced on both sides with medium to large limestone blocks with an inner core of small and medium sized limestone fragments.

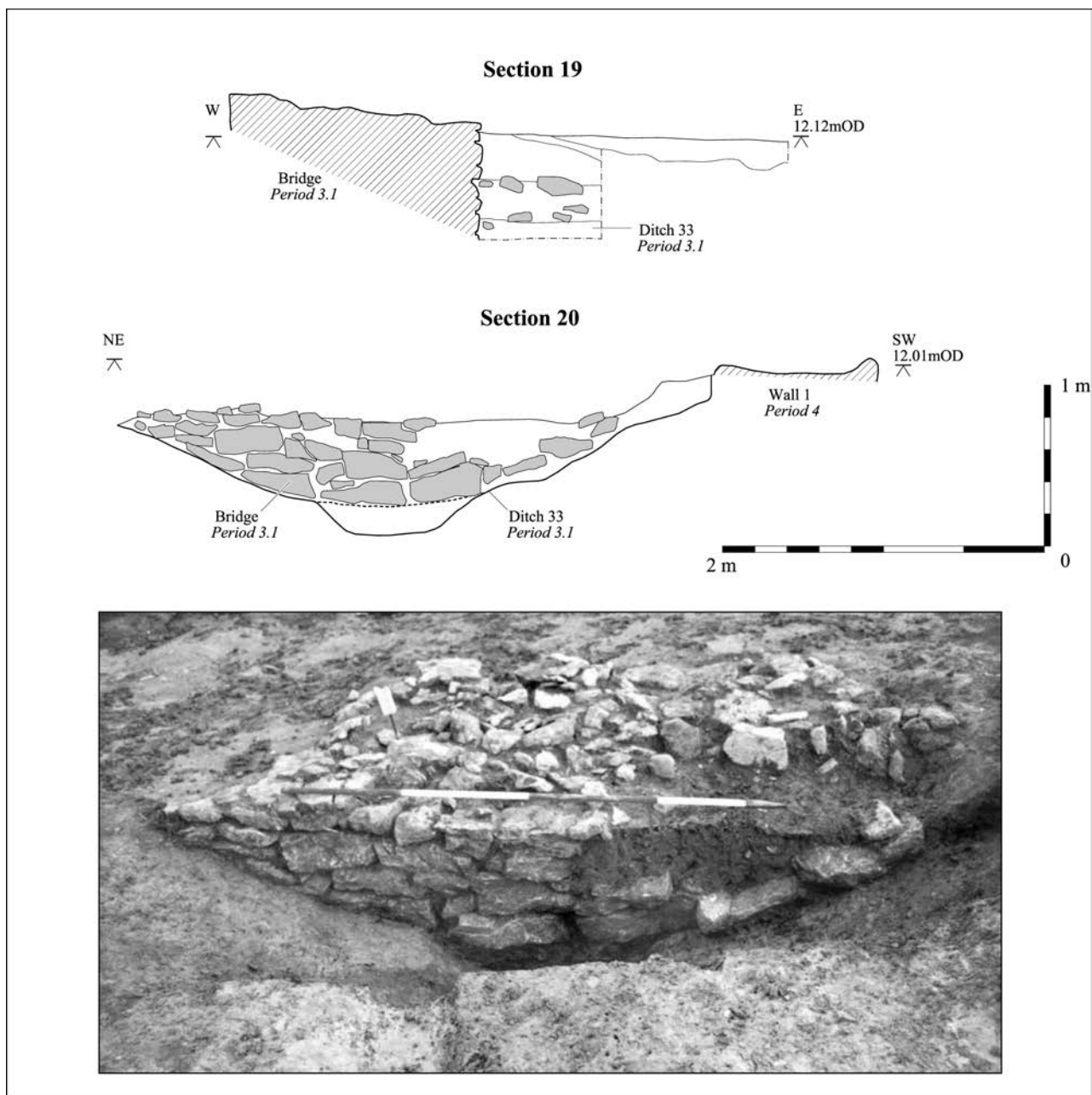


Figure 29 Period 3.1: Bridge, Area A. Scale 1:40

Two pits (Pits 40 and 44) lay just within the southern part of this enclosure, both less than 0.25m deep. Pit 40 contained a gilded casket mount of probable 12th- to 13th-century date (Fig. 44, SF 102), along with 13th- to 14th-century pottery. An environmental sample yielded a range of cereal grains, as well as peas.

Field 2

Lying between the farmhouse and the track (Route 4) lay a narrow field, which was apparently entered via the secondary track (Route 5) to the south. This enclosure measured between 7m and 12m wide and 40m long. The fact that both of the ditches bounding the field to the east and west terminated at the same point may indicate the presence of a hedge, which perhaps also formed the northern boundary of the enclosure surrounding the farmhouse. A pit at the southern end of the field (Pit 55), contained a small quantity of medieval pottery.

Field 3

To the south of Route 5 was a ditch (Ditch 25) which ran roughly east to west along the southern boundary of the site for more than 30m: this ditch may have defined the northern limit of a field (Field 3), most of which lay outside the excavated area. At its western end was a possible c.2m wide entrance way which was partly associated with Route 4 (see above). Ditch 25 was 0.51m wide to the east, widening to 1.05m near its butt end to the west. It was up to 0.65m deep, with fills of dark greyish brown or dark brown silty clay (Fig. 28, Section 9). A moderate quantity of pottery was recovered from its fills, all dating before c.1350.

Field 4/Domestic Enclosure?

On the western side of Route 4 were three further fields or enclosures. The southern boundary of the northernmost example (Field 4) was formed by an undated ditch (Ditch

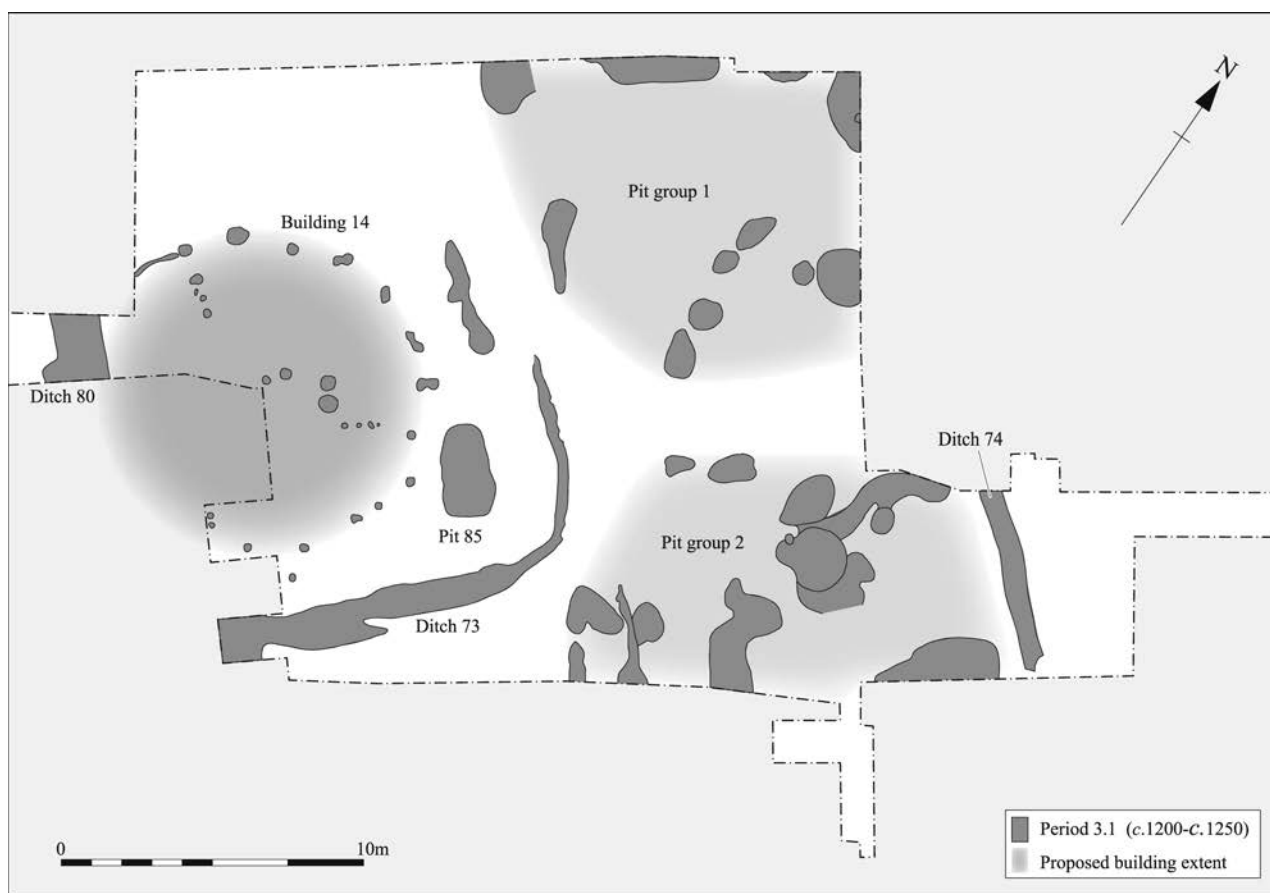


Figure 30 Period 3.1: Building 14 and related features, House Site. Scale 1:250

38) which butt-ended at approximate right angles to the trackside ditches. A large pit within the field (Pit 56), 2.35m in diameter, had been filled with a dark greyish brown sandy clayey silt containing a few sherds of mid 13th- to 14th-century pottery.

The entrance way leading from the adjacent track was eventually blocked by the extension of a ditch across it. Perhaps at the same time, a new eastern field boundary (Ditch 28) was inserted, diverging from the course of the track to run on a north-east to south-west alignment, although butt-ending at the same southern point as the western trackway ditches. Its northern end had been truncated by later features. The ditch survived over a distance of more than 20m, and was up to 1.10m wide and 0.23m deep. A few sherds of pottery pre-dating c.1350 were recovered from its fills. The enclosure defined as Field 4 may actually represent another domestic enclosure; its large boundaries and the presence of pitting hint at this function.

Field 5

The adjacent field or enclosure to the south was bounded to the north by Ditch 38 (above), with an undated ditch (35) forming its southern boundary. Only part of the field lay within the excavated area, but it appears to have been slightly irregular in layout since the bounding ditches were not parallel. The maximum width of the field was 15m. Along its eastern boundary were two pits (Pits 41 and 42), one of which was cut by a recut of the eastern boundary ditch. Pit 41 was oval, measuring 1.90m by 1.16m and 0.23m deep and contained mid 12th- to mid

14th-century pottery. Pit 42 was sub-square, measuring at least 0.75m wide and 0.25m deep. Again it contained mid 12th- to mid 14th-century pottery and an iron staple. The presence of these pits may suggest a different function for the 'field'.

Field/Craft Enclosure (Field 6)

To the south-west lay another field or enclosure which was bounded by Ditch 35 to the north and Ditch 36 to the east (Fig. 28). It contained an L-shaped foundation cut for a building (Building 13a), the walls of which had been robbed: the structure was probably originally constructed from cornbrash (similar to the farmhouse), but appeared to be open-ended on its northern side. This ancillary structure may have had a craft/processing function. A brewhouse or bakehouse was located here in Period 4 and this may have been a precursor. Inside the building was a pit (Pit 54), 2m in diameter and 0.15m deep filled with a dark mid reddish brown and a dark yellowish brown sandy clayey silt containing medieval pottery. This pit may represent a water hollow, or perhaps the base for a vat.

To the east of the building lay another pit (58), 0.90m in diameter and 0.45m deep. It was also filled with a dark mid reddish brown and a dark yellowish brown sandy clayey silt containing medieval pottery. Pit 58 was attached to the boundary system by a small ditch (Ditch 47) and might therefore represent a cistern or steeping pit, again with a craft function. Another minor ditch (Ditch 39) ran on a comparable alignment to the south and also fed into the trackside ditch.

The NVRC House Site
(Fig. 30)

The existing eastern and western boundaries of this plot were recut (Ditches 74 and 80) and within it lay a post-built structure to the west and pits to the east (Fig. 30). The structure (Building 14) was sub-circular in plan and abutted the western plot boundary. Its exterior diameter was approximately 11m and it consisted of evenly spaced postholes placed 1m apart. Several of the postholes had been recut. The presence of further postholes within the structure may suggest internal divisions. Most of the postholes contained a few sherds of high medieval pottery. Directly to the south of the building was an undated curvilinear ditch (Ditch 73) which protected/bounded the structure. A sub-rectangular pit or watering hole (Pit 85), measuring *c.*5m by 2m, lay between the structure and its boundary ditch. Interpretation of the sub-circular structure is problematic; in an earlier setting it might be interpreted as a stockade for livestock, but in its context within a medieval house plot an alternative interpretation appears more likely (perhaps a dovecote or other ancillary structure).

Two groups of pits and amorphous features lay in the eastern half of the plot, probably the result of quarrying. They were irregular in plan and between 1m and 5m long and 1m and 2m wide, and were of unknown depth. One cluster (Pit Group 1) consisted of eleven features containing small quantities of high medieval pottery, while the other thirteen examples (Pit Group 2) contained pottery, some of which could date as late as the 14th century. This group may therefore have remained in use and/or have been disturbed in the following period.

Period 3.2: Revision and Restatement (*c.*1250–*c.*1350)

Manorial Enclosure (Areas D/E and C)
(Figs 31–34)

ENCLOSURE DITCHES

Recutting of the manorial enclosure ditch appears to have occurred in the mid 13th to mid 14th century (Fig. 31), although the features present in Area D/E along the north side of Route 1 (Ditch 18) and in Area C (Ditch 44) were rather different in character and may not have been precisely contemporary. The ditch recut in Area C (Ditch 44) varied in size: towards the north it was perhaps 1.8m wide, with a surviving depth at its flat base of only 0.6m (Fig. 14, Section 10), whereas further south it was steep-sided, perhaps 2m wide and 0.9m deep with a 0.8m wide, slightly concave base (Fig. 27, Section 26). The ditch was infilled along its entire length with several deposits containing medieval pottery and modest amounts of residual Late Saxon types. Other finds include a medieval rubbing stone and a 12th- to 14th-century padlock (Fig. 43, SF 84).

In Area D/E the new enclosure ditch (Ditch 18) was cut on a slightly revised line, being positioned more than 3m north of Ditch 43 at the western end of the excavation, but it was angled slightly southwards to intersect with the earlier ditch fills in the eastern part of this area. It was a comparatively narrow and shallow feature (up to 0.35m deep), with a maximum width of 1m and a U-shaped profile. Ditch 18 may have been cut on this new alignment to avoid trees (as detailed in Period 2), possibly pollarded willow growing in the partially infilled sides of Ditch 43.

To the north of Ditch 18 and within the manorial enclosure, another ditch (Ditch 19) was dug to create an internal subdivision. It had a slack V-shaped profile with moderately steep sides and a flat or slightly concave base. It was up to 1.1m wide and 0.50m deep with an olive brown to dark greyish brown fill. Ditch 19 ended close to the main enclosure ditch (Ditch 18), suggesting an association. It was also positioned to the west of the area of activity in this and previous phases (around the site of Buildings 10 and 15), suggesting that this area was still in use, with the tree to the north also surviving. Ditch 19 cut through the upper fills of the former quarry, clearly demonstrating that it had ceased to function. The ditch showed sufficient commonality of alignment and extent with the earlier boundaries of Enclosure 2 (Period 2.2) to perhaps suggest that these boundaries were still in use; although whether this can also be applied to Building 9 lying within this enclosure, is not clear. The lack of significant amounts of finds dating to the later 13th and 14th centuries in the vicinity, and the failure of Ditch 19 to align with Building 9, tends to suggest not.

The ditch skirting the church enclosure to the north was recut at this time (Ditch 42). The recut was more than 45m long, slightly curvilinear in plan and was up to 1.60m wide and 0.75m deep (Fig. 14, Section 12; Fig. 27, Section 11). Finds recovered include pottery pre-dating *c.*1350, a pin dating from at least the 14th century (Fig. 50, SF 85), a 14th- or 15th-century chain and an iron staple.

Ditch 21 lay adjacent and to the west of Ditch 42 and was recorded over a distance of 25m before butt-ending. It was up to 1.60m and 0.86m deep and contained a range of pottery including Late Saxon fabrics and a few sherds of pottery spanning *c.*1075–1250 and *c.*1150–1350. At its southern end, the ditch appeared to originate in two associated pits (Pits 69 and 72; unexcavated). Unlike almost all other curvilinear ditches on the site that can be interpreted as primarily boundary features, this ditch may have had a processing function, perhaps being a run-off channel for the pits which possibly functioned as cisterns or steeping pits

Two further ditches (Ditches 45 and 46) recorded at the extreme northern edge of the site ran at right angles to Ditch 42: these were not observed in the NVRC work less than 15m to the east and it is uncertain what they represent. They were fairly substantial being 0.60m and 0.47m deep respectively. Environmental samples yielded relatively large amounts of cereal grains, including one with over 1,000 plant macrofossils dominated by wheat (the chaff indicates at least three types of free-threshing wheat), as well as other cereal, crops and wild species.

STRUCTURES

As was the case in part with the preceding sub-phase, clearly dated and/or relatively complete buildings that can be assigned to Period 3.2 were not recognised in the centre of the site. Rather disturbingly, almost all of the datable pottery that was found in association with buildings assigned to Period 4 was in fact from earlier phases. This pottery was a mixture of types and there was almost no differentiation between groups derived from Period 3 features, from the foundation of buildings assigned to Period 4 and apparently sitting over the backfill of Period 3 ditches, or from features associated with the demolition of those same structures. The sequence in Area D/E is only a very partial survival, and it seems that much of the

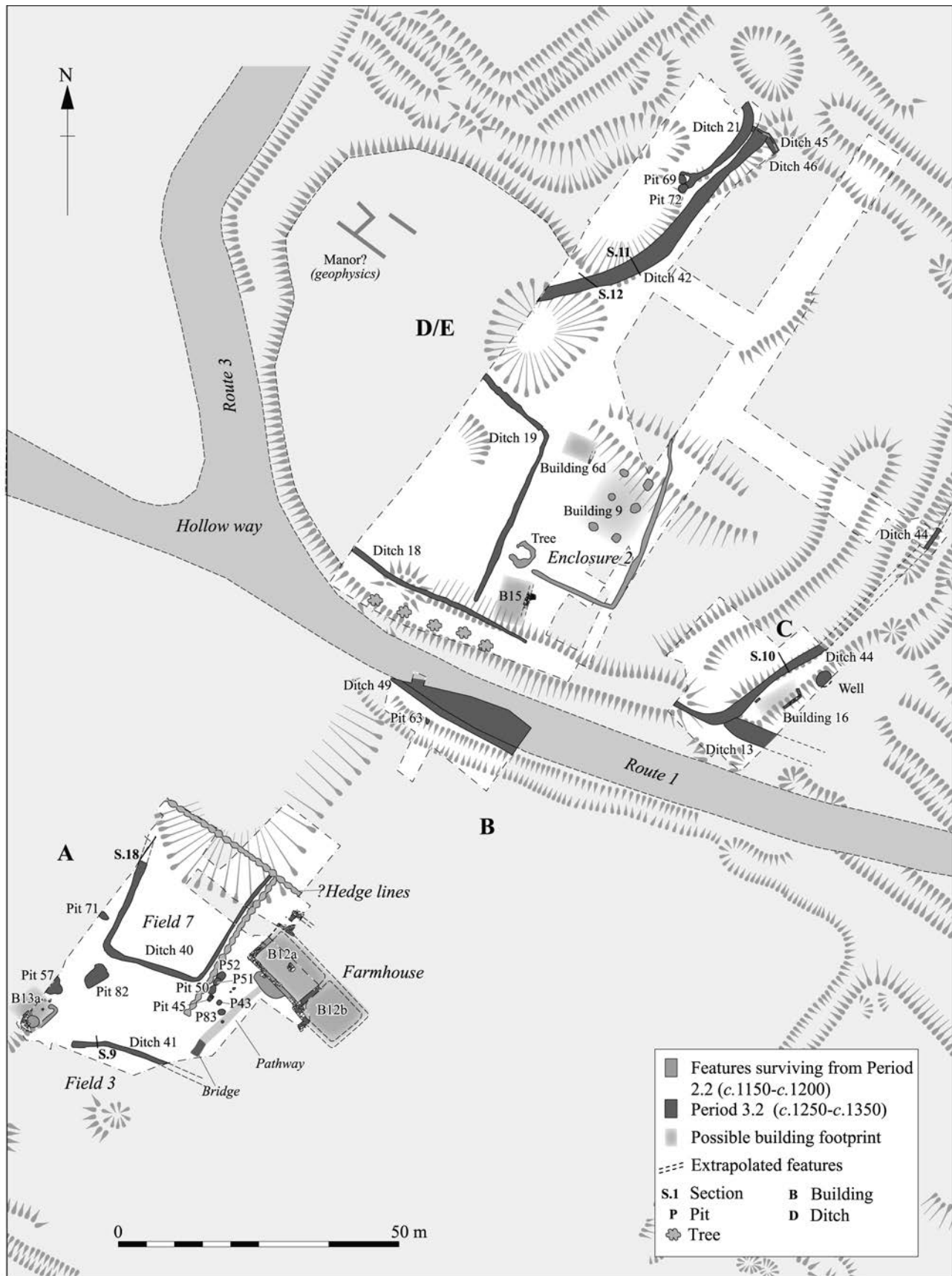


Figure 31 Phase plan: Period 3.2 (c.1250-c.1350) . Scale 1:1000

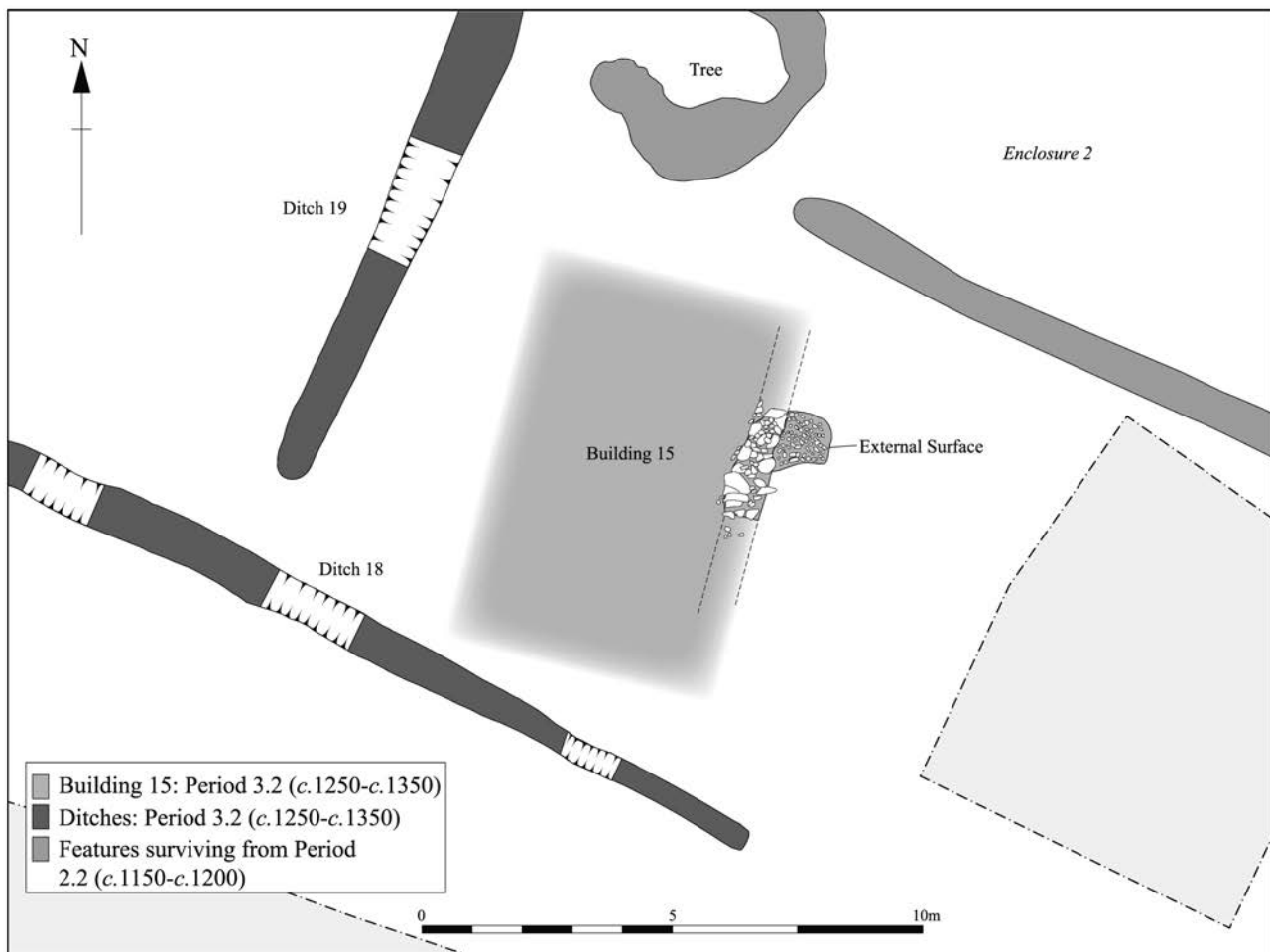


Figure 32 Period 3.2: Building 15, Area D/E. Scale 1:200

stratigraphy relating to the later phases had been removed prior to the excavation. Even so it is evident from the almost total absence of artefacts dating to the 14th century that activity levels were low here at that time. What is not entirely clear is whether the buildings assigned to Period 4 were in fact already in existence in Period 3. The suggested interpretation is that there was comparatively little activity during Period 3.2, with new building taking place elsewhere in the settlement, and with new stone structures built here at a later date.

Timber Structures (Buildings 9 and 6d)

Building 9 may have fallen from use during this phase. One of the postholes of Building 6c was replaced by a north-south oriented beamslot, suggesting a fourth phase of the structure (Building 6d).

Stone-built Structure (Building 15)

A remnant of stone foundations interpreted as a building (Building 15, Figs 31–32) lay just outside of the south-eastern wall of former Building 10 (Period 2.2), but on a roughly similar alignment. Only a 2m section of this foundation survived; it was 0.75m wide and made of roughly coursed limestone fragments. This structure may have been associated with a rough stone surface that lay immediately to its east. Both the building and the surface contained pottery dating to the period 1150–1350. Building 15, as reconstructed on Fig. 32, would have been

shorter than its predecessor to account for the presence of Ditch 18; it is possible that some of the stone features attributed to Building 10 might in fact have been part of Building 15.

CULTIVATION LAYER

Within parts of the manorial enclosure were the remnants of a cultivation layer (not illustrated). This was between 0.20m and 0.25m thick and consisted of a dark grey brown or a dark brown silty clay. It contained pottery of all dates up to and including the general 1250–1350 bracket. This may date principally to Period 2.2 and suggests a decline in domestic usage at this time.

OCCUPATION to the SOUTH-WEST

A small area of occupation developed to the south-west (Area C), immediately outside the manorial enclosure. In a position where in the previous phase there may have been a timber building, a stone structure (Building 16, Fig. 26B) was constructed. This consisted of an L-shaped wall within a shallow foundation trench, 0.15m deep, with the dressed limestone wall surviving as a single course, 0.60m wide. The surviving length was of 8.5m, aligned north-east to south-west, with the north-east corner and a short stub of northern end wall also present. With a well close by, this may have been a small domestic structure.

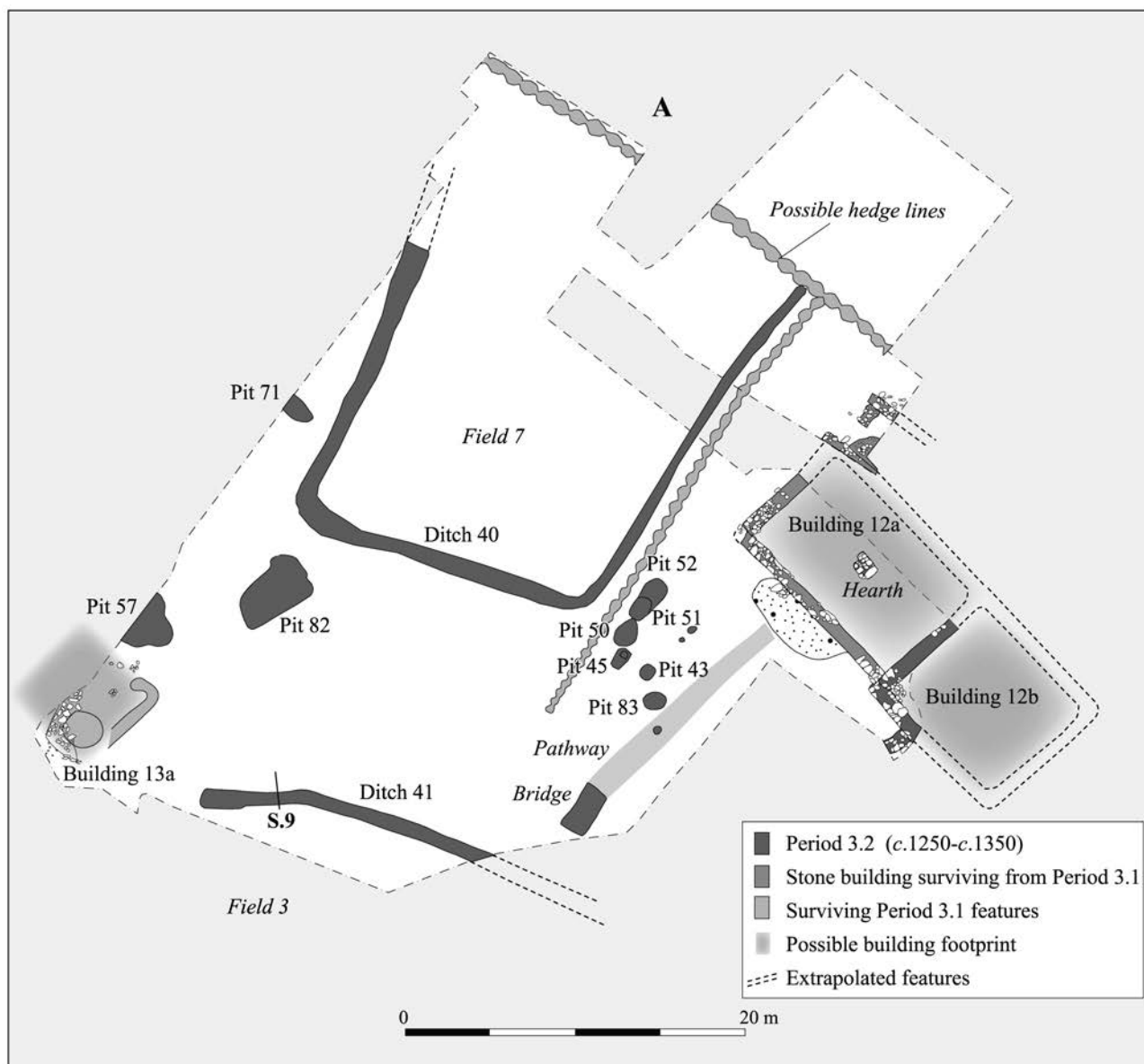


Figure 33 Period 3.2: Buildings 12a and b and related features, Area A. Scale 1:400

Hollow Way (Route 1)

(Fig. 31)

The southern ditch of the hollow way was probably maintained during this period. A single pit (Pit 63) directly to the south of the road may date to this phase. It was 0.74m in diameter and 0.16m deep and contained a leaded bronze object of unknown function (Fig. 52, SF 50).

South of the Hollow Way (Area A)

(Figs 31 and 33)

To the south of the hollow way, the earlier field or enclosure system was reorganised (Fig. 33). Cutting across former enclosures and Route 4 was a new ditch (Ditch 40), its northern end perhaps at least in part respecting an earlier field boundary/hedge. The new enclosure thus created (Field 7) measured 23m by 16m, the ditch itself being up to 1.50m wide and 0.40m deep. The partially articulated burial of a ewe was deposited within the ditch. The pottery recovered largely dates after c.1250. Further south, the northern boundary of Field 3 was recut (Ditch 41; Fig. 28, Section 9) with a new ditch

measuring up to 1.10m wide and 0.61m deep, containing 13th- to 14th-century pottery and residual earlier sherds.

To the west of the farmhouse was a line of pits (see below), suggesting that the former enclosure ditch here may still have existed as a slight depression, or that the boundary here was now demarcated by surface features such as fencing or hedging. The former path and bridge presumably remained in use. Within the former enclosure's bounds, the farmhouse (Building 12a) was maintained and added to through the creation of an additional cell to the south, here called Building 12b. Attached to the eastern end of the original hall, this new structure in effect made the building similar to a double-ended hall. Unfortunately the modern haul road cut across this building and very little evidence could be recovered (Plate X). To the south-west, Building 13a may have remained in use.

Lying between the two surviving fields (Fields 3 and 7) were various pits. Furthest east were six pits (Pits 43, 45, 50, 51, 52 and 83), some of which were dug in an intercutting line, with the remainder lying scattered to the west (Pits 57, 71 and 82). The pits in the easternmost

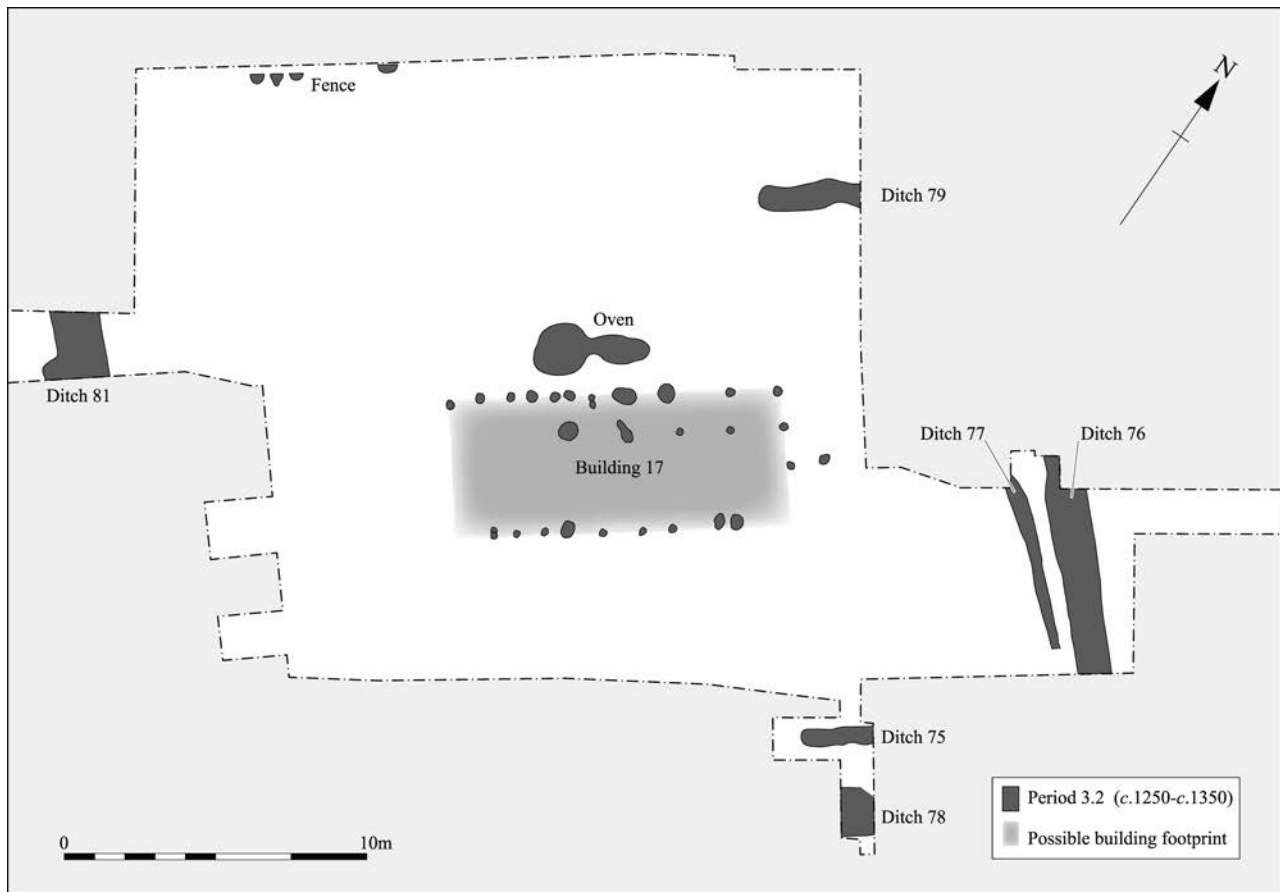


Figure 34 Period 3.2: Building 17 and related features, House Site. Scale 1:250

group were between 0.60m and 1.1m in diameter and 0.15m and 0.45m deep. All had a single fill apart from one (Pit 45) which contained several large stones and a high proportion of charcoal. Most of the pottery recovered dates to the 14th century. Three medieval roof tiles were found, while a 14th-century dress pin was retrieved from Pit 45. This pit also contained a sheep metapodial bearing cut marks resulting from skinning. An environmental sample from the pit produced relatively large quantities of various cereals (including bread wheat, barley and rye chaff) as well as other crops. The three probable pits to the west were of various sizes and were generally uninformative.

The NVRC House Site (Fig. 34)

Features attributed to this period at the House Site ran directly east to west (Fig. 34), on a different alignment to earlier activity: these are the first features that appear to have aligned with the general trend of the adjacent road line and earthworks recorded in the 1982 survey (Fig. 4). The plot boundaries were retained with the eastern boundary recut by two smaller ditches (Ditches 76 and 77) and the western boundary was also recut (Ditch 81). Relatively small amounts of medieval pottery were recovered, with a few sherds dating to the 13th to 14th centuries. On the southern side of the plot an undated ditch (Ditch 78) may represent the northern ditch of the Peterborough to Oundle Road. A test pit dug into the hollow way just to the south revealed a cobbled surface (not illustrated).

Placed centrally within the plot was a rectangular domestic building (Building 17), its longitudinal axis being on the same alignment as the adjacent ditches and presumably parallel to the Peterborough to Oundle Road. The building was positioned at least 10.5m to the north of the road, measuring at least 11.4m long and 4.9m wide. It consisted of relatively regularly spaced postholes about 0.4m in diameter, although there were five larger postholes up to 0.7m in diameter. At least eleven postholes ran along the longitudinal axis of the building. To the west these were regularly spaced 1m apart, although on the eastern side the spacing widened to c.1.5m. Within the north-eastern corner of the building were four internal postholes running parallel to the northern wall which may represent an internal partition. A relatively large quantity of pottery (248 sherds) spanning the Roman to post-medieval periods was reportedly recovered from three postholes, although appears to have been mis-labelled.

Within the plot lay an oven, aligned with Building 17 and 1m to the north. The feature, no details of which survive, had been backfilled with a large deposit of abraded medieval pottery (190 sherds) all dating before c.1350. To the north-west of the building lay a possible fence line consisting of four postholes. Further east, two east to west aligned ditches (Ditches 75 and 79) lay equidistant to the north and south of Building 17 (c.5.5m from it). These both butt-ended at the same point (lining up with the eastern wall of the building), although their function remains unclear.

V. Period 4: Late Medieval (c.1350–c.1500)

Summary

This period saw a complete change in the character of occupation at the manorial site, with the construction of at least three substantial stone buildings, the creation of a large pond and the revision of boundaries (Fig. 35). To the south of the hollow way the farmhouse was again extended and here the arrangement of all of the earlier spaces was revised to create an inwardly-focused farm complex. Domestic occupation continued at the NVRC House Site, on the Peterborough to Oundle Road.

Dating Framework

The pottery from deposits assigned to this period is generally late medieval in date, although it contains a significant proportion of earlier material (Bourne B and Bourne D pottery, alongside Shelly wares). Overall, the assemblage suggests that this phase includes contexts spanning the 15th century, with a high level of residuality in some later groups. The lack of transitional or truly post-medieval pottery associated with the various buildings suggests that meaningful occupation may not have extended into the 16th century.

The Manorial Enclosure (Areas D/E and C) (Figs 35–39, Plates XI–XII)

Buildings and Associated Features

Stone-built Structure (Building 18)

Within the manorial enclosure were the remains of three, or probably four, buildings (Figs 35–39). All had been constructed at least in part from cornbrash limestone, which survived where foundations were deepest to give a partial plan of the wall lines of each structure. The southernmost example (Building 18, Fig. 36) was constructed gable end on to the hollow way, overlying the former manorial enclosure ditches and in approximately the same position as was previously occupied by Buildings 10 and 15. It was 6.35m wide (4.85m internally), at the southern end. Here it survived up to four courses high, since the foundations had been built deep into the softer ground of the former boundary ditches. The walls were 0.75m wide, and constructed of unmortared, coursed and roughly-faced limestone fragments. A single probable quoin (measuring 0.57m by 0.32m and 0.1m thick) was found at the south-western corner of the structure (outer wall) but typically the limestone fragments were 0.2m to 0.35m long/wide and 0.05 to 0.1m thick. The core of the wall comprised tightly packed limestone fragments, generally 0.07 to 0.2m in length. A 0.30m gap in the wall south-western corner formed a drain. The only other parts of the wall of the structure to survive were small stretches of the eastern and western sides.

The northern part of the structure may have been represented by one or more of the postholes already assigned to earlier phases on the basis of the date of pottery within their fills; attribution to a single period for many of these features proved difficult. Either way, its length was probably similar to that of the earliest building in this same position (Building 10), at around 14m. In the south-western corner of the building was a drain running through the wall through a squared-off gap 0.30m wide

and more than 0.32m deep (Fig. 36, Section 22), containing dark greyish brown clayey and silty sand. The drain continued outside the building in the form of an east to west aligned ditch, extending for a distance of more than 6m. It sloped down to the west, dropping more than half a metre over its recorded length. The ditch was up to 1.10m wide and 0.42m deep with a very slack V-shaped profile. It contained a single dark yellowish brown silty sandy clay fill, from which the partial skeleton of a sub-adult ewe aged about 2 years old was recovered.

The building could be interpreted as having either an agricultural or domestic function, stone drains being known from houses and buildings that held livestock. Finds from the building as a whole comprised modest quantities of medieval to post-medieval pottery and two medieval quern fragments.

Fragments of cobbled surfaces lay outside the building to the east and south, the latter perhaps linking the building to the hollow way if there was in fact no enclosure boundary wall here. This appears to be confirmed by the presence of a possible wheel rut cutting the surface immediately to the south of the building (not illustrated).

Stone-built Structure (Building 19)

Aligned with Building 18 and almost 15m to the north was another structure (Building 19; Fig. 37). Only fragments of its walls survived, although its possible extent to the north is indicated by the position of a hearth placed over the backfill of Period 2 property boundaries. Overall, the evidence suggests a building at least 20m long and 7m wide (5.6m internally), although it has been reconstructed as around 24m long on the basis of its width and the relative dimensions of the other buildings in this phase. The surviving elements of its eastern wall consisted of a shallow foundation cut, up to 0.10m deep. The wall was up to 0.70m wide and survived as a single foundation course. The faced limestone fragments were dressed and were between 0.20m long and 0.15m wide, and 0.40m long, 0.20m wide and 0.10m thick. The rubble core of the wall was unbonded. The small quantity of pottery recovered mostly pre-dates c.1350 but much of it is Shelly ware pottery which is known to have been used into the 15th century. The western wall only survived in a very fragmentary state where its basal course had been built into the soft backfill of the now redundant north–south aligned enclosure (Ditch 19), meaning it was positioned lower than the top of the surrounding natural subsoil. Its dimensions and details of its construction were very difficult to determine but it seems to have been very similar to the east wall. The vestigial nature of these single course survivals set into ‘islands’ of surviving clay subsoil is clearly shown by the photographs in Fig. 37.

A 1.7m length of a cross-wall was identified, 0.65m wide and of similar limestone rubble construction with facings on both sides. This may have terminated at its eastern end with a posthole, which perhaps indicates the position of an internal doorway. A hearth recorded in the northern part of the building survived as a small shallow feature comprising a burnt circular clay layer, measuring about 0.80m in diameter. This was not dated by finds but was stratigraphically later than Period 2.2 and must therefore be assumed to have been part of Building 19 as the only later structure in this position.

Within the southern cell of the building were the remains of a floor surface. This remnant extended over an

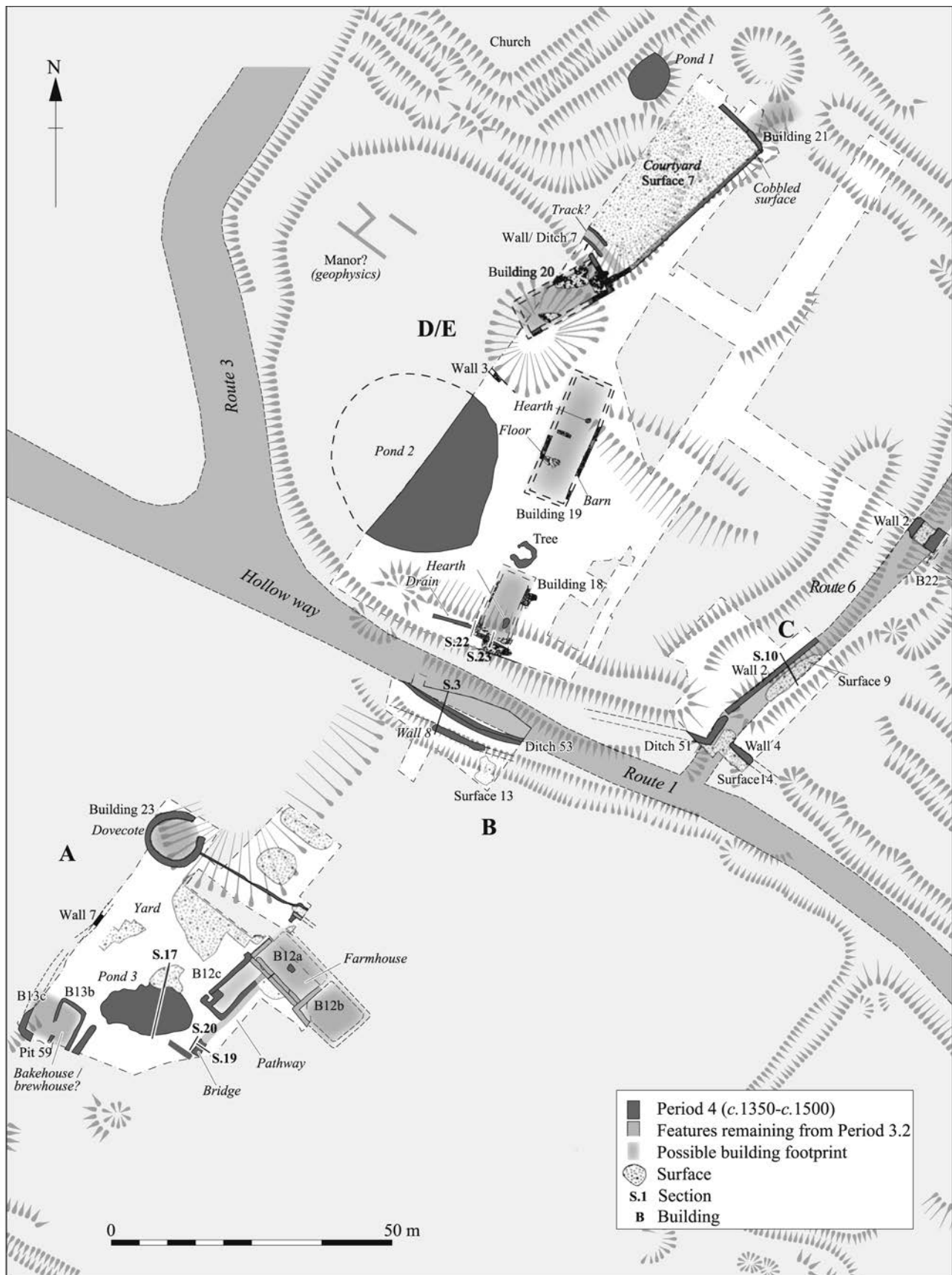


Figure 35 Phase plan: Period 4 (c.1350–c.1500). Scale 1:1000

area c.5.5m by c.2m and consisted of pebbles packed down into the natural subsoil. These were sealed by a 0.05m thick clay deposit which may represent a later

surface. A remnant of floor surface was also found in the northern cell, adjacent to the cross-wall, which it butted up against.

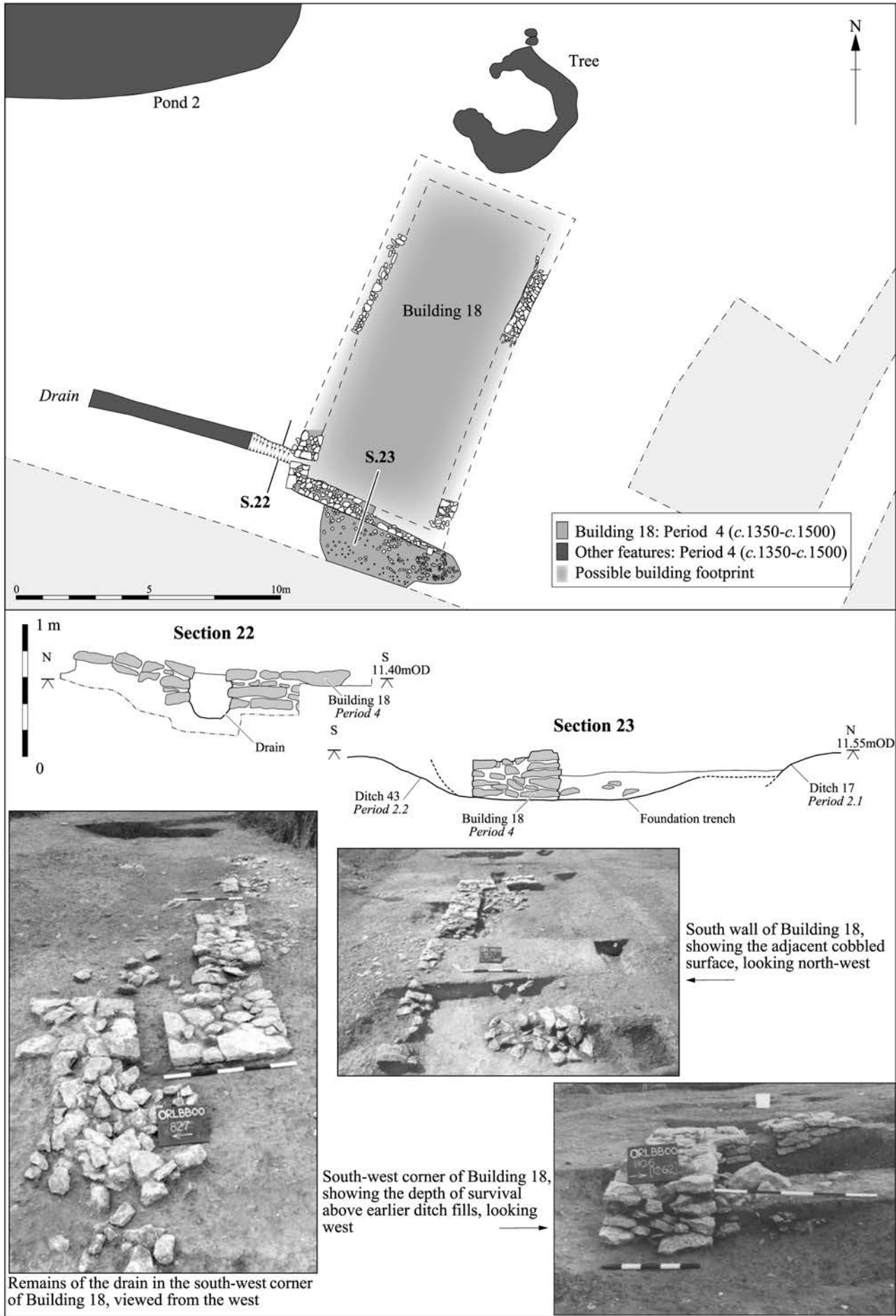


Figure 36 Period 4: Building 18, Area D/E. Scale 1:200



The east wall of Building 19; this 'lump' of surviving stonework created an island of archaeological preservation



Cross wall within Building 19, showing the remnant floor surface to the north and the posthole at the wall's end

Figure 37 Period 4: Building 19, Area D/E. Scale 1:200

Building 19 may have been either an agricultural building or a domestic one; from its dimensions it might conceivably have combined both functions as a 'long-house', although this must be deemed unlikely. The slight remains of a hearth towards the northern end should not be used simply to assert that this was a domestic structure, as this is not conclusively dated and as most of the floor level deposits have been lost, great uncertainty exists regarding function.

Stone-built Structure (Building 20)

Around 5m to the north-west of Building 19 lay another possible house or agricultural building (Building 20, Fig. 38), lying on a different orientation, from north-east to south-west. The extremely fragmentary condition of the building, only part of which lay within the excavated area, means that its layout is uncertain. The fact that any part of this structure had survived was due to it being laid over a sequence of backfilled ditches and, as with the other buildings of this phase, its foundations were thus more

deeply laid in these softer areas. The core of the building is interpreted as lying to the south-west of the main section of walling that formed its north-eastern corner. Another wall fragment suggests the position of part of the north-west wall and some courses of stones indicate the position of walling near its south-east corner. Its north-eastern wall appears to have possessed a buttress on its north-eastern side, allowing interpretation as an external face, and implying a need to provide additional support and thus perhaps suggesting a high structure, possibly even with a second storey. An enclosure wall of similar stone build ran off towards the north-east along a boundary formerly marked by open ditches (Figs 35 and 38).

Patches of flooring and the two fragments of parallel walls indicate a building more than 15m long and 6m wide. The surviving stone walls were laid in shallow foundation trenches and survived as a single course, 0.86m wide. The walls were roughly faced around a rubble core and were earth bonded (Fig. 14, Section 12).

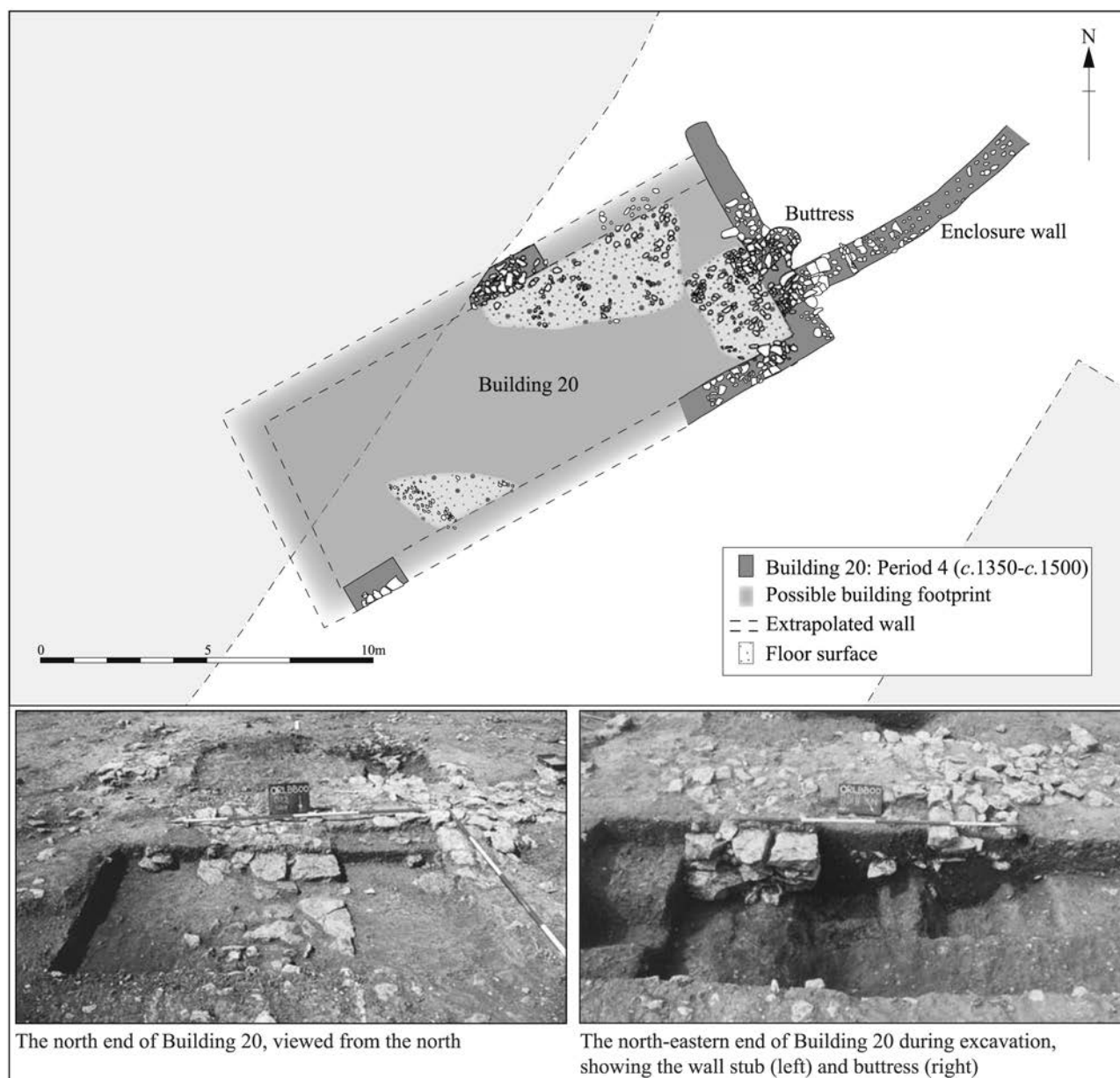


Figure 38 Period 4: Building 20, Area D/E. Scale 1:200



Plate XI Remnants of Building 21 (Area D/E). A) Viewed from the east. On excavation, this wall fragment was found to lie on a relieving arch above earlier ditch fills; B) Viewed from the east, showing the wall's survival above earlier ditch fills

The floor surface remnants consisted of angular limestone embedded into the natural subsoil or pebbles and fine gravel compacted hard into a yellowish brown soil. The building was just over 7m wide and it has been interpreted as around 17m long. An agricultural function is likely.

Other Structural Features

Lying between Buildings 19 and 20 was an undated wall fragment (Wall 3, Fig. 35) which may indicate a former building or boundary wall. It was 1.65m long, 0.70m wide and survived as a single limestone course 0.16m thick.

Some distance to the north-east lay another possible structure (Building 21, Fig. 35, Plate XI), or possibly the remnant of a small footbridge over an earlier ditch which survived to 3.40m long and 1m wide, with up to three courses. The lowest course comprised limestone blocks laid tightly end on into earlier ditches with later courses laid as a relieving arch over the soft ditch fills. The bonding of light olive brown clayey sand contained a few sherds of pottery dating up to c.1250; it is therefore possible that this feature dated to an earlier period. Abutting the feature to the south was a sandstone and pebble surface, 1m long, 0.20m wide and 0.15m deep.

An extensive limestone spread (Surface 7) lay between Buildings 20 and 21 which, when combined with the surface remnant found next to Building 21, suggests a cobbled courtyard. Some parts of the surface survived as patches in hollows, but it was better preserved further south where limestone fragments had been laid into green clays. The few finds recovered comprise part of a quern stone, a Roman tile and two sherds of pottery dating up to 1500.

Ditch 7, containing the lower courses of a limestone wall and therefore probably in fact a foundation trench, led away from the northern end of Building 20, perhaps

aligned with another ditch to form a trackway at the southern end of the yard surfaces. This further emphasises how the manorial enclosure had by now become sub-divided, space being managed for agricultural rather than domestic purposes, but perhaps within the central farm buildings of the manorial estate.

To the west of Buildings 18 and 19 lay a large pond (Pond 2), which may well have started out as a large gravel quarry, the inheritor of a tradition of extraction seen in earlier periods immediately to the east. Its recorded dimensions suggest it was c.32m long and at least 15m wide and 0.60m deep. It was infilled with at least four deposits varying from a light brown sandy silt to a dark brown sandy silt. The pottery recovered from its fills dated to the period before 1350 and thus the pond may have been existence in the previous period.

Boundary Walls and Track (Route 6)

The earthworks surrounding the manorial enclosure that were still visible and recorded during the 1980s may owe their origin to the construction of a boundary wall along at least part of their length, but along the southern side it may be that the bank was a much later feature. The earthworks here clearly lay above the earlier ditches from Period 3, but were for the most part removed by machine prior to the archaeological work. The sequence survived best on the eastern limit: here the boundary was straightened and a new trackway was created on its eastern side (Route 6), cutting through the former structures and activity here.

Directly to the east of the walled/ditched enclosure, near to the frontage onto the hollow way, was a wall fragment (Area C, Wall 4, Fig. 35) which may have been a remnant of a building but was more probably a surviving section of the northern boundary of Route 1 in this phase and which ended 3m short of a ditch to the west (Ditch 51,



Plate XII Wall 4 (Period 4), showing its pitched stone foundations (Area C)

see below), thereby creating a new access north-eastwards. This wall was constructed in a slightly different manner to most others on the site, being composed of pitched, rather than roughly coursed limestone fragments (Plate XII). An area of cobbles survived in the gap, abutting Wall 4 and Ditch 51 on their southern sides (Surface 14) indicating that the junction between the hollow way (Route 1) and the new track was metalled. Aligned with the gap and to the north was a further fragment of cobbled surface (Surface 9) that represents the metalling for the new track running northwards (Route 6) around the outside of the main 'manorial' enclosure. Both areas of metalling were predominantly gravel with limestone fragments, bonded with mid brownish grey clayey sandy silt. Finds included three medieval horseshoes.

The ditch (Ditch 51) turned to the west, respecting the line of the hollow way. It was more than 0.65m wide and up to 0.36m deep with moderately sloping sides and a slightly rounded base. The fill was a mid to dark brownish grey silty sandy clay, containing medieval to post-medieval pottery including a large sherd from a Bourne D bowl sherd (dating to 1450–1650) as well as a medieval roof tile fragment. This long-lived boundary was recut in Period 5. A sample taken from its fill recovered more than 1,500 cereal grains, largely wheat but including other cereals. The presence of wild species suggests that cultivation was occurring nearby, with some woodland and grassy areas present. Further to the west in Area D/E a layer sealing the upper fills of the enclosure ditches from the previous period also contained Bourne D ware. The 1980s earthwork survey had recorded the enclosure bank as lying along the southern edge of the excavated area, but no trace of this feature survived. It is possible that the later 'bank' represented soil build-up adjacent to a wall line, but it seems unlikely that there was a wall here during this period, when the evidence from Building 18 (above) is taken into consideration.

Running northwards from the end of Ditch 51 was another wall (Wall 2, Fig. 39) which ran north-east to south-west, forming a long boundary. The wall was built within a large foundation trench up to 3m wide and 0.70m deep (Fig. 14, Section 10). The base of the trench was packed with a 0.30m thick layer of dark greyish brown sandy and very silty clay, with half of the fills comprising large limestone fragments typically between 0.20 and 0.30m long. On top of this foundation, a stone wall (1.05m wide) was constructed and survived up to four courses high (0.40m). The dressed limestone facings were up to 0.30m in length with smaller core rubble bonded with a dark yellowish brown silty clay. A late medieval/early post-medieval roof tile, medieval to post-medieval padlock bolt and a small quantity of pre-1350 pottery were recovered.

Further north-east (at the eastern end of the NVRC 1987 excavations) were two parallel limestone walls spaced c.6m apart with a cobbled surface between them. It is likely that the western wall formed a continuation of the boundary wall (Wall 2) recorded to the south, with the surface indicating a continuation of the metalled route noted to the south. Between the walls, the surface consisted of pebbles and limestone embedded in a middle brown silty, sandy clay. The rounded limestones were laid flat and showed traces of burning. The soft character of the backfills of underlying ditches in this area necessitated

deeper foundations and the walls here were far more substantial than those noted elsewhere on the site (Fig. 39). The western wall was substantial with the foundation trench extending 0.30m in front of the wall, which was 0.94m wide at the upper surviving course. The wall survived to 14 courses (1.10m high) and was constructed as a series of four offsets with the lowest course 0.41m wider than the top surviving course. Some of the stones were scorched, perhaps suggesting reuse.

The eastern wall, which probably indicates the presence of a building on the frontage (Building 22, Fig. 39), comprised seven surviving courses (0.55m). Again, it was battered with the top course 0.58m wide and the lowest foundation course up to 0.20m wider. The size of the stones used varied with larger faced blocks within the lowest two courses (up to 0.10m thick) whilst the upper courses were c.0.04m thick. Scorchmarks again suggest that some of the stones may have been reused. The core of the wall consisted of smaller fragments of stone, with pebbles and soil bonding.

Pond to the North-West

A machine-dug trench was excavated through a large sub-circular pond (Pond 1, Fig. 35) which lay outside the excavation to the north-west. It was 16m in diameter and more than 1.2m deep (not bottomed). The lowest half metre of fill was organic grey clay with twigs surviving. Pollen samples were taken from its fills (see Chapter 5.IV).

Hollow Way (Route 1)

(Fig. 35)

The hollow way continued in use, with its southern drainage ditch being recut once again (Fig. 35). Although the road was presumably cambered, no evidence for this survived. The surviving surface comprised patches of limestone fragments, flints and close-fitted small square limestone blocks (50mm by 50mm by 20mm) adjacent to the drainage ditch. These may not all have been contemporary, since the route would have been patched up and resurfaced countless times. In one area beneath the surviving road surface was a layer of reddish brown heavy clay with frequent small pebbles. In another trench dug across the road an isolated (1.2m long) patch of angular limestone fragments may have been a relic of earlier road make up.

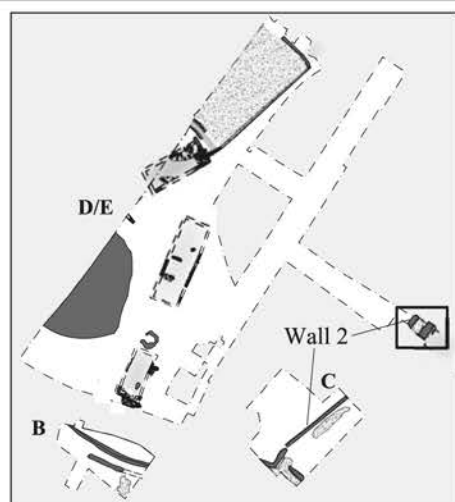
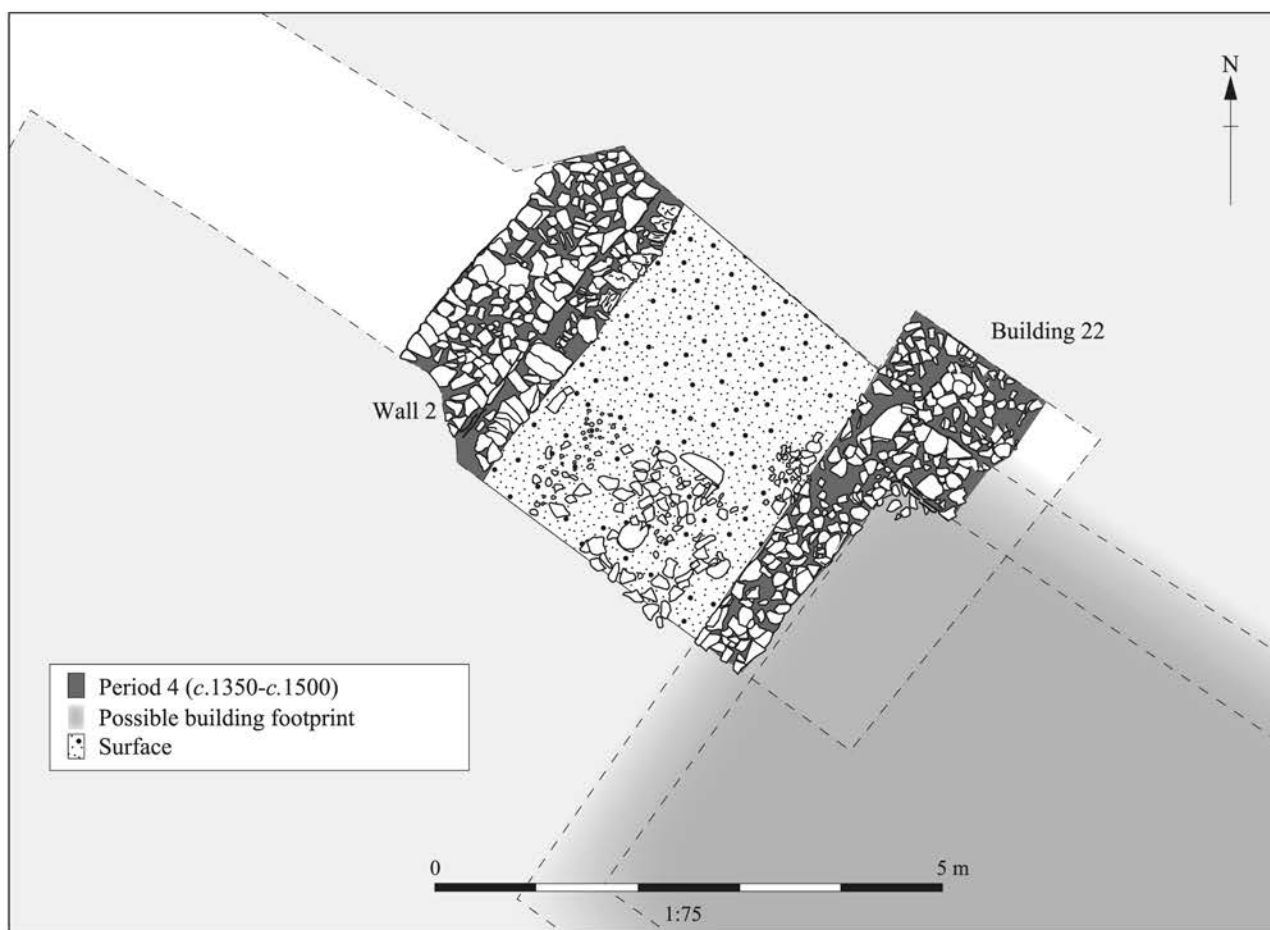
The recut of the southern roadside ditch (Ditch 53) was up to 1.72m wide and 0.58m deep, with moderately sloping sides and a slightly concave base (Fig. 18, Section 3). It was backfilled with a single fill in all five sections excavated through it, which varied from a reddish brown sandy clay to dark greyish brown sandy clayey silts. Only four pottery sherds were recovered, all dating before 1350.

South of the Hollow Way

(Figs 35 and 40, Plates XIII–XIV)

Boundary Wall (Area B)

Directly to the south of the hollow way and running parallel to it was a wall (Wall 8, Fig. 35) which may have formed part of a building or a boundary wall around the farm to the south. It survived up to 10m in length, 0.8m wide and up to 0.15m thick (Fig. 18, Section 3) and consisted of limestone fragments, surviving up to two courses high but was not mortared. Just to the south-east



Wall 2 (Period 4), showing its deep foundations dug into earlier ditches, NVRC Trench, Area D/E



Wall 2 (Period 4), overlying infilled Period 2 and 3 ditches (Area C)

Figure 39 Period 4: Building 22 and Wall 2, NVRC trench, Area D/E. Scale 1:250

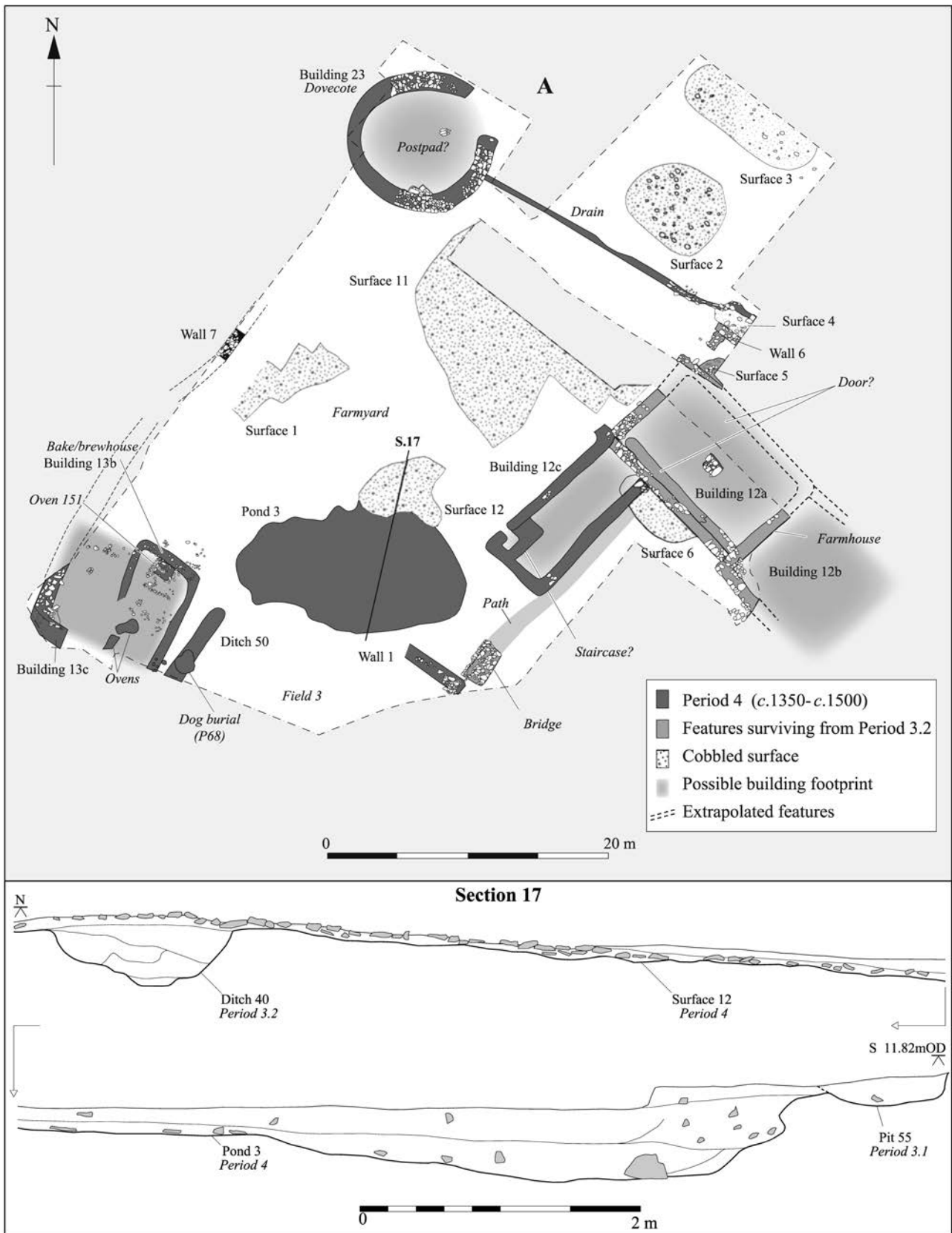


Figure 40 Period 4: Building 12 and related features, Area A. Plan scale 1:400, section scale 1:40

was part of a limestone block surface (Surface 13) which survived over an area 3.75m long and 2m wide. This was laid directly into the natural Oxford clay subsoil. Small limestone pieces along with flint, quartzite and animal bone were wedged between and over the limestone blocks.

The Late Medieval Farm (Area A)

Farmhouse

The agricultural complex that first appeared in Period 3.1 as a single-celled farmhouse surrounded by a group of enclosed fields, and which subsequently developed during Period 3.2 with the establishment of a ditched enclosure, continued to grow as a centre of occupation and activity in the later medieval period (Fig. 40). The farmhouse had previously developed from a single-celled hall (Building 12a) within a ditched enclosure in Period 3.1, to a double-ended hall (Building 12b) in Period 3.2. With the addition of a new 'wing' in the form of Building 12c, by Period 4 it comprised three linked buildings in its final form. Presumably each of the buildings in this L-shaped complex would have been linked by doorways, of which no evidence survived, although opposing doorways have been proposed for Building 12a. The group as a whole was now positioned on the eastern side of an area that developed into a farmyard/courtyard.

Building 12c ran end on to Building 12a, which it butted up against. It was rectangular, measuring 12.1m long (10.5m internal length) and between 4.9 and 5.2m wide (between 3.1 and 3.4m internal width). Only a fragment of the building's original walling survived, in the north-eastern corner adjacent to the main hall. This was 0.90m wide with well-faced limestone blocks measuring up to 0.60m long, 0.4m wide and 0.31m deep. The

remainder of the walls had been completely robbed. An internal feature in the building's north-western corner may represent the foundations for a spiral staircase, implying the presence of a second storey.

Stone-built Bakehouse/Brewhouse (Building 13b)

Further west (on the other side of a pond) were the remains of another rectangular structure (Building 13b) running north-east to south-west into the south baulk and positioned in a craft/processing zone observed in previous phases (Fig. 40). The building was more than 8.4 long and 5.20m wide (3.95m wide internally). Its walls survived as fragments of a single foundation course, 0.60m wide, consisting of unbonded rough limestone pieces. Within the structure was a floor of limestone fragments laid around an oven which lay adjacent to the north wall. This square oven (151, Plate XIII) was first noted during evaluation (Trench 2) and measured *c.* 1.1m across and *c.* 0.15m deep. Its exterior consisted of a single stone limestone course of roughly faced stones on the north, western and eastern sides, with very large limestone blocks laid on end along the southern side. The natural yellow clay had been scorched in the southern part of the oven, with heavy burning on the internal face of the limestone fragments. After disuse the oven was filled with a dark brown clayey silt with frequent flecks of charcoal and daub. A small quantity of fired clay and a single medieval pottery sherd were recovered.

The southern part of the building had been severely truncated. Neither the foundation courses of the building nor the internal stone floor survived here, although there were the remnants of two further ovens. One undated oven was roughly circular with a diameter of 0.47m. Its concave cut was filled with burnt material including stones and charcoal. A sample from this deposit contained

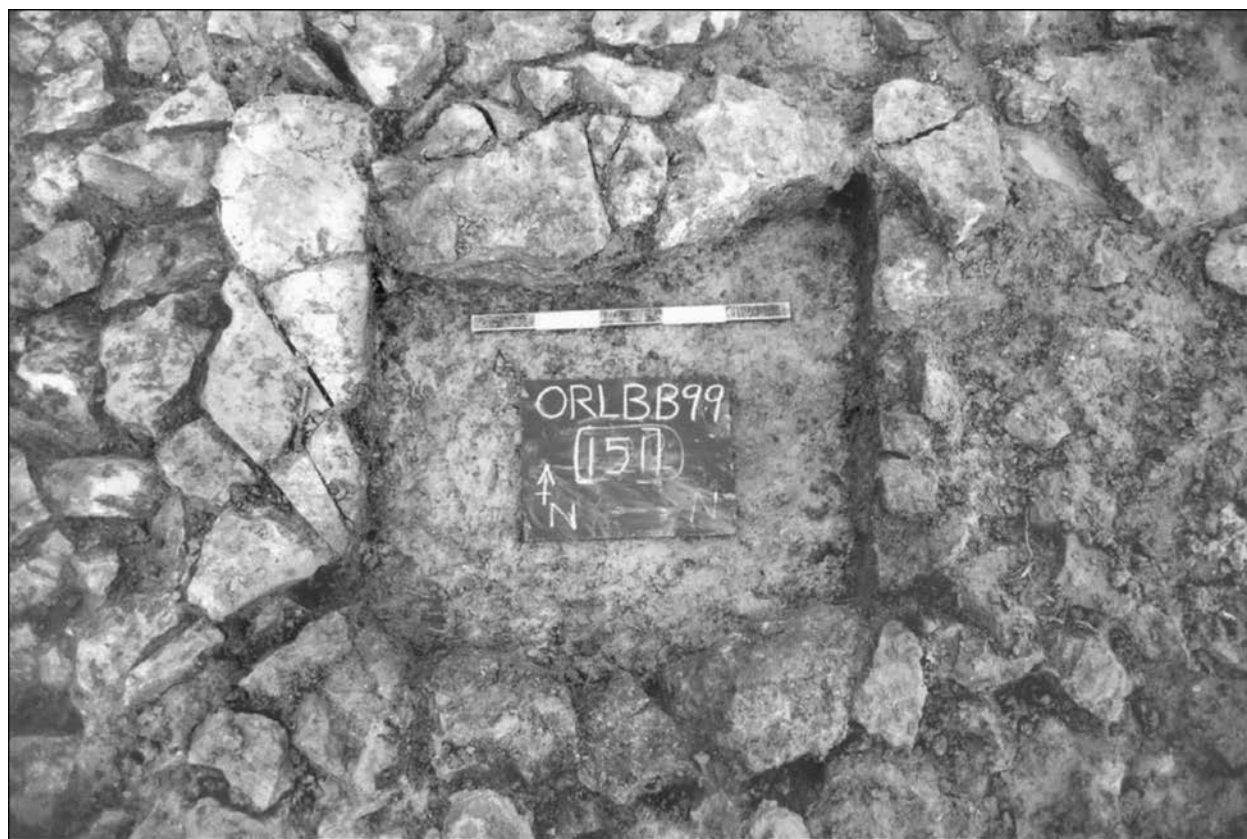


Plate XIII Hearth in Building 13b (bake/brewhouse), Period 4 (Area A), viewed from the south

carbonised grains, suggesting possible use for drying, cooking or heating. Wheat, barley and a little rye were found with chaff from both rye and free-threshing wheat. The third oven was 0.8m long, 0.40m wide and 0.09m deep and formed a roughly figure of eight/key-hole shape. The flat base of the construction cut contained burnt clay and charcoal. Pottery from the backfill had also been burnt. The combination of environmental evidence, the presence of three ovens and the recovery of two sooted quernstones may indicate a function as a bakehouse and/or brewhouse; clearly grain was processed and heated here.

Less than 5m to the west of Building 13b was an L-shaped wall remnant that may suggest another room, a separate building or a boundary wall (Building 13c). It ran on a similar alignment to Building 13b and turned eastwards at its southern end. It was at least 0.70m wide with parts of the lowest foundation course surviving. Faced limestone blocks survived along the western and southern corner side of the wall (up to 0.40m long, 0.2m wide and 0.15m deep) with the remainder largely robbed, although a small part of the wall's core survived and consisted of smaller limestone rubble. It was bonded with a mixture of clay and gravel.

Further north was an isolated wall fragment (Wall 7) which may also represent a fragment of a building or a boundary wall and would therefore, with Building 13c, constitute the north-western edge of an enclosed farmyard (although there were notable variations in alignment between the two walls).

Dovecote (Building 23)

To the north of the other farm buildings lay a circular dovecote (Building 23) which had been extensively robbed, with less than a third of its full circumference

surviving (Fig. 40). It was 10.20m in diameter, with an internal space measuring 7.80m in diameter. The walls were 1.20m thick at foundation level and survived up to three courses (0.46m) high on the south-eastern side. The foundation trench was 0.29m deep with a flat base. Large limestone blocks were laid against the sides of the cut, while its core comprised slightly smaller limestone pieces bonded with mid brown clayey silty sand. A fragment of the interior limestone flagstone floor survived to the south. Some of the stones were shaped into 0.4m squares, while others were triangular (0.25m long): all were between 50 and 80mm thick. The floor was laid directly onto the natural subsoil. A medieval peg tile was found in the robbing debris which may suggest that the dovecote had a tiled roof.

Slightly off-centre towards the eastern side of the dovecote was a small rectangular area (0.70m by 0.50m) of limestones set on edge. The stones were between 0.15m and 0.20m in length and 60 to 80mm wide and were directly laid on edge onto the natural subsoil, standing proud of the floor level. They may represent a postpad and could be the foundations for the dovecote potence. Dovecotes usually have a central post supporting a rotating ladder — the potence — which gave access to the doveholes set into the upper walls (see Chapter 6.VII). Phosphate samples taken from the building confirm elevated phosphate levels (Chapter 5.V).

A drain ran for a distance of roughly 17m east to west from the dovecote to the north of the main farm buildings, dropping slightly in height to the west. It was 0.49m wide with vertical sides and survived up to 0.17m deep. It was lined with large limestone fragments (0.25m long and 0.08m thick) which were laid on edge against its sides. Any original capping stones did not survive. An iron tack was found within its fills.

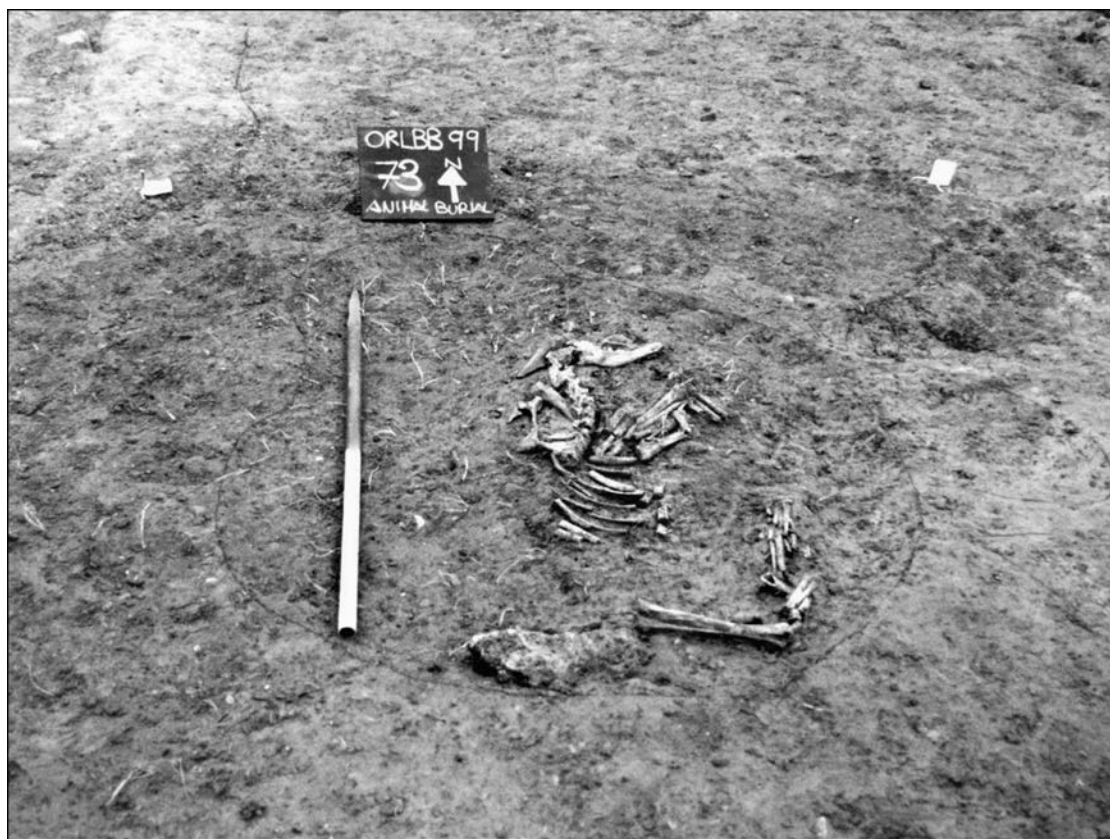


Plate XIV Dog burial in Pit 68, Period 4 (Area A)

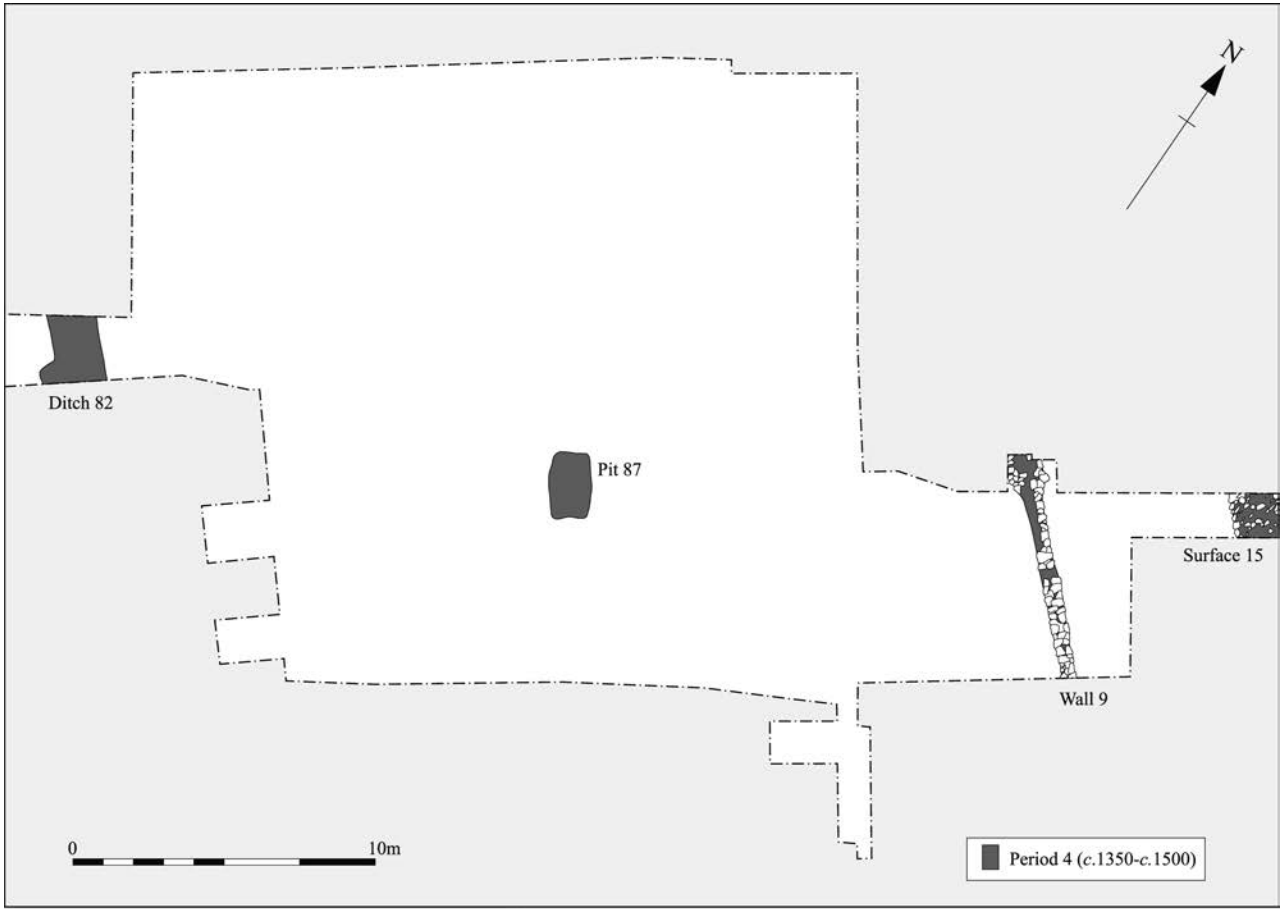


Figure 41 Period 4: Wall 9 and related features, House Site. Scale 1:250

Farmyard

A cobbled surface that is presumed to have extended across much of the farmyard survived intermittently (Surfaces 1, 11, 12) and was extensively robbed. Further cobbled surfaces (Surfaces 2 and 3) survived on the northern side of the dovecote drain and may indicate the presence of a track running towards the hollow way or an extension of the metalled area. Generally, the surfaces were up to 0.16m thick and consisted of angular limestone pieces up to 0.15m in length as well as some rounded flint and quartzite pebbles up to 80mm in diameter. Generally, the limestone layers sealed areas of cobbles laid directly on to the natural ground surface, suggesting two episodes. Some of the limestone fragments were burnt. The stones had been bonded with a greyish brown silty clay. Other materials had occasionally been used in surfacing, such as brick/tile and slag (nearly 2kg). Finds recovered from Surfaces 2 and 3 include pottery dating to 1600–1700 which seems to relate to the abandonment phase, as well as an iron candleholder, a horseshoe, iron strip, three nails and an undated tile.

To the north of the main farmhouse (at the end of the drain leading from the dovecote) was another fragment of cobbled surface (Surface 5) which butted up against Wall 6 that was established in the previous period. These also represent a further part of the farm complex, but whether the wall was still part of a building or had become only a boundary marker by this stage is not clear.

Within the farmyard, one area of cobbles (Surface 12) led down to a pond (Pond 3) to the south which was c. 15m by 7m in size and up to 0.64m deep; this had been provided with a stone dam, forming a cobbled 'hard' allowing safe access for beasts, and a revetted stonework side offering deeper water. The cobbled surface was fairly flat at 11.82m OD, with a gentle slope downwards of 0.38m over a 5m distance into the pond (Fig. 40, Section 17). The cobbles then stopped, with the pond dipping down a further 0.30m over the next 3m. The southern side of the pond was 0.60m deep with a moderate slope. An iron knife recovered from the patch of cobbles dates from the mid 14th century. Infilling of the pond is described in Period 5.

Further to the south-west lay a boundary ditch (Ditch 50), recorded over a distance of more than 6m before butt-ending. It was flat bottomed with a V-shaped profile and was filled with a sequence of deposits varying from a light brownish grey fine silty clay to grey silty fine clay. The small quantity of pottery recovered includes fragments of Bourne 'D' ware dating to c. 1450–1650. The ditch was cut by a burial pit containing a large mastiff-type dog (Pit 68; Plate XIV) adjacent to four postholes, two of which were extremely deep perhaps forming part of a fence line. These features are not precisely dated. The grave was sub-circular, measuring 1.70m by 1.34m and 0.10m deep.

Path and Bridge

As described previously, a stone arch had been constructed over the soft fills of the former domestic enclosure ditch south of the farmhouse, and a metalled path was probably constructed between the two. By Period 4 on the southern side of the bridge was a wall (Wall 1) running at right angles to it and leading towards the adjacent pond. The wall was about 1m wide and survived in parts as a single course faced with limestone blocks with a core of smaller limestone fragments. The

wall may have linked to Ditch 50, adjacent to the eastern wall of Building 13b.

The NVRC House Site

(Fig. 41)

The eastern boundary of this plot was maintained, being rebuilt as a stone wall which survived in places as a single foundation course (Wall 9, Fig. 41). There was no evidence of a corresponding stone wall on the western boundary, which may be represented by the final phase of the relevant ditch (Ditch 82). Pottery recovered from these ditch fills includes seven residual Bronze Age sherds (14g), indicating prehistoric activity in the vicinity.

A rectangular pit (Pit 87) of indeterminate function lay in the centre of the trench, in a position that would have been in the centre of this domestic plot in previous phases, but by this stage there is no evidence of a dwelling here and in fact this pit sat within the plan of the building that existed in the previous phase.

On the far eastern part of the site, beyond the plot boundary, were the remains of an undated stone surface (Surface 15). The existence of this surface here suggests that even though the main plot had ceased to be utilised for domestic purposes, the plot to the east was in use during this period.

VI. Period 5: Post-Medieval Abandonment and Robbing (c.1500–c.1650)

Summary

The site appears to have been abandoned between the middle of the 16th century and the mid 17th century, although the buildings may not all have fallen from use at the same time. Demolition layers were found within former structures, although they had evidently been extensively robbed. Very little activity succeeded the robbing phase. The hollow way continued in use during this period, with the southern roadside ditch being recut once again. The route does not appear to have survived beyond the abandonment of the church in the 17th century since it does not appear on the 1808 map (Fig. 8).

Dating Framework

Despite the 16th to mid 17th century dating of this phase, only modest amounts of true post-medieval pottery were found. The assemblage is heavily dominated by Bourne D ware, with late Lyveden and late medieval Lincolnshire fabrics also present, alongside a high proportion of residual material and a small amount of German stonewares. One of the latest features is Pit 70 (in Area A), the pottery from which suggests a date after 1550, but probably not later than 1600 for the deposition of demolition waste from the farmhouse into the pit.

Former Manorial Enclosure (Area D/E)

Buildings and Other Features

Most of the buildings in this part of the site were extensively robbed, with rubble spreads surviving above and around the former buildings (not illustrated). Some of the wall footings, as well as the walls themselves, were robbed. Finds recovered from the rubble and remnants of the earlier surfaces include a late 13th-century button, as well as a few sherds of pottery dating as late as the 17th century. These sherds seem to date the demise of the

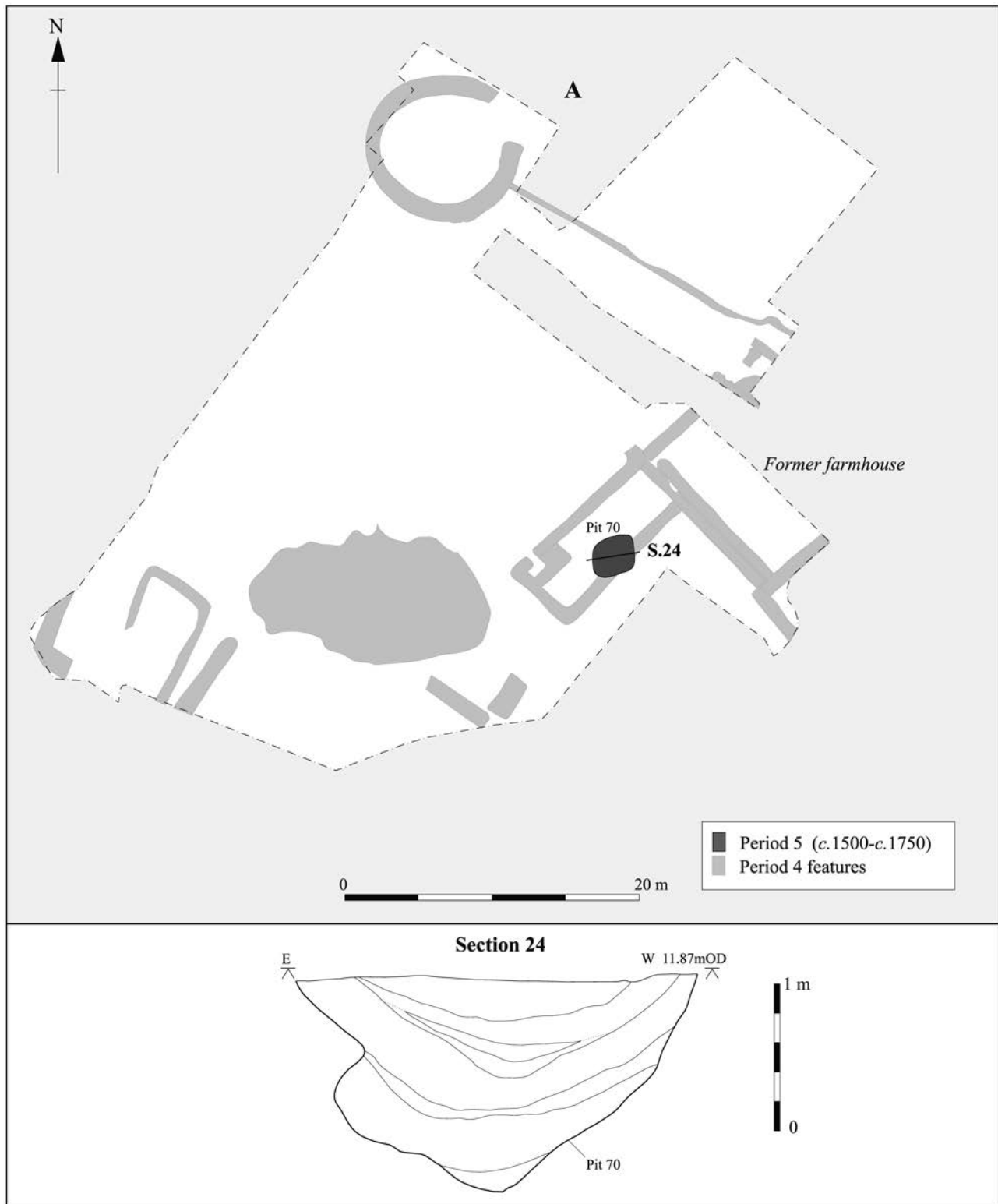


Figure 42 Period 5: Section across Pit 70, Area A. Section scale 1:40, plan scale 1:400

cobbled yards in the northern part of the site, although the buildings themselves may have fallen from use before this time. A scatter of features dating to this phase consisted of a posthole, two pits and a tree throw. One of the pits was found in the extreme northern part of the site and its fill contained a clay pipe bowl dated 1660–1680.

A north to south aligned pathway consisting of limestone fragments (Surface 8) overlay an earlier pond

(Pond 2) and was partly machined off. The route trailed off towards the centre of the former pond where it had sunk into the former backfill.

Pond 1

The upper deposits within this pond (located in Fig. 35) had been tipped in from the south and north: these contained two 17th-century pottery sherds, a horseshoe of

17th-century type and a clay pipe stem. A pollen sample taken from the fills found a range of herbs and a few wetland plants. Pine was the only tree pollen present. The fact that the pollen had decayed indicates that the pond had dried up.

East of Manorial Enclosure (Area C)

In the eastern part of the site, an earlier wall (Wall 4) was covered by demolition debris which was machined off to foundation level. An earlier ditch (Ditch 51) was recut (Ditch 52) and yielded pottery dating after 1500 or 1600 but before 1700, as well as a fragment of late medieval to early post-medieval glass. A clay pipe stem was found within the robber trench of Wall 2. None of these features are shown on the 1808 map (Fig. 8) demonstrating that they had gone out of use by this date. A new boundary (Ditch 56 and its recut Ditch 55) ran north-east to south-west on the eastern side of the excavated area. This was undated but clearly late in the sequence of activity. It had disappeared by the 20th century and is not shown on the 2nd Edition OS Map (Fig. 9).

Manorial Farm (Area A)

(Fig. 42)

Robbing

Once the farmhouse (Building 12) in the southern part of the site was abandoned, the remains of the former buildings were largely removed, perhaps in a single event (Fig. 42): robber trenches were recorded in most parts of the site indicating that nearly all the stone foundations (including those below the ground level) were removed. Demolition rubble within the former buildings, up to 0.25m thick, was largely removed by machine with the remnant being hand excavated. The robber trenches were 0.80m wide and between 0.25 and 0.74m deep. Very few finds were recovered from these deposits and, apart from a single sherd of pottery from Building 12a, these were retrieved from various areas of former Building 12c. The finds comprised two pins of a type introduced during the 14th century (one is illustrated; Fig. 50, SF 19), a 14th-century strap end (Fig. 50, SF 14), and a medieval buckle (Fig. 50, SF 15), as well as a small quantity of pottery sherds, including late medieval Lyveden/Stanion ware dated c.1350–1500.

The dovecote fared marginally better than the farmhouse. Fragments of its walls survived in three areas, with the remainder robbed below ground level. These trenches were up to 0.34m deep and the robbing backfill comprised a single deposit of dark brown clayey sand silt with small pieces of limestone up to 0.22m in length. Demolition rubble was spread within the dovecote and comprised rubble (50–60% limestone fragments) up to 0.30m in length within a dark brown clayey sandy silt. The

original extent and depth of this layer was not recorded as it was, in part, machined off but was at least 0.34m thick. Pottery includes a small jug sherd from a Toynton vessel dated between 1400 and 1600. Two wood pigeon bones were also recovered.

At a later date, perhaps around 1600, part of the former farmhouse (Building 12c) was cut by a large quarry pit (Pit 70, Fig. 42), which was sub-square with near vertical sides, measuring 3m by 2.50m and 1.42m deep. It is probable that the pit was dug to extract clay. The earliest two fills appeared to represent primary silting suggesting that it had been left open some time: these comprised a grey-brown clay and a dark greyish brown silty clay up to 0.3m thick which contained no finds. The pit was then backfilled with six further layers, one of which comprised 40% charcoal, the others being various mid and dark shades of grey and brown silty and sandy clays. Relatively large quantities of domestic waste were deposited within the pit, possibly from a kitchen environment. The group includes five knives of which three diagnostic types are of post-medieval form, one of which dates from the mid 16th century at the earliest. Three of the knives are illustrated (Fig. 46, SF 31.1, 13.1 and 13.2). Other items include door studs, a hinge pivot, part of a lead window came — all of which presumably came from the former farmhouse. The pottery includes several early post-medieval sherds, including two dated after 1500 and one after 1550. Perhaps significantly, no tin-glazed ware, slipware or clay pipes were recovered, which may suggest backfilling during the later 16th century or early 17th century. Faunal remains included part of a pig's foot. An environmental sample produced relatively few plant remains (compared with the previous samples) and contained cereal remains as well as a few wild species seeds, mostly representing arable weeds but also indicating grassy places. This may suggest that the site was partly overgrown after the farm's abandonment.

Farmyard and Pond

Finds recovered from the farmyard surfaces included moderate amounts of pottery, most of which were residual. Material contemporary with the abandonment phase includes Bourne D (1450–1650) and Post-Medieval Black ware (1600–1700). Backfilling of the farmyard pond (Pond 3) may have occurred as a single deliberate episode. Pottery includes medieval and early post-medieval fabrics, some of which were unabraded with many joining sherds. Some 62% of the sherds came from ten different vessels all dating after 1450 but before 1650. Amongst the animal bone was a possible mastiff-type dog mandible, as well as cat, horse and red deer bones. Pollen samples from the fills indicate a largely treeless landscape.

Chapter 4. The Finds

I. Lithics

by Stephen Kemp

A small group of 44 worked flints were residual in their contexts. Diagnostic items range in date from the Mesolithic to the Bronze Age. The majority are worked from small cores which would have been available within the local river gravels. A grey flint, now patinated, was utilised to produce blades. Both flake (27 pieces) and blade (11 pieces) industries are present, although the majority of blades have been produced from flake cores. Almost 40% of the assemblage is composed of retouched tools, largely for cutting and scraping activities, with tool types consisting of denticulates, serrated blades, scrapers and a single leaf-shaped arrowhead.

II. Coins and Jetons

by Martin Allen and Adrian Popescu
(Plate XV)

The 40 coins and jetons recovered from the site include 22 Roman coins, six medieval coins, six post-medieval and modern coins and six jetons. All of the items were found unstratified, those recovered by metal detecting during the 1999/2000 works being recorded as deriving from context 531. Illustrated items are catalogued below, the remaining issues are detailed in Appendix 2 other than the few coins post-dating the abandonment of the site in *c.*1650 which are not discussed here, but are noted in the archive.

The Roman coins can be dated between the 2nd century and the third quarter of the 4th century. The batch is not large enough for statistical analysis, but it might indicate activity in the vicinity of the site largely in the second half of the 3rd century and the 4th century: the adjacent villa site is an obvious source. The *as* of Hadrian is the only coin definitely struck in the 2nd century. The *sestertius* of Faustina I or II, interestingly, is a struck copy of distinctive crude style produced probably towards the middle of the 3rd century. The design on reverse is an attempt to imitate a type with the legend *AVGVSTA* as suggested by the poor attempts (*AVC – AVC*) (Plate XVA). Both of these coins, belonging to the Augustan system, were probably lost before radiates started to occur in large numbers on the site. There are six radiates, all copies, dated between *c.*270 and, possibly, 286; an unusual example is illustrated in Plate XVB. The 4th-century coins start to be lost in some numbers, as on other sites, in the 330s (Casey 1988). Most of them are copies of the coins struck at Trier and Lyons. There are three copies produced in the late 340s and early 350s (Two Victories type and Falling Horseman). The latest Roman coins are two AE 3 struck between 364 and 378, by emperors belonging to the House of Valentinian I. The absence of later coins should not be taken as evidence that the area was abandoned immediately before 378 or soon after, as coins struck after this date seem to behave in a different manner from earlier ones on Romano-British sites.

Only six of the coins can be dated between the end of the Roman period and the 16th century, and none of these was deposited before the late 13th century. The sterling of Alexander III of Scotland (1249–1286), which is an example of a coinage regularly found in English hoards from the late 13th century to the 15th century, has relatively light wear and was probably deposited in the 14th century. The penny of Edward I or Edward II, minted between 1280 and *c.*1310, is heavily worn and clipped, and its low weight (0.86g) indicates that it is probably a 15th-century loss. The penny of Richard II (1377–1399) seems to have moderate wear, although its corrosion makes assessment of wear difficult, and it is probably also a 15th-century loss. The heavily worn and unidentifiable English penny of 1279–1489, with a weight (0.62g) below the official standard of 1464–1526 (0.78g), was probably lost in the late 15th century or very early in the 16th century, before the removal of clipped and lightweight pennies from circulation towards the end of the reign of Henry VII (1485–1509). The deposition of the halfgroat of Henry VII, minted for Archbishop Thomas Savage (1501–1507), can be dated between 1501 and the debasement of the English coinage in 1544–1551, which effectively removed old silver coins from circulation by 1549 at the latest.

Thus one of the six medieval coins is probably a 14th-century loss, and the other five can be assigned to the 15th century or the first half of the 16th century. This may be compared with S.E. Rigold's data for coins of *c.*973–1551 from 100 sites in England and Wales, 30.2% of which were minted before 1279 (Rigold 1977). There are no coins minted before 1279 from Botolph Bridge, and the late medieval bias of the probable dates of loss may

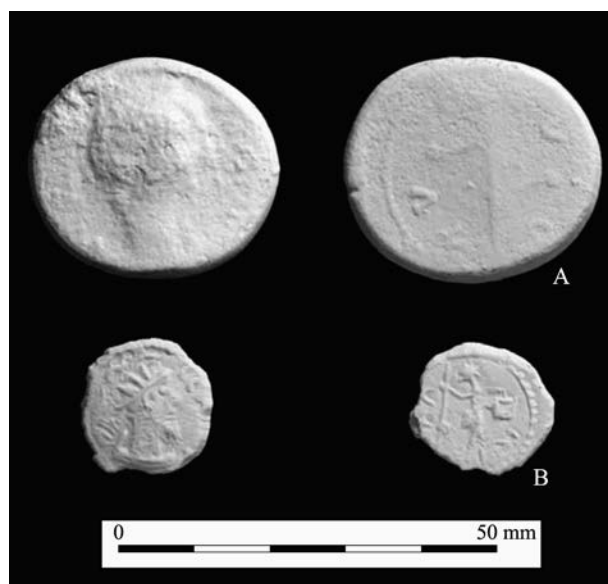


Plate XV Forged Roman coins. A) Copper-alloy imitation of a *sestertius* in the name of Faustina I (Inv. No. 13615, unstratified); B) Copper-alloy copy of a radiate of Tetricus I (Inv. No. 15911, unstratified)

provide some limited evidence of a relatively high level of economic activity at the site in this period.

The two 15th-century jetons of Tournai are probably late medieval losses, and the four Nuremberg jetons can be assigned to the second half of the 16th century or the 17th century. Silver coins of 1551–1662 or royal farthing tokens of 1613–1644 might have been expected from a site with 16th- and 17th-century finds, but this may be not be significant since the numbers of finds are relatively small.

Catalogue of illustrated items (Plate XV)

- IN **Faustina I** deified (after 141).
13615 Copper-alloy struck imitation of *sestertius*, 3rd century?
30g, 32 mm.
Unstratified
- IN **Tetricus I** (271–274)
15911 Copper-alloy radiate, copy as Cunetio 3021:2–3, after 271.
2.19g; 18mm.
Unstratified

III. Metalwork

by Holly Duncan

Introduction

This report combines the metalwork from the 1987 and 1999/2000 excavations, comprising 66 and 170 items respectively (excluding coins). Artefacts are referred to by Small Find number in both the text and illustrations, although those from the NVRC excavations are identified by Inventory Number. The condition of the objects varies, with copper-alloy and lead assemblages surviving in fair to good condition. The iron assemblage from the 1987 NVRC collection had suffered a considerable degree of deterioration, many of the objects being reduced to fragments.

Building Materials, Fastenings and Fittings (Fig. 43)

Metalwork associated with windows is limited to a short section of window lead which, although distorted by twisting, possesses an H-shaped cross-section with casting flanges removed. This conforms to Knight's Type C, which he dates from at least the 12th century, continuing until about the middle of the 16th century (1983, 49).

More common within the assemblage are fastenings and fittings including door furniture, locking mechanisms, staples and nails. Nails form the dominant group, with a total of 63 from all periods (all from the 1999/2000 excavation), of which 18 survive as portions of shank only. Of the 45 examples with *in-situ* heads, five basic forms are present. Flat-headed nails, with square, rectangular or occasionally hexagonal heads are the most numerous (35 examples). These form a recognisable group known as clout nails and were used in general carpentry and, particularly in the case of shorter nails, for attaching fittings, sheet materials and planking to main timbers (Spearman 1984, 357). A single nail within this group possesses a lead covering on the head serving as protection against corrosion. This feature suggests use in an exposed position such as a roof.

Two related flat-headed forms have off-set heads (five examples) or figure-of-eight heads (one example). Whereas the shapes of the heads of the preceding form may have resulted from chance, the shape of the head

dependant upon the length of the iron stump protruding from nail heading plate, off-set and figure-of-eight heads, was produced by design. The off-set head may perhaps be equated with the medieval *brodde* or *brad*. These forms may have been used in carpentry work in which the nail was to be flush with the wood. None of the various forms of flat-headed nails from Botolph Bridge are complete, surviving lengths generally being below 108mm. A single nail had a head formed from a thick, flaring shank, the top of the head 'upset'. This form, although more robust, was still used in carpentry and perhaps can be equated with the medieval *spyking* (Salzman 1952). The final form has a faceted rectangular head and may have been used as a decorative feature on timberwork. The three examples noted in this assemblage survive in a near complete state with length ranging from 115mm to 153mm.

Door furniture and related locking mechanisms include studs, hinge pivot, staples, padlocks and keys. Studs were used on more robust timberwork such as double timber doors and well covers, and in the case of the domed examples, were probably also decorative. Of the eight examples found at Botolph Bridge, three head shapes are present. Flat-headed studs occur in rectangular, square, lozenge and pentagonal shapes and are the most numerous (six examples). Singles instances of domed square and faceted rectangular (resembling a T-shape) studs were also found.

Although no door hinges were recovered from the site, a single L-shaped hinge pivot came from deposits south of the hollow way. This conforms to Goodall's Type 2 pivots (1980, 108–110), which have tapering shanks and were driven into wood or masonry joints. This example has a clenched tip suggesting it was driven through a timber with a thickness between 55mm and 60mm.

Staples were used to bind wood together and to attach fittings to wood and stone. One example each of the three possible forms, U-shaped, looped and rectangular, was found. The latter two types were used to hold chains and hasps on doors or gates, or to support tethering rings or handles.

Locking mechanisms are represented by padlocks and keys. Three forms of barrel padlock are present, Goodall's Type B, D and E (1980, 124–32). Type B padlocks possess fins and tubes, the sub-division B2 is represented here with its T-shaped keyhole cutting across the end plate and the underside of the case (SF 84). In common with many padlocks of this type, this example is copper-alloy plated. This form of barrel padlock was in use from the 12th to 14th centuries (Goodall 1980, 125). Type D padlocks have L-shaped arms over which a looped L-shaped padlock bolt fitted (Goodall 1980, 128). This form of padlock, found in contexts dating from the 12th to 16th centuries (Goodall 1980, 128), occurs in both iron and copper alloy, the latter generally small in size, as is the case here (SF 5). Type E padlocks were in use throughout the medieval period, and continued in use into the post-medieval period. These padlocks had shackles primarily intended to restrain the limbs of both animals and humans, although Goodall suggests that they eventually had a more general use (1980, 129). The two examples from Botolph Bridge are only represented by a T-shaped bolt.

Although no remains of locks were found, the recovery of four door keys provides evidence of their presence. The earliest form of key survives as part of the bow only (SF 101). Its lozenge shape was fairly common

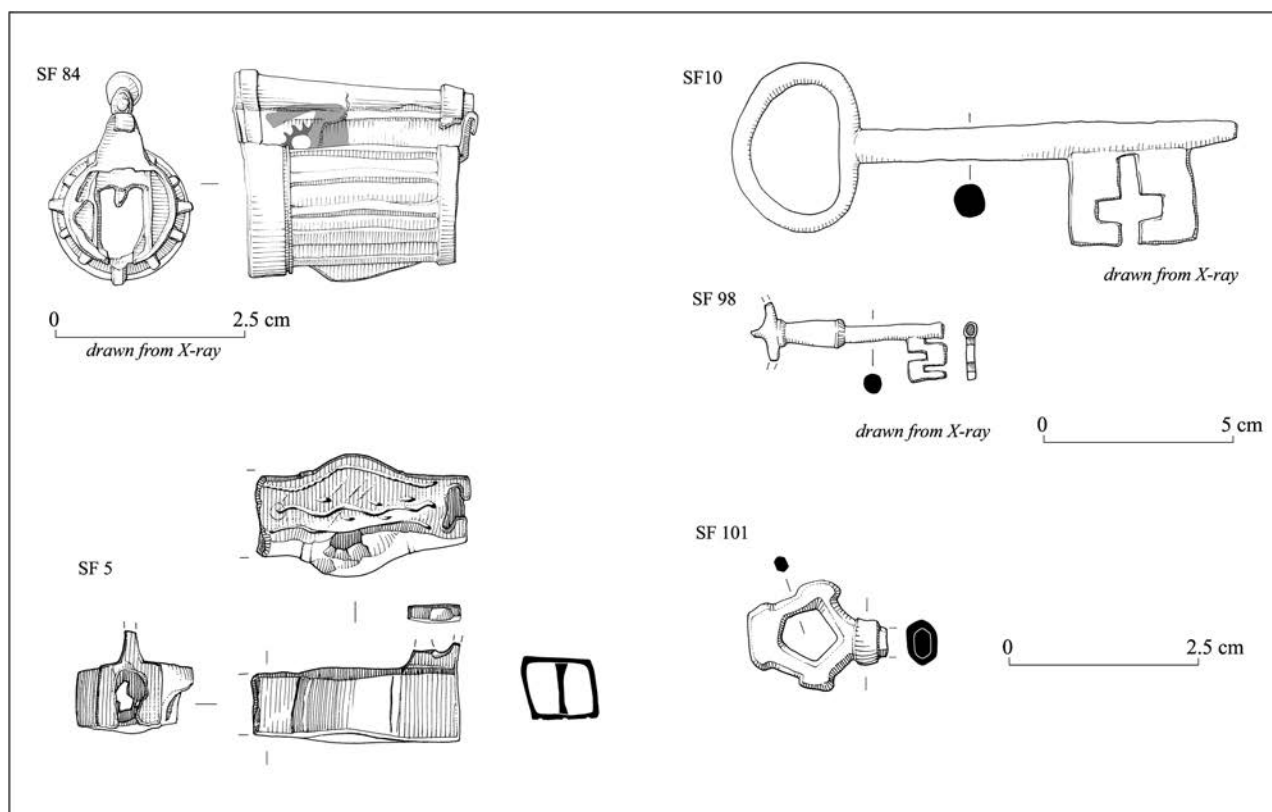


Figure 43 Locks and keys. Ironwork at scale 1:2, copper alloy at scale 1:1

in the 13th and 14th centuries. Ward Perkins noted that the elaboration at the corners appears to have been a more frequent feature in the later 13th century (1940, 138). Goodall notes that this form appears to have been succeeded by oval and D-shaped bows in the 14th and later centuries (1980, 152).

Keys with a solid stem, projecting tip and wards grouped symmetrically round a central opening (SF 10) fall within Goodall's Type G2 class (1980, 150–51). This type can be used from either side of a lock. It is commonest in the late medieval period, and becomes the principal type of post-medieval key. A further Type G door key was found in the 1987 excavation (*cf* Goodall 1980, 150–151) which had a kidney-shaped bow and moulded stem which indicate a date in the 15th or later centuries. The fourth key (SF 98) with its solid stem but hollowed-out tip equates to Goodall's type H (1980, 151) or Ward Perkins Type VI (1940, 140). Goodall notes that whilst copper-alloy examples are known from medieval deposits, iron examples tend to be of post-medieval date.

Catalogue of illustrated items
(Fig. 43)

SF 84 Iron copper-alloy plated. **Padlock**, Type B2 (fin and tube), both ends of the padlock have a strip surrounding the casing and fin, strips are narrower at the key hole end and broader at the (now open) bolt-plate end. There are 11 ribs. T-shaped key hole cutting through case. Length 63mm. Area C; Ditch 44; Period 3.2.

SF 5 Copper alloy. **Padlock**, Type D, cast baluster-shaped case, L-shaped arm incomplete, bolt missing. Inset bolt entry plate with two rectangular openings and an opposed, damaged L-shaped keyhole. Length 28mm; width 14.6mm; height 8.3mm. Unstratified.

SF 101 Copper alloy. Door **key**, bow only. Lozenge-shaped bow, with knopped corners and collar at start of key stem. Stem broken below. Length 18mm, width 14mm. Area E; Ditch 43; Period 2.2.

SF 10 Iron. Door **key**. Goodall Type G2, solid stem and projecting tip. Wards grouped symmetrically round central opening. Ring bow. Length 135mm. Area A; Topsoil.

SF 98 Iron. Door **key**. Goodall Type H, hollowed tip, collar below bow, and step in stem. Bow incomplete but has internal shaping. Length 51mm. Area D/E; Subsoil.

Household
(Fig. 44)

Objects representative of the household, including furniture fittings, lighting equipment and vessels, are poorly represented in the Botolph Bridge assemblage. A casket is evidenced by a single gilded copper-alloy mount comprising a strip with expanded bosses (SF 102). Similar mounts occur in 12th- and 13th-century contexts on castle and manorial sites (Margeson 1993, 75). In relation to the assemblage of casket mounts from Winchester, Hinton notes that the terminal date is not established, the Winchester finds suggesting that they continued into the mid-15th century (Hinton 1990a, 766). A copper-alloy strip with convex edges and a single rivet hole may have served to bind the edge of a larger object, but the form this object took (box, furniture or vessel) remains uncertain. Two iron tacks of 20mm or less length were found, one possessing a slightly domed, and the second a flat, head of square plan. Their dimensions suggest these may have been upholstery tacks.

Lighting equipment is limited to a single socketed candleholder with short tapering stem. This is the simplest

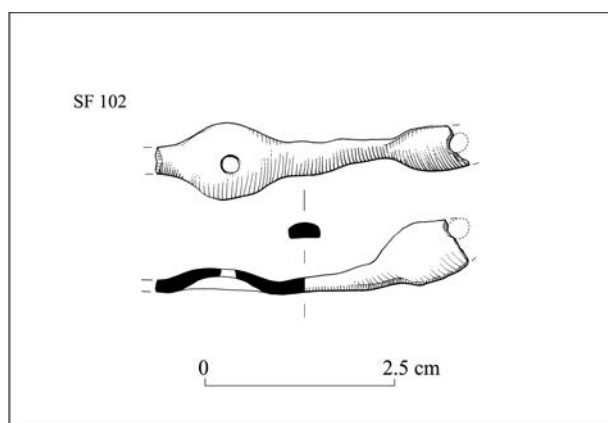


Figure 44 Casket mount. Scale 1:1

and most common type of candleholder in the medieval period.

Only one possible flattened copper-alloy vessel rim was recovered and its form could not be reconstructed. Whilst ceramic and wood vessels predominated in the early medieval period, cast vessels were becoming increasingly common in the later medieval period, so much so that by the second half of the 14th century metal vessels had become standard equipment even in peasant households (Lewis *et al.* 1987, 88–9). Evidence from Winchester indicates that although a Late Saxon casting tradition producing bells and perhaps receptacles for ecclesiastical use was in existence, the casting of copper-alloy vessels for domestic purposes did not begin there before the 14th or possibly the 13th century (Biddle 1990, 951).

A small plug of lead with concave edges indicates repair of, most probably, a ceramic vessel. The dimensions of the plug suggest that it repaired a vessel of about 3mm thickness. These are relatively common finds from both Roman and medieval deposits.

Catalogue of illustrated item (Fig. 44)

SF 102 Gilded copper alloy. **Casket mount**, incomplete, strip with remains of two oval bosses, the more complete example having a central circular perforation. Length 41mm; width of boss 9.3mm; width of strip 3.6mm. Area A; Pit 40; Period 3.1.

Crafts and Industry (Fig. 45)

Evidence of the working of metal other than iron (see Dungworth below) is sparse. Some cold working of lead is indicated by the recovery of two offcuts, defined here as portions of sheet metal which have been trimmed off the main body in order to achieve the desired shape. These pieces, depending upon their size, were either reused or retained as scrap for re-melting. The lead offcuts may have been trimmed from various building fittings, for example flashing or roofing, and are a frequent find on medieval sites. Remnants of lead run-off, one with sooting, indicate a minor degree of casting activity. The low melting point of lead, however, makes it suitable for 'on-the-spot' casting and repairs and the scarcity of the evidence does not suggest this activity was extensively carried out at Botolph Bridge.

The processing and working of textiles is marginally better represented at the site. Spinning is indicated by the

recovery of five lead spindle whorls. Finds of lead whorls are known from Iron Age, Roman and medieval deposits, the most diagnostic feature in distinguishing the date of these objects is the diameter of the spindle hole (Walton Rogers 1997, 1731). Only one whorl (IN 13577) has a spindle hole diameter appropriate for use in conjunction with the thin spindles of the Iron Age and Roman periods. The spindle hole diameters of the remaining four whorls, ranging from 9mm to 11.5mm, indicate a date range of the Late Saxon to medieval periods. Studies of whorls from York indicate general trends between the shapes and dates of stone whorls and suggest that their lead counterparts frequently mirror this pattern (Walton Rogers 1997, 1736 and 1743). Three of the whorls currently under discussion conform to Walton Rogers form A1 (*e.g.* SF 21; SF 27), whorls having one flat face, while the fourth whorl is of form B (SF 7), with two equal flat faces. At York, form A whorls were in use in the 9th and 10th centuries, declining through the 11th century, while the use of form B spanned the late 10th century to the early 12th century (Walton Rogers 1997, 1736–37). The weights of the Botolph Bridge whorls, from 29.4g to 52.8g (form A) and 23.8g (form B), compare with the ranges indicated from York. Walton Rogers advises caution when equating weights of whorls with the kind of yarn being spun as many factors, for example the size and weight of spindle and the skill and technique of the spinner, must be taken into account (1997, 1744–5).

Sewing is evidenced at the site by two thimbles, one placed inside the other (SF 61). No medieval thimble indisputably dating from before the 14th century has been found in England (Holmes 1988, 1). The current example was manufactured by stamping and hammering copper-alloy sheet. The indentations, which cover the entire surface except below the incised border at the opening, are in vertical lines on the lower portion of the thimble but run in a spiral on the crown. This pattern can be seen on two thimbles from deposits of AD 1330–1400 from London (Egan 1998, 266 nos 821 and 824). The indentations on the outer thimble have worn through the surface; the inserted thimble presumably serving as a repair.

Catalogue of illustrated items (Fig. 45)

IN 13577 Lead. **Spindle whorl**. Round in plan and globular in cross section, with central perforation, diameter 4.6mm. The diameter of the perforation suggests a date in the Iron Age or Roman periods when narrow spindles were in use. Weight 37.8g. Roman. NVRC unstratified.

SF 21 Lead. **Spindle whorl**, complete, cast. Conical in section with one flat face (Walton Rogers form A1). Diameter of spindle hole 11.5mm. Diameter 26mm; Height 14mm; weight 29.4g. Area D/E; Unstratified.

SF 27 Lead. **Spindle whorl**, complete. Cast, one flat face (Walton Rogers form A1), in section flat plano-convex. Diameter of spindle hole 9mm. Diameter 35.5mm; height 8mm; weight 52.8g. Unstratified; Area D/E.

SF 7 Lead. **Spindle whorl**, cast. Symmetrical biconical spindle whorl with two flat faces (Walton Rogers form B), diameter of spindle hole 9.8–10.5mm. External diameter 27.5mm; height 11.5mm; weight 23.8g. Unstratified.

SF 61 Copper alloy. Two **thimbles**, one inside the other. External thimble formed by stamping and hammering. Domed in shape with double incised line at rim. Indentations cover surface of the outer thimble. Currently partially flattened. Height 17.8mm. Area C; Unstratified.

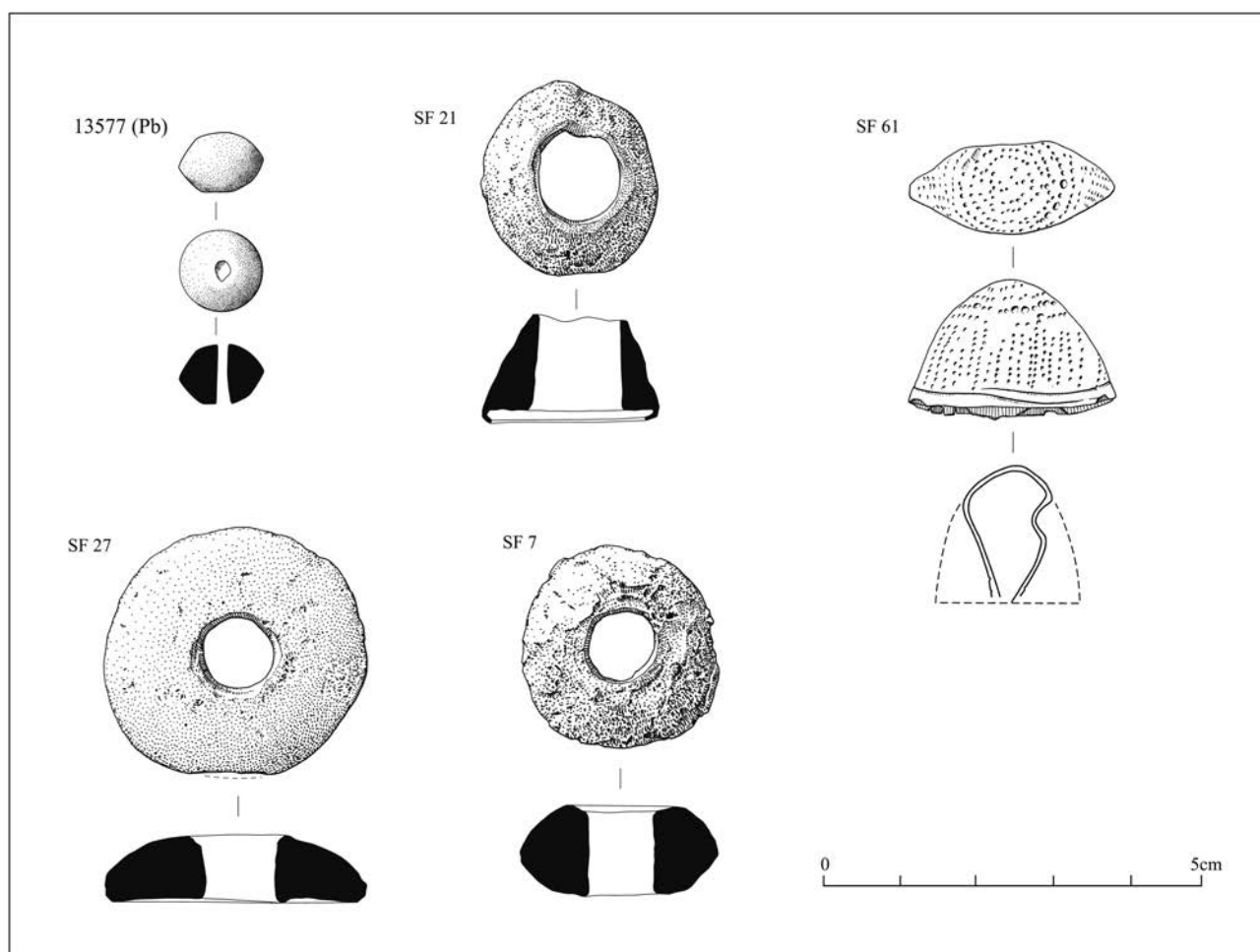


Figure 45 Spindle whorls and thimbles. Scale 1:1

Knives

by Holly Duncan and Nina Crummy
(Fig. 46)

Knives are multifunctional, usage ranging from the preparation and consumption of food to craft activities. They are well represented both within the NVRC 1987 (6 examples) and the 1999/2000 (10 examples) assemblage. Four comprise blade fragments only. Amongst these the predominant form exhibits a straight back with the blade edge rising to meet at the tip. The x-ray of one example indicates a welding line along the blade edge suggesting a steel-tipped blade.

The earliest item is a 'hare and hounds' clasp knife handle of Roman type (IN 13647). When complete, such openwork designs show a hound bringing down a hare, an apotropaic hunt image, intended to turn away the possibility of drawing the blood of the user, which would have been particularly pertinent if the blades were used as razors. Handles with this design occur both in Britain and on the continent (von Mercklin 1940, 341; Henderson 1949, pl. 36, 118; Rees *et al.* 2008; Dufrasnes 2007). Few handles of this type have yet been found in stratified contexts, although a recent example was found at Chatteris (Crummy forthcoming). In Britain their distribution is concentrated in central, southern and eastern England, with eight listed on the Portable Antiquities database from Suffolk and one from Norfolk, and a further two from Norfolk have been published by

Hattatt (1989, 496, nos 242–3). The angular style of the animals on the Chatteris example is particularly distinctive and is matched by two handles from Winchester (Rees *et al.* 2008) and several on the Portable Antiquities database, showing them all to be products of the same bronzesmith. Others are less angular, and stylistic studies of the continental material suggest that they were made in several workshops (Dufrasnes 2007).

Both whittle and scale tang knives, with and without bolsters, were identified within the medieval and later assemblage at Botolph Bridge. Of the three whittle tang knives, one definitely has a bolster. The other two are potentially the earliest of the medieval knives in this collection, the handle form remaining in use throughout the medieval period and into the post-medieval. The illustrated example (SF 113) has a blade back sloping down to meet the blade edge while the latter has a straight back sloping slightly prior to the break although the worn condition of the blade precludes certainty as to its original form. Bolsters, whether on whittle or scale tang knives, were introduced in the mid-16th century (Hayward 1957, 4) and became the most popular form of knife in the 17th century. The moulding on the handle terminal of this whittle tang knife with bolster suggests a date in the 17th century (SF 112), and this is confirmed by its association with the 17th-century knife form with a solid iron handle (SF 111).

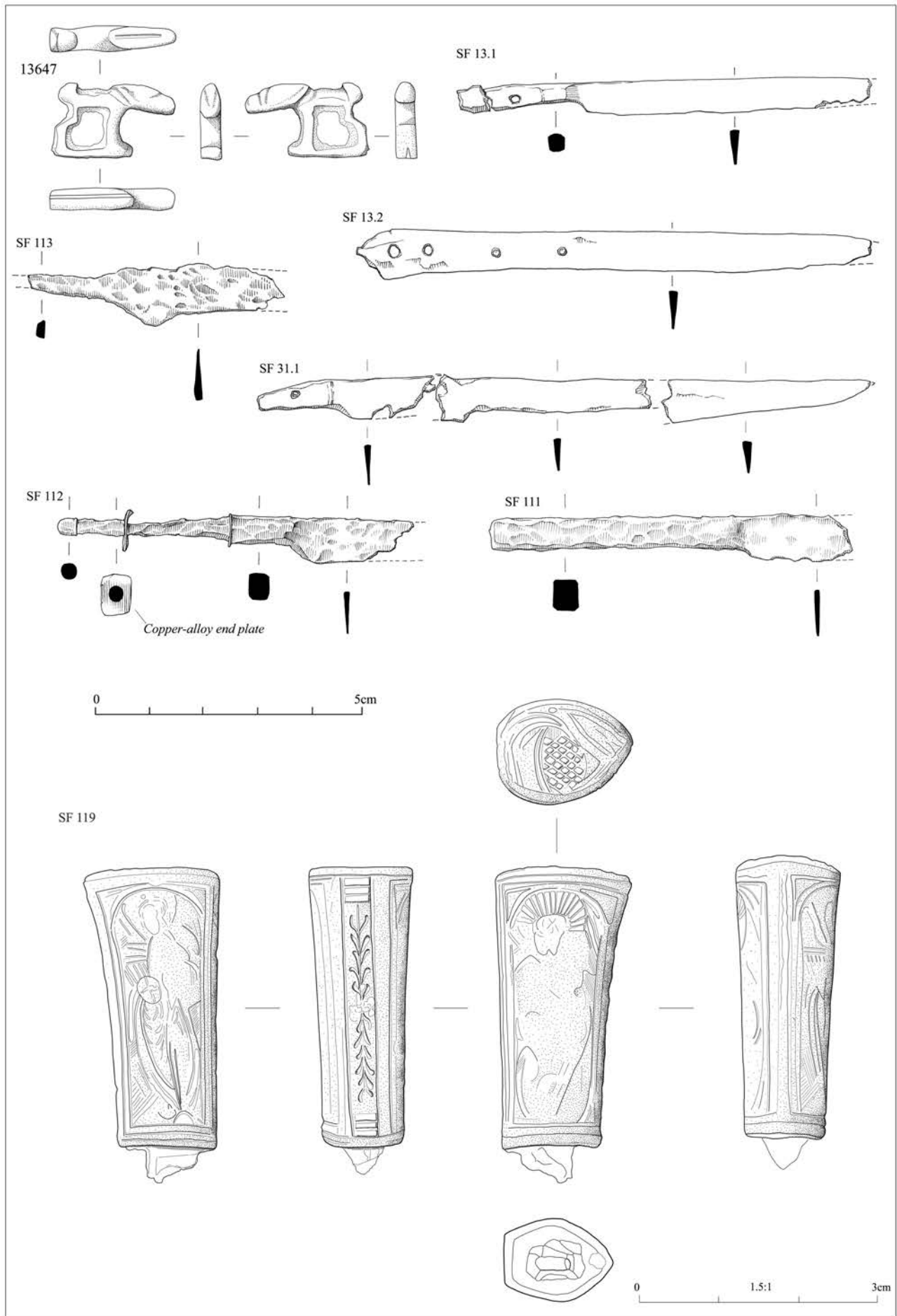


Figure 46 Knives. Scales 1:1 and 1.5:1

The remaining eight knives have scale tang handles, a form of handle thought not to pre-date the 13th century (Goodall 1990, 838) and indeed in London it first appears in deposits of the mid-14th century (Cowgill *et al.* 1987, 26) and continued in use into the post-medieval period.

Three of these knives do not retain enough of their blades to determine form but two are noteworthy in having evidence of shoulder plates. One has traces of solder (lead with a small amount of tin) but no surviving plate, whilst another (SF 31.1) possesses the remains of one brass shoulder plate. The shaped terminal with asymmetrical flare present on the near complete scale tang knife (SF 13.1) is a feature seen on other knives of post-medieval date (Goodall 1983, fig. 6 no. 69; Hinton 1990b, fig. 261, nos 2899 and 2902). The final scale tang knife (SF 13.2) possesses a rectangular bolster at the junction of the blade and handle and dates from at least the middle of the 16th century.

It is probable that the whittle and scale tang knives had handles of organic material, for example wood, bone or ivory, which did not survive the burial environment. No scales survived *in situ* although mineralised fibrous structure visible on one suggests that these scales were of wood. Rivets survived on only four of the handles (*e.g.* SFs 31.1 and 13.1) and all were iron and of solid, as opposed to rolled, construction. A further form of handle is represented by a cast copper-alloy handle with remains of an iron whittle tang *in situ* (SF 119). The length of this handle suggests it may have been part of a composite handle on a bolstered knife, with an organic component between the blade and the copper-alloy terminal. Although the surface of the handle is badly pitted, it is evident that both faces of the handle were decorated with engraved figures, perhaps saints. The better preserved face may perhaps depict the Virgin Mary holding a lily (symbolising purity *c.f.* Gaimster 1997, figs 4.41 and 4.43; Spencer 1998, 143 cat. no. 149), which could suggest the opposing face of the handle, with its more prominent halo, may be Gabriel, the subject being the Annunciation. A further panel of cast foliate decoration, perhaps stylised lilies, adorns the flat top of the handle, while the handle end has abstract foliage(?) and a cross-hatched shield. Parallels from the Netherlands suggest a date between 1500 and 1600 for this handle (Ruempol and van Dongen 1991, 143).

Catalogue of illustrated items (Fig. 46)

- IN 13647** Copper alloy. **Knife handle.** Cast clasp-knife handle fragment, from a 'hare and hound' handle. Only the hare survives. Length 22.5mm; height 14mm. Roman. NVRC unstratified.
- SF 31.1** Iron. Scale tang **knife**, incomplete. Remains of one brass shoulder plate surviving and one rivet *in situ*. Blade back straight, edge damaged, blade incomplete. Length 69mm. Area A; South of hollow way; Pit 70; Period 5.
- SF 13.1** Iron. Scale tang **knife** near complete (tip damaged) blade and back parallel, then blade rises to tip. Scale tang has shaped terminal, 4 rivet holes and 2 rivets *in situ*. Length 200mm. Area A; South of hollow way; Pit 70; Period 5.
- SF 13.2** Iron. **Knife**, incomplete. Bolstered scale tang. Straight back, blade curving up to tip. Rectangular bolster. One perforation survives on rectangular sectioned scale tang. Length 160mm. Area A; South of hollow way; Pit 70; Period 5.
- SF 113** Iron. **Knife.** Whittle tang knife. Narrow rectangular tang, incomplete, and remains of blade. Blade back appears to be sloping down to meet the blade. Blade edge worn. Length 98mm; blade width 15mm. 1987 NVRC; unstratified.
- SF 112** Iron. **Knife.** Bolster whittle tang knife with moulded knob terminal, rectangular copper-alloy end plate, tapering rectangular bolster. Blade incomplete, back straight. Length 134mm; blade width 16mm. 1987 NVRC; unstratified.
- SF 111** Iron. **Knife.** Solid iron handle, rectangular in cross-section, and start of blade. Blade back straight. Length 146mm; blade width 16mm; handle 11.4mm; 10.4mm thick. 1987 NVRC; unstratified.
- SF 119** Copper alloy. **Knife handle.** Cast partially hollow knife handle with remains of rectangular sectioned iron whittle tang handle *in situ*. The length of this handle suggests it was a component in a composite handle. In cross-section the handle has a flat top, convex sides joining in a point. In plan the bottom outline of the handle has an asymmetrical flair. The flat top surface of the handle is decorated with a foliate pattern, with transverse grooves at each end, all bounded by a rectangular frame. Each face of the handle is decorated, one side with a draped figure, with haloed head, standing to the left with arm slightly extended possibly holding a lily. The opposing face appears to have a haloed figure facing front. The handle end has abstract foliage(?) and a cross-hatched shield. Surfaces badly pitted. Length 35.4mm; max. width 17mm; thickness 13mm. 1987 NVRC; unstratified.

Horse Trappings

(Fig. 47)

Evidence of transportation at the site is generally limited to items associated with the horse. The earliest item is a Roman horse harness pendant, the size suggestive of use on a bridle (IN 13620). Studies of Roman harness decoration on monumental remains and excavated examples indicates that pendants were in use during the 2nd to 3rd centuries, being replaced by riveted decoration sometime in the later 3rd to 4th century (Taylor 1978, 218). These pendants have been found almost exclusively on military sites, with a few examples from settlements and villas which had no military occupation.

Of the seven horseshoes found, the majority are incomplete. Five shoeing nails were also recovered. Classification of horseshoes is dependant upon several traits, including shoe profile, breadth of branch, weight and shape of nail holes and the system used here follows Clark's work (1995). The earliest form in this assemblage possesses a lobate outer edge and countersunk rectangular nail holes. This equates with Clark's Type 2.2, predominantly of the mid-12th to mid-13th centuries (1995, 96). Type 2.2 shoes are succeeded by a shoe which retains the countersunk nail holes but has a smooth, as opposed to lobate, outer profile (Clark's Type 3). One such shoe is possibly represented by a worn branch which retains a single 'eared' nail within one of its countersunk nail holes. Excavated evidence from London suggests that this form of shoe dates from the early to mid-13th century, going out of use towards the mid-14th century (Clark 1995, 96). 'Eared' nails, like that found *in situ* on the above example, seem to be confined in use to Type 3 shoes.

During the early to mid-14th century a new form of shoe came into use. This is characterised by a broad web, average weight of 230g, and an absence of countersunk nail holes (Clark's Type 4). These shoes also sometimes exhibit an arched inner profile. A single complete example of this type of shoe is represented at Botolph Bridge. How long this form of shoe remained in use is unclear but it certainly predominated in the 15th century (Clark 1995, 97). The latest form of shoe present at the site is

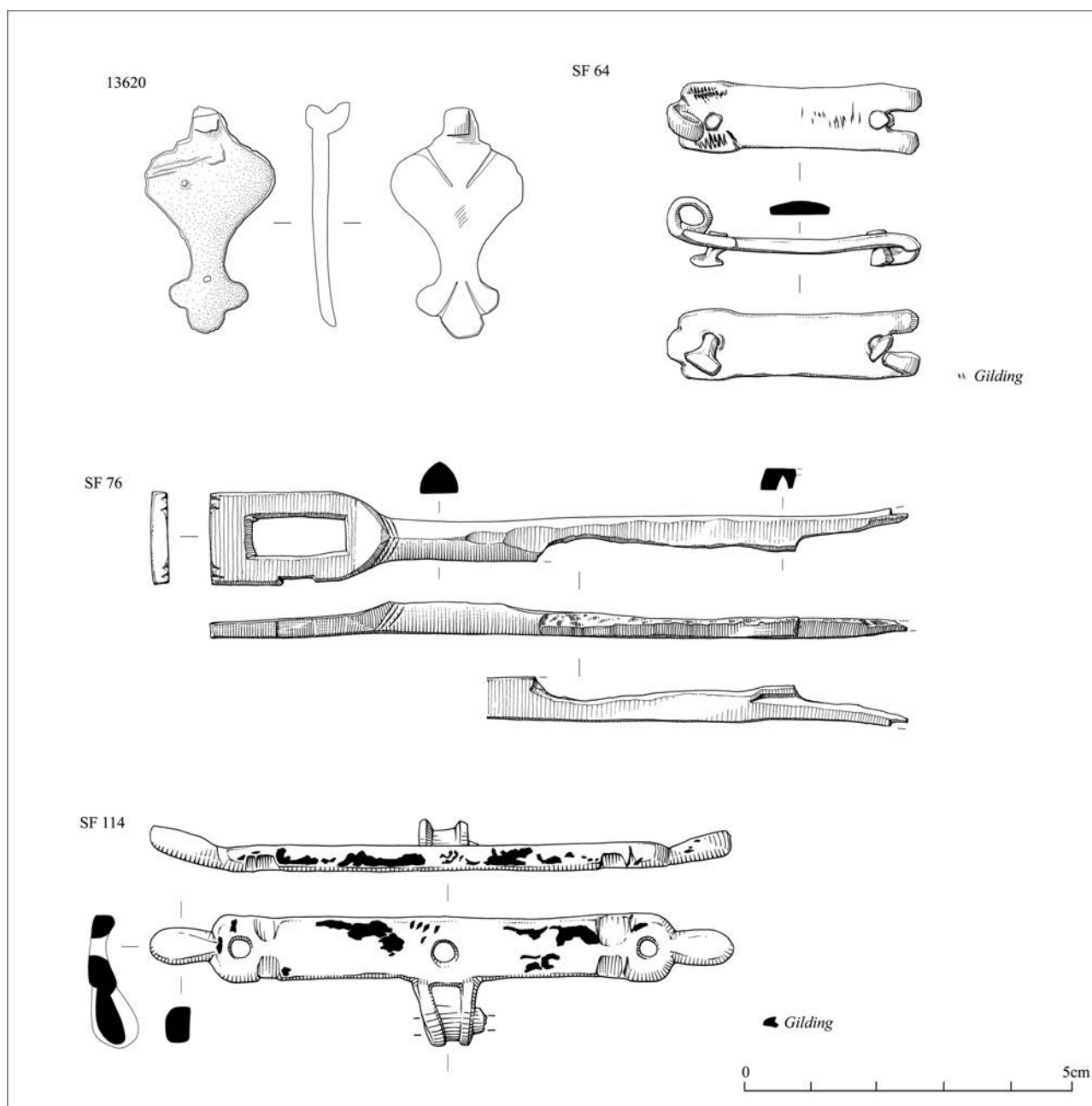


Figure 47 Horse trappings. Scale 1:1

represented by a complete shoe from upper fills of Pond 1 (Period 4). Known as the 'keyhole' form, due to the shape of its inner profile and chamfered heels, this shoe possesses rectangular nail holes (four to each branch). An additional feature of this shoe is the presence of a fuller, a deep groove on each branch into which the nail holes were punched, a trait not known before the 17th century (Sparkes 1976, 19). Keyhole shoes are thought to have been in use from the 17th into the 18th centuries (Sparkes 1976, 20).

Four shoes survive as portions of branch or heel only. In three instances nail holes survive, one branch having square holes and two having rectangular holes. None of these exhibit countersinking. Although close dating of these incomplete remains is not possible, Clark has noted that within the London collections rectangular holes are

generally post-1350 in date and are the standard form in the post-medieval period (1995, 88).

Three forms of shoeing nail were identified at Botolph Bridge. The earliest 'T-shaped' nail (not illustrated, IN 13699) has been found in deposits of the 10th to mid-11th century, and possibly earlier, in London, York, Cheddar, Thetford and Winchester (Clark 1995, 94-95). Two examples of 'fiddle key' nails were found dating to between the 11th and 13th centuries, while there are two examples of an 'eared' nail which dates to the 13th and 14th centuries. The 1987 NVRC collection of shoeing nails contrasts with that from the 1999/2000 excavations in the presence of earlier forms, the more recent 1999/2000 excavations only producing a single example of an 'eared' nail.

One possible spur was noted within the assemblage (SF 76). This survives as part of one straight, D-shaped in

section, side and terminal. The terminal is rectangular in cross-section with a central rectangular opening, equivalent to Ward Perkins form C(i) (1940, 95 fig. 28). This terminal form is not thought to have outlasted the 12th century (Ward Perkins 1940, 97). The side of this spur exhibits trimming marks along its length suggesting that it may have been in the process of being recycled.

An iron spur buckle has been tentatively identified within the NVRC assemblage, although the state of preservation precludes certainty. This form of buckle, with its integral plate, is thought to date to the 13th and 14th centuries (Egan in Clark 1995, 150 and fig. 109). Possibly also associated with spurs and spur leathers is a small cast hinged plate. Although incomplete, it bears a close resemblance to an object from late 13th-century deposits from Hull, identified as a spur attachment (Goodall 1987, 205, cat. no. 203 and fig. 117).

The small hooked buckle plate (SF 64) may have served as a spur attachment or alternatively as a fitting on harness straps. One end narrows abruptly and is hooked over, the opposing end is folded over in the opposite direction and a slot cut to accommodate a buckle pin. Both ends of the plate have a single copper-alloy rivet *in situ* suggesting that this was attached to leather. The presence of rocked scorper or 'wriggle work' incised decoration suggests a date range of the early 13th to early 15th centuries.

Cast copper-alloy rumbler or crotal bells, used both on harness and to bell stock, date to the late medieval and post-medieval periods. Both of the examples recovered from Botolph Bridge share the same decorative motif; palmate design on the upper half and pine cone or scale design on the lower half of the bell. Only one retains the iron pellet *in situ*.

While the 1999/2000 assemblage contains horseshoes and spurs, it has little in the way of decorative harness fittings, such as pendants, so popular in the 13th and 14th centuries. A single example found in the 1987 NVRC collection (SF 114) has been identified as a gilded suspension mount for harness pendants. The decorative elements on this bar mount, the shaped knob terminals and double cusp, can be closely paralleled by an example from London from deposits dating to AD 1350–1400 (Griffiths 1995, 69, fig. 52 no. 73). The Botolph Bridge example differs however in being longer and having three rivet holes to attach to the harness leather.

Catalogue of illustrated items (Fig. 47)

IN 13620 Copper alloy. **Horse harness pendant.** Incomplete. Pendant in the shape of a stylised vine-leaf, decorated with incised notches near the now broken loop and on the moulded knob. The knob, which is incomplete, has rounded or volute arms either side. Traces of white metal plating survive on obverse surface. Military associations. Length 34.3mm; width 20mm. 2nd to 3rd century AD. NVRC unstratified.

SF 76 Copper alloy. **Spur side,** incomplete. Cast plano-convex sectioned bar. One end thins and widens to form a rectangular terminal. The terminal is rectangular in section, with a central rectangular opening and a small rectangular notch removed from one side. The outer corners of the terminal have decorative notching. At the junction of the terminal and the side are three linear mouldings. The opposite end is broken and portions of the length of the side appear to have been cut away. Surviving length 108.8mm; bar width 6.6mm; bar thickness 4.4mm. Area C; Unstratified.

SF 64 Copper alloy. **Hooked spur/harness buckle.** Narrow rectangular sheet, one end narrowed and looped over to form a hook. The opposing end has been looped over to take a buckle frame in the opposite plane, and has a rectangular slot to accommodate buckle pin. Traces of gilding and 'wriggle work' incised decoration are visible. Single rivets are situated near each end. Length 40mm; width 9.8mm. Area C; Unstratified.

SF 114 Copper alloy. **Suspension mount.** Gilded, cast horizontal bar mount with moulded knob (acorn?) terminals. Three perforations, one at either end before knob and one at the mid-point of the bar. The two end perforations have rounded edges and are separated from the horizontal element by a double cusp. The double looped suspension hinge, with copper-alloy hinge pin *in situ*, lies immediately below the bar mount's central perforation. Length 90mm; height 19.6mm. 1987 NVRC; unstratified.

Agriculture and Subsistence

(Fig. 48)

No tools associated with agriculture or horticulture were recovered. Only one item associated with subsistence activity, comprising a fishing net weight, was identified (SF 39). This cast lead weight would have been used to weight the lower margin or foot of a net and can be paralleled by similar examples from a wreck of a 15th-century vessel at Blackfriars (Steane and Foreman 1988, 162).

Catalogue of illustrated items (Fig. 48)

SF 39 Lead. **Net fishing weight,** complete. Cast rectangular bar with a perforation at either end. Length 37.4mm; width 13.7mm; thickness 7.4mm; weight 23.7g. Area A; Unphased.

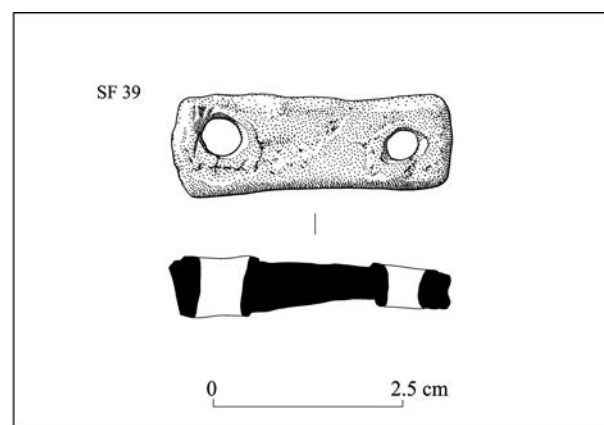


Figure 48 Net fishing weight. Scale 1:1

Weaponry and Martial

(Fig. 49)

A single item of Roman military equipment was found. This comprises a lobate cuirass hinge (*lorica segmentata*), dating to the 1st century AD (SF 1). The remaining items of weaponry are medieval or later in date. About one third of a cast, heavily leaded tin bronze quillon was recovered (SF 47). Its size is suggestive of use on a dagger. The earliest known examples of a quillon dagger date from the 13th century and are considered a military, as opposed to civilian, weapon (Ward Perkins 1940, 38, 40). This dagger form was well established by the mid-13th century and continued in favour until the late 14th century when the rondel dagger gained popularity. The quillon dagger does, however, appear to continue in use in this later period. The

second item associated with a dagger is the front plate of a two-piece dagger chape (SF 36). The triangular shape, knob terminal and openwork decoration on this example echo Ward Perkins Type II chapes (1940, fig. 87) which he dates to the 15th and 16th centuries. A two-piece triangular chape with openwork decoration in the form of a heart was found in 15th- to 16th-century deposits at Winchester, although dated typologically to the 13th to 14th century (Hinton 1990c, 1083, cat. no. 4036).

A single socketed and conical arrowhead of 'bodkin' form was identified. This form of arrowhead is dated to the mid-13th to 15th centuries and was introduced in response to advances in armour (Jessop 1997, 3). Although associated with warfare, this form of arrowhead has been found from a wide range of sites which are not always military (Jessop 1997, 3).

Later in date is the possible gun rest(?) (SF 115). At first glance this object resembles a pitch fork, having two

tines emerging from the solid stem at the apex of the socket. The 'tines' however do not seem robust enough to have served this purpose. The object does however share similarities with forked rests, a musket accessory in use from the latter part of the 16th century to the mid-17th century (Eaves 2002, 344–45, fig. 146 no. 51). There is a single lead bullet. At 13mm, its diameter suggests use in a pistol with a long, small-bored barrel. Such pistols were first introduced in France at the end of the 16th century and were widely popular in the earlier part of the 17th century (Blair 1968).

Catalogue of illustrated items
(Fig. 49)

SF 1 Copper alloy. Half of a **cuirass hinge**. Lobate terminal retaining *in-situ* rivet and washer. Opposing end has rectangular plate folded over with rivet hole through both plates. Length 27.5mm; width 21mm. Unstratified.

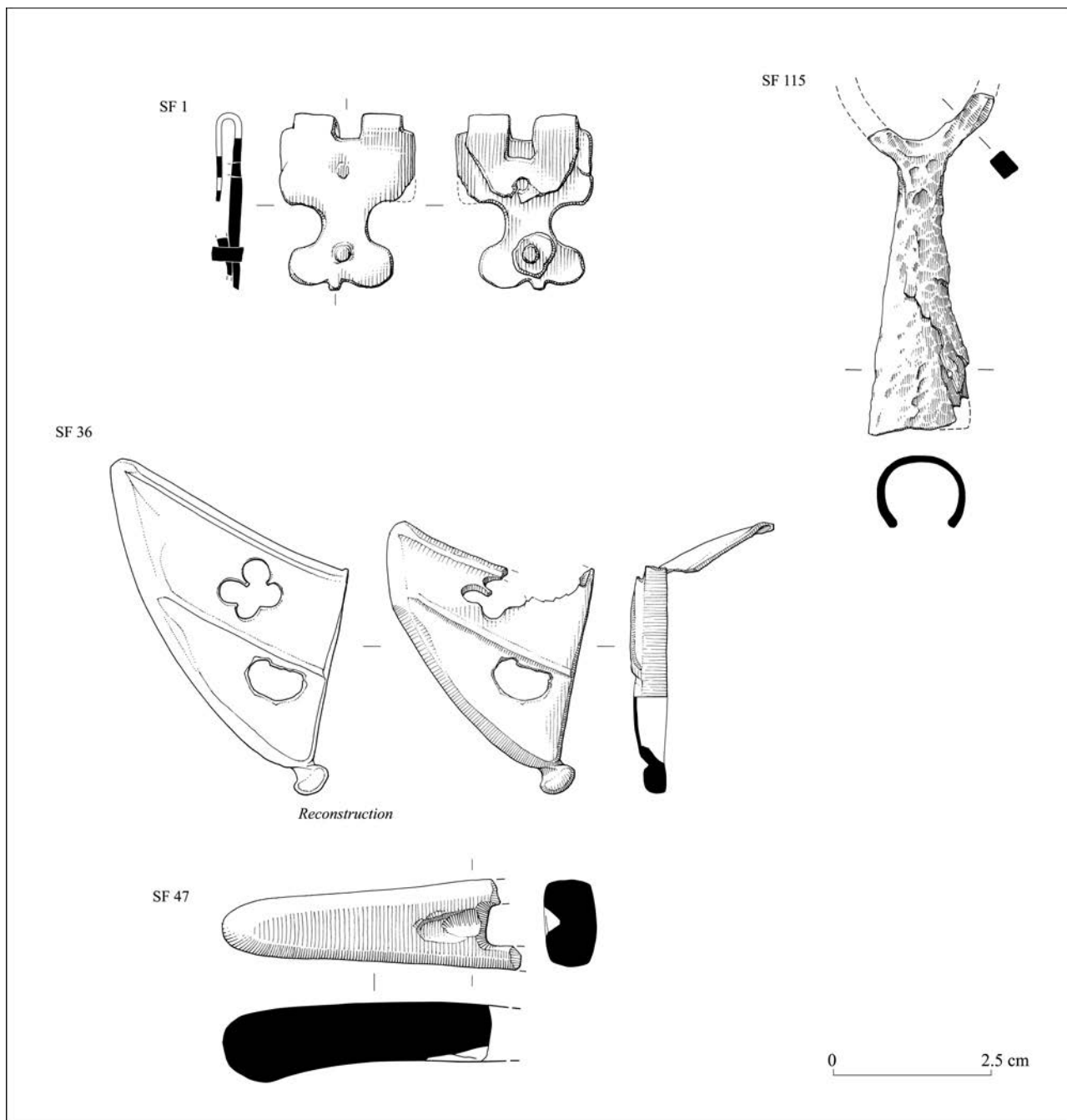


Figure 49 Weaponry. Scale 1:1

- SF 47** Heavily leaded tin bronze. **Quillon**, incomplete. Slightly drooping end, part of rectangular aperture surviving, one side with narrow tapering countersink to accommodate blade. Surviving length 47.4mm; width 14mm; thickness 9mm. Area B; Topsoil.
- SF 36** Copper alloy. Two-piece **dagger chape**, back plate missing and front plate damaged and bent. Triangular in plan, knob terminal. Front plate has two diagonal raised ridges and remains of a trefoil openwork design. Length (estimated) 60mm. Unstratified.
- SF 115** Iron. **Gun rest?** Incomplete. Socketed handle tapering to solid stem, bifurcates at top of stem, arms of rest incomplete. One arm damaged, the other arm rectangular in section. Length 105mm. 1987 NVRC; unstratified.

Dress and Personal Accessories (Fig. 50)

Roman and Anglo-Saxon

A number of Roman and Anglo-Saxon artefacts were recovered from both areas of excavation, all being found residually. Two fragments of bracelets (IN 13618 and 13644) are examples of the light bangle form which was the dominant bracelet type of the 4th century (Cool 1993, 89). They may both be parts of multiple unit bracelets, an aggrandised version of the light bangle type which comprises a variety of punched and incised motifs combined in a symmetrical pattern of five or more units (Cool 1993, 89).

Two brooches are incomplete and one is a trumpet type brooch (SF 37, not illustrated), the acanthus decoration on the bottom and top units of the mid-bow knob conforming to Collingwood's type Rii (Collingwood 1930, 43). As a type these brooches were relatively long lived, spanning the 1st and into the 2nd century AD. Previously the acanthus decoration was considered to post-date the plain button variety: this assumption however may need revision in light of more recent finds (Hattatt 1987, 128).

An Early Saxon cruciform brooch (SF 32, not illustrated) dates to the late 5th to early 6th century. This would appear to be an example of Mortimer's Type A (1990). It is noteworthy that this example bears similarities to a metal detector find reported in 1991 from either Barrington B or Edix Hill (Malim and Hines 1998, fig 5.1).

Tweezers are simple utilitarian objects which are not chronologically sensitive and where decoration occurs it is fairly rudimentary, in this instance (IN 13580) comprising incised grooves and ring and dot motif. As evidenced by one of the bracelets above (IN 13644), ring and dot motif was employed in the Roman period but also continued in popularity during the Anglo-Saxon period (*c.f.* MacGregor and Bolick 1993, cat. nos 38.12 and 38.13 for examples of ring and dot decorated tweezers).

Medieval and Post-Medieval

Dress and personal adornment are represented at the site in the medieval and post-medieval periods by a brooch, dress fasteners, buckles and associated strap mounts. A single pin from a brooch or possibly a buckle was found in Period 3.1 (from the hollow way, Route 1). This is simply made, cut from a copper-alloy sheet with the head looped over, and cannot be closely dated. Six pins are associated with dress, all having drawn wire shanks. Three retain their heads and exhibit two methods of manufacture. The first method (represented by SF 85) had a solid hammered

head of hemispherical shape. In the second method of manufacture, represented by three pins (*e.g.* SF 19), the head was formed by twisting the wire round the pin shank and these pins have two spirals visible. Both forms of pin were introduced in the 14th century and were used in large quantities to pin the folds of head-dresses and to fasten veils. The fashion for ruffs and pleated and folded head-dresses in the 16th and 17th centuries necessitated the use of even greater numbers of pins.

Three forms of button are present in the assemblage. The first is a composite sheet button made from two pieces of stamped sheet metal soldered together with a loop inserted through a hole in the back. This form has a long history, examples having been recovered from London in deposits dating as early as 1270–1350 (Egan and Pritchard 1991, 280) and continuing with little change well into the post-medieval period. The second form of button is a solid cast copper-alloy type with integral loop (SF 69). Although medieval buttons of this form are known, they appear to be restricted to lead/tin alloys (Egan and Pritchard 1991, 274 and 279–80). Parallels for this example can be found from Norwich (Margeson 1993, fig. 11 no. 103) and from 17th-century deposits in Amsterdam (Baart 1977, cat. nos 362–5). The final button is a dished 'suspender' button. Parallels for this form were found in 18th- and 19th-century contexts at Winchester (Biddle and Cook 1990, 573).

A single copper-alloy wire chain link was recovered. Portions of iron, copper-alloy and silver chain have been found in deposits of 14th- and 15th-century date in London (Egan and Pritchard 1991, 318–20) and a variety of forms of chain for wearing were noted from 16th- and 17th-century Amsterdam (Baart 1977, 204–11). The base metal chains are more likely to have held groups of keys or similar items, rather than having been worn as jewellery. It is however equally possible that this chain link served a more utilitarian function, for example suspending balance pans (Egan and Pritchard 1991, 318).

Amongst the five copper-alloy buckles recovered, four types were identified based upon shape of frame. Oval frames with offset, narrowed bars, of which two were identified (*e.g.* SF 34), were in use throughout most of the medieval period but appear to have been on the decline by the turn of the 15th century (Egan and Pritchard 1991, 70). These two examples possess an extended and angled lip. An example from Winchester, dated to the 13th and 14th centuries (Hinton 1990d, 509 and fig. 131, no. 1175), closely parallels the Botolph Bridge example. In common with the Winchester buckle, SF 34 retains traces of gilding.

Double frames with integrally cast central bars can be oval (SF 9) or rectangular. Double frames are a later medieval form, the majority occurring in deposits of the later 14th century and continuing into the post-medieval period. The cinquefoil decoration on the lip of SF 9 and its ornamented waist, can be paralleled on a buckle from Norwich found in 16th-century deposits (Margeson 1993, fig. 17 no. 174).

A single example of a trapezoidal frame with a separate bar inserted through a transverse hole in the frame (SF 15) retains traces of mineralised woven fabric on the bar. Traces of white metal plating survive in places on the frame but the composition could not be confirmed by XRF. Within the collection of excavated buckles from London, it was noted that tin-coating became more

common in the 13th and later centuries (Egan and Pritchard 1991, 70).

Three forms of strap end were found within the assemblage. The first is a composite example with a sheet spacer occupying the width of the strap end (SF 14). This form is of 14th-century date and appears to have been relatively short lived (Egan and Pritchard 1991, 148). In common with many of this type of strap end, SF 14 has a pointed, knop-like end. Traces of tin or tin/lead alloy plating survive on its surfaces.

A second form of strap end may be represented by SF 45. Two pewter strap ends cast in a T-shape, with the tab folded to accommodate a strap, were noted in the assemblage of strap ends from London excavations and two further examples are known in the Museum of London collections (Egan and Pritchard 1991, 153–4). All of these examples had cross-hatching decorating the front. Only one example came from a dated deposit, and this was late 14th century. The flimsy character of these items has led to the suggestion that they were not actually worn as strap ends, but that they may have had devotional connotations and were purchased at pilgrim shrines (Egan and Pritchard 1991, 153–4). Although SF 45 does not appear to have been cast and lacks the tab on the reverse, it does have chequer-board incised decoration on both faces. In addition, the shape of the piece mirrors that of other 14th-century strap ends, in particular the knop-like terminal. This may therefore have been a cheap substitute either of a strap end or perhaps a pilgrim's souvenir.

The third form of strap end is the simplest in construction, comprising a strip of sheet metal folded in two with the strap riveted between. In London none of this form of strap end came from deposits dated earlier than the late 13th century (Egan and Pritchard 1991, 129). Three examples were found at the Botolph Bridge site. One (SF 22) is a rather large plain example of this form, able to accommodate a strap of 45mm in width, and has seven rivet holes. In contrast, another (SF 68), although accommodating a fairly wide strap (38mm), is more decorative. The attachment edge is cut in the form of an inverted M with a double row of rouletted dots along its edge. A close parallel for this inverted M shape is found on an early 15th-century strap end from London (Egan and Pritchard 1991, 129 and fig. 84). SF 116 is smaller and the base of the strap end has been finished off with a V-shaped terminal. In form this is very similar to composite strap ends with sheet spacers occupying the whole width of the strap end, dating to the 14th century (Egan and Pritchard 1991, 147–48). This example however has no sign of a sheet spacer.

Straps had various fittings many of which were purely decorative although a few, such as the pendant loops, served to suspend items from the strap. The pendant loop from this assemblage differs from the norm in that the bar and loop are cast in one, with a single rivet to fix the bar to the strap. Plain domed circular mounts with integral rivets would have occurred in groups, not only on girdle straps but also on spur straps (Egan and Pritchard 1991, fig. 110; Clark 1995, figs 111–112). Cast solid headed mounts with integral rivets (SF 78) are less common, and this example with its hemispherical head and collar is more reminiscent of Anglo-Saxon and Anglo-Scandinavian cast dress pins. The presence of a circular washer or rove however indicates its use as a mount. It is possible that this mount was formed from a reused dress pin. The final form of

mount has two integral spikes (SF 43). As with most mounts of this form, this example has two symmetrical lobes with a central zone of linear ornament. A close parallel, dated to the 16th century, comes from Norwich (Margeson 1993, fig. 23 no. 287). A second example was found *in situ* on a leather belt from Exeter, securing the end of the belt looped through the buckle (Allan 1984, fig. 187 cat. no.54).

Catalogue of illustrated items (Fig. 50)

Roman and Anglo-Saxon

- IN 13618** Copper alloy. **Bracelet**. Incomplete. Two joining tapering fragments, decorated with central groove along length with a series of diagonal notches either side, four transverse grooves mark the start of the tapered hooked terminal (hook missing). Length 34mm; width 6.2mm. 3rd to 4th century AD. NVRC unstratified.
- IN 13644** Copper alloy. **Bracelet**. Incomplete. Two joining fragments, decorated with central groove along length with ring and dot ornament either side, each motif separated by diagonal grooves. Seven ring and dot motifs surviving either side of groove. Length 34mm; width 7.7mm. 4th century AD. Unstratified.
- SF 32** Not illustrated. Copper alloy. Cruciform **brooch**, incomplete. Top knob cast in one with the brooch, hemispherical, side-knobs missing; small square head plate with abbreviated wings. Horizontal ridges (3) before rising to high arched bow with carination at front. Bow plano-convex in section. Type A (Mortimer 1990). Length 30mm. Unstratified.
- SF 37** Not illustrated. Copper alloy with white metal (tin or tin-lead) plating. Trumpet **brooch**. Incomplete (in two pieces). Head plain, extension from rear of head, oval in shape with perforated lug at rear to take missing spring. Remnants of chain loop at top of head. Mid-bow knob has three units, bottom and top units with acanthus (Collingwood Rii) motif, foot knob undecorated. Length c.57mm. Unstratified.
- IN 13580** Copper alloy. **Tweezers**. Small pair of folded sheet tweezers, parallel sided 'blades', tips missing. The blades are decorated with an incised marginal groove parallel to each edge and over the loop and three ring and dot motifs on each arm. Tweezers have been flattened and loop damaged. Roman to 6th to 7th centuries AD. NVRC unstratified.

Medieval and Post-Medieval

- SF 85** Copper alloy. **Pin**, shank of drawn wire with applied hammered, hemispherical head. Length 57.8mm; wire diameter 1mm. Area D/E; Ditch 42; Period 3.2.
- SF 19** Copper alloy. **Pin**, wire wound head, two spirals, drawn wire shank, diameter 1.2mm. Tip damaged. Length 41.4mm. Area A; South of hollow way; Building 12c, Robbing; Period 5.
- SF 69** Copper-alloy **button**. Cast hemispherical with integral stem and loop. Petal decoration. Length 17.4mm; head diameter 10.5mm. Area C; Unstratified.
- SF 34** Gilded copper-alloy **buckle**, incomplete. Oval, with extended and angled lip, decorated with incised foliate pattern, bar offset and narrowed, damaged. Length 14mm; width 22mm. Unstratified.
- SF 9** Copper alloy. Double oval **buckle**, incomplete. Ornate lip in cinquefoil motif, ornamented waist. Current length c.30mm; width 25mm. Unstratified.
- SF 15** Copper alloy, possible traces of white metal plating. Trapezoidal **buckle** with separate, off-centre bar. Bar retains traces of textile strap of woven fabric (fibre type unidentifiable). Length 11.7mm; width 19mm; thickness 3mm. Area A; Building 12c Robbing; Period 5.
- SF 14** Copper alloy, plated with tin or tin/lead alloy. Complete. Composite **strap end** with sheet spacer occupying whole

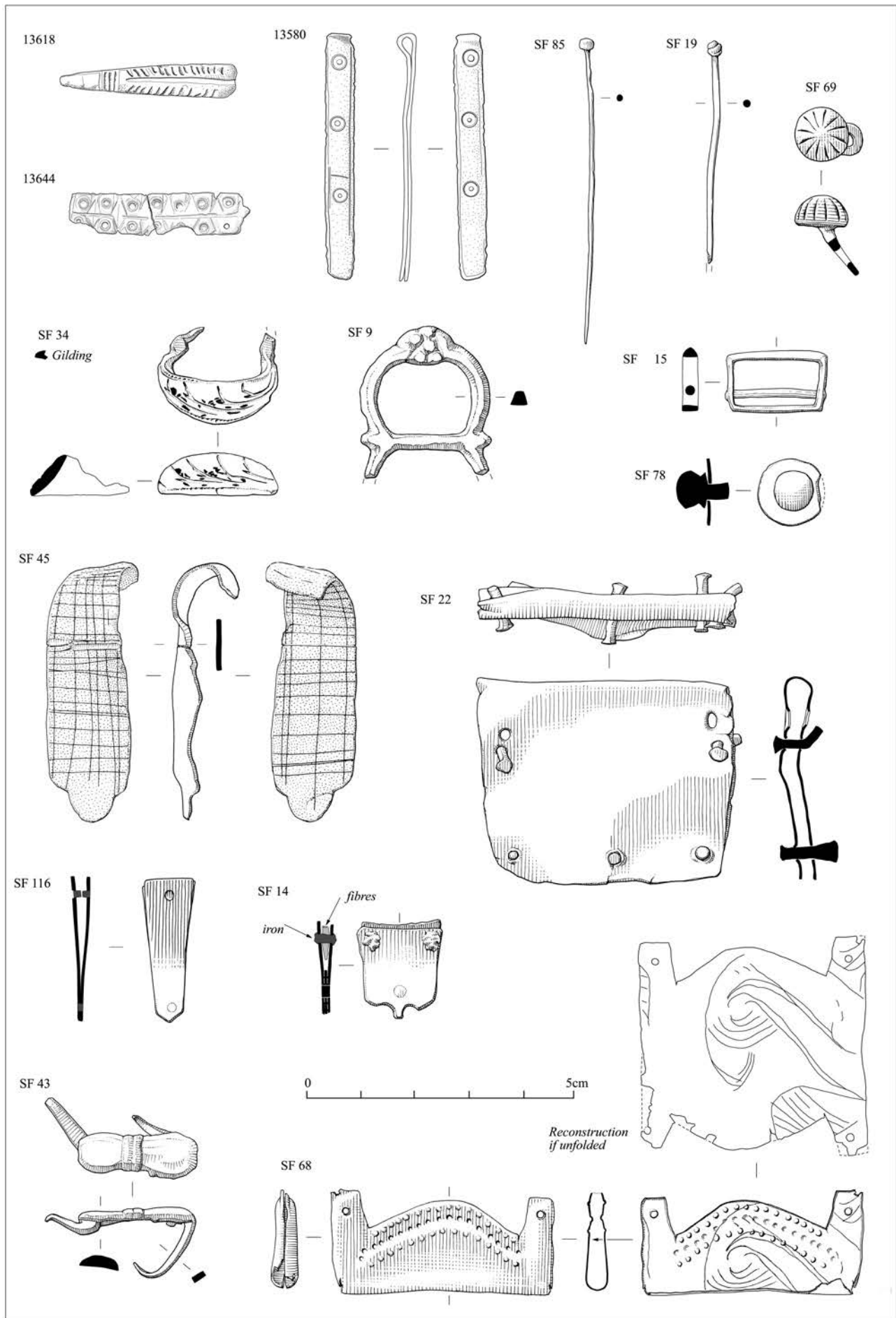


Figure 50 Dress and personal possessions. Scale 1:1

width. Attachment edge slightly concave, opposing end has small knob-like terminal. Two iron rivets at opening and one copper-alloy rivet near 'knob'. Textile fibres *in situ* but weave and fibre type not known. Length 18mm; width 15mm; thickness 3mm. Area A; Building 12c Robbing; Period 5.

- SF 45** Lead alloy. **Strap end(?)**, incomplete. Shaped sheet of lead, rectangular in section, tapering in width at one end, opposing end has terminal cut to imitate 'acorn knob'. Both faces decorated with scored, chequer-board pattern. In two joining pieces, one end distorted. Length c.55mm; width 15.5mm; thickness 1.3mm. Area B; Topsoil.
- SF 22** Copper alloy. Folded **strap end** (widthways). Seven rivet holes visible, three across the mouth of the strap end and paired holes situated near the fold. Five rivets *in situ* (3 at mouth, 1 on either side). No decoration visible. The ends of rivets are hammered or upset. Could accommodate a strap of 45mm width. Length 38.2mm; width 48.8mm. Area C, Unstratified.
- SF 68** Copper alloy. Folded **strap end** (widthways). The attachment edge is cut in the form of an inverted M with a double row of repoussé dots along the edge of the M. Two rivet holes, one either 'leg' of M, rivets not *in situ*. Traces of incised curvilinear decoration survive, suggesting the strap end may have been manufactured from a recycled sheet. Strap estimated to be 38mm in width. Length 20mm; width 42mm. Area C; Unstratified.
- SF 116** Copper alloy. **Strap end**. Tapering rectangular strap end with chamfered terminal. Strap end is made from sheet folded widthways with a single copper-alloy rivet at the mouth, and one near the terminal. The terminal has been finished off, so that the fold is not visible. No decoration, possible traces of leather remain between the plates. Length 26.2mm; width 9.3mm. 1987 NVRC; Unstratified.
- SF 78** Copper alloy. **Cast rivet**, hemispherical with collar below. Short circular sectioned shank, end hammered flat. A circular washer has been threaded onto the shank, the end of the shank then upset. Length 10.3mm; washer diameter 12.4mm; shank diameter 4.5mm. Area C; Unstratified.
- SF 43** Leaded brass. **Strap stiffener**, 2 lobes and central ribbed decoration, 2 integral spikes, bent. Length 22.6mm. Area B; Topsoil.

Items Associated with Religious Beliefs

(Fig. 51)

In addition to the possible pilgrim's souvenir in the form of a strap end (see SF 45 above), there are four other items in the site assemblage that may have been associated with religious belief. All that survives of the clapper bell (SF 23) is a section of rim, suggestive of a diameter of 160mm. It is possible, although not certain, that SF 23 was part of a hand bell. These had an ecclesiastical use; for example hand bells were carried before a priest when communion was taken to the sick and as lychbells in a funeral procession (Biddle and Hinton 1990a, 725).

The fragment of cast lead alloy decorative openwork (SF 65) bears similarities with the openwork spheres, identified as pilgrim souvenirs, found in 14th-century deposits in London and King's Lynn (Spencer 1998, 209). When intact these spheres enclose a few cockleshells, a pebble and on occasion a small rumbler-type bell. Some had a stalk-like handle but the majority did not, and these, if worn, may have been suspended from a cord or chain (Spencer 1998, 209). These rattles appear to be exclusively English, and the concentration of finds in London and King's Lynn may suggest an origin of London, Canterbury or perhaps Walsingham (Spencer 1998, 209). An alternative identification for this item is that it is a fragment of a ventilator; similar to the

14th-century examples at Clarendon Palace, Wiltshire (James and Knight 1988, 225–6 and fig. 85 no.1).

A scallop shell *ampulla* was also found (SF 117). Its size, heaviness and shape suggest it belongs to the second half of the 14th century when *ampulla* were mainly a flattened flask shape with slightly convex obverse and a flattish reverse (Spencer 1998, 205).

Although no parallel for a square lead plaque (SF 118) has been found, it does bear some similarities to some pilgrim's souvenirs in the use of cast lead alloy and the ornate border. Alternatively, it could be a crude version of a Pax, a tablet decorated with a sacred image which was used as an instrument for transferring the Kiss of Peace around the congregation. Base-metal paxes were produced *en masse* and could have the design engraved or cast (Campbell 1987, 240). SF 118 does appear to have engraved decoration and traces of gilding survive within the central raised panel. Unfortunately the eroded surface makes it difficult to determine the exact nature of the engraving: it appears to be a seated robed figure (possibly winged and haloed?), with out-stretched arms, hands cupped, holding or offering up an unknown object. This latter may represent a head or face, although this is a highly tentative suggestion as a result of the condition of the object. If this 'face' is interpreted as the holy child it would be unusual, as Mary usually holds the child in her lap, or he stands in her lap. A rather fanciful suggestion might be that it depicts John the Baptist's head, although this also has difficulties because his head is usually depicted on a platter or held by the hair.

Catalogue of illustrated items (Fig. 51)

- SF 23** Copper alloy. **Cast hand bell**, incomplete. Flaring mouth with collar, rim diameter 160mm; thickness 3.3mm. Area C; Unstratified.
- SF 65** Lead. **Rattle or ventilator**. Incomplete, cast decorative openwork from the frame of a rattle or ventilator. Slight curvature to outer edge. Area C; Unstratified.
- SF 117** Lead alloy. *Ampulla*. Scallop shell (Type II) *ampulla* with compass drawn flower on the reverse face (very worn). *Ampulla* has had its upper body cut off and is now lacking the neck and arms. Length 31.4mm; width 30.6mm. 1987 NVRC; Unstratified.
- SF 118** Lead alloy. **Pilgrim's souvenir(?) or Pax(?)** Square plaque with wide border decorated with a series of sunken annulets, and on the internal edge of the border, a narrow band of cabling. Raised central panel. The central panel has traces of gilding and appears to have been decorated (a seated figure apparently forms one element of the decoration). In one corner of the reverse face there is a possible stub of an integral rivet/attachment and a corresponding scar in the opposing corner. There is also what appears to be a circular wear pattern(?) on the same face. Length 52.4mm; width 51.8mm; thickness 5.8mm. 1987 NVRC; Unstratified.

Multi-Functional Items

Rings had a wide variety of uses and, although it is probable all were used to suspend other objects, unless found *in situ* it is difficult to determine exact use. Hinton notes that an increasing number of rings for hanging curtains and other textiles might be expected from the 15th century and later contexts (1990e, 1095) and the two cast copper-alloy rings recovered from Botolph Bridge may have served such a purpose. Iron rings had a variety of uses including on harness, as part of a strap distributor, or as a

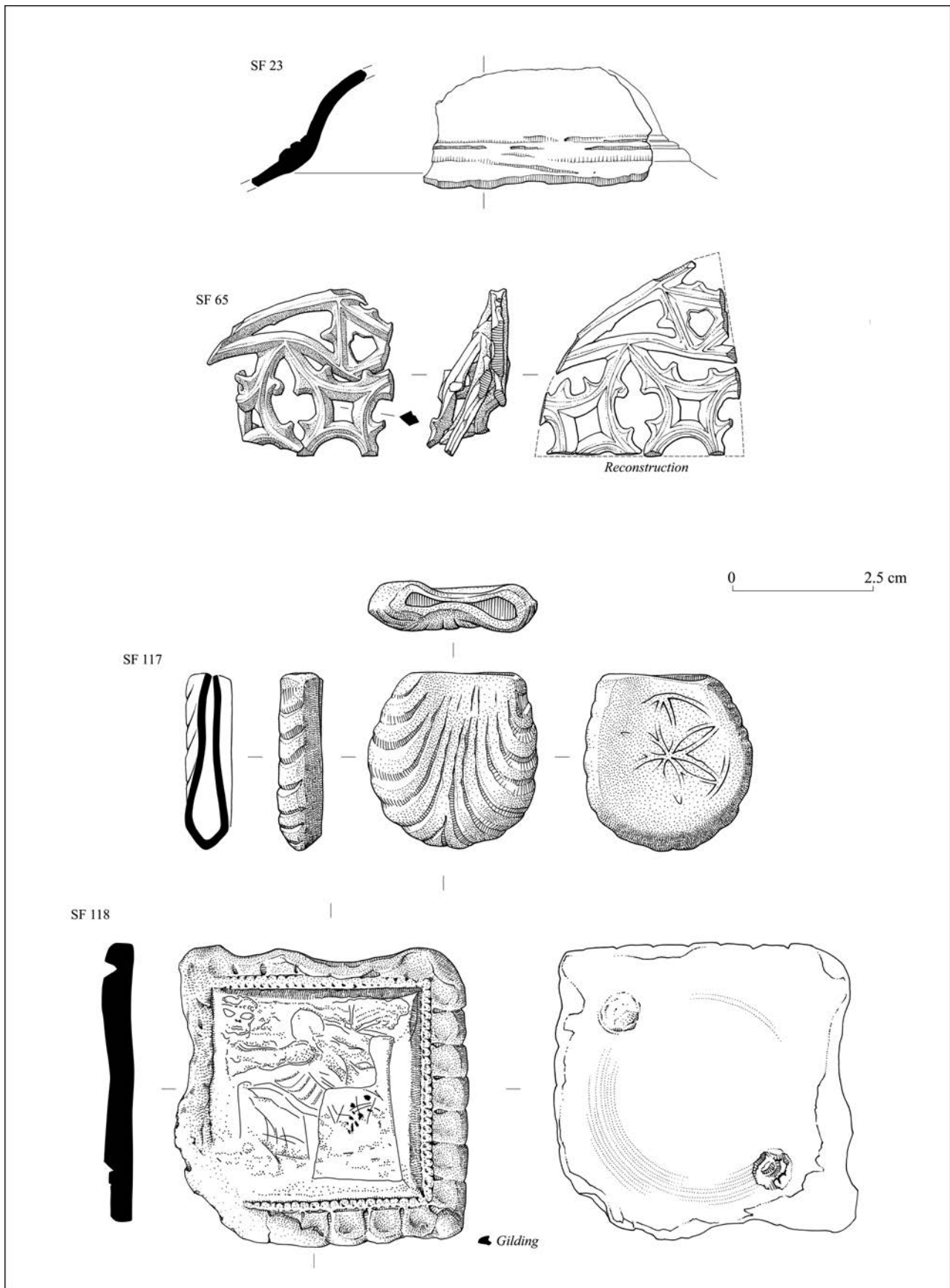


Figure 51 Items associated with religious belief. Scale 1:1

component of a chain. The single annular iron ring from Botolph Bridge retains part of a chain link *in situ*.

Cylindrical collars, either in copper alloy or more commonly in iron, served to strengthen the junction of a wooden handle and a metal tool. The example here is of rolled copper-alloy sheet, the 6mm diameter of the cylinder and the presence of linear decoration are suggestive of use as a reinforcing band on for example tweezers (Oakley 1979a, fig. 110 no.74) or 'page-holders' (Biddle and Hinton 1990b, fig. 215 no. 2326A; Oakley 1979a, fig. 110 no.73).

Unclassified

(Fig. 52)

The function of a leaded object is uncertain (SF 50). It is hoped that its publication will result in identification by other artefact researchers.

Catalogue of illustrated item

(Fig. 52)

SF 50 Leaded bronze **object**. Incomplete. One end rounded, snub-nose expanding in width and then bifurcating. The bifurcation frames an oval opening. Both faces of the object have a tapering notch or channel from the bifurcation to the surviving terminal. Opposing end does not survive. Possibly part of an elongated lip from a buckle?; or a very abraded fragment of a medieval dagger quillon (*c.f.* Fig. 49, SF 47)? Surviving length 24.4mm; width 15mm; thickness 5.7mm. Area B; Pit 63; Period 2.2.

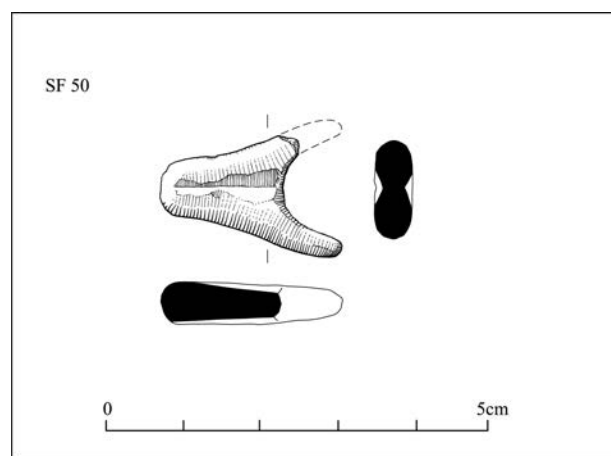


Figure 52 Unclassified. Scale 1:1

IV. Metalworking

by David Dungworth

A total of 5.6kg of ironworking slags was recovered from the site, including 3.7kg of smithing hearth bottoms and 1.9kg of non-diagnostic ironworking slag. In addition, 0.3kg of miscellaneous non-metalworking debris was identified. There was no particular concentration in features or site areas, although most of the slag from Period 3.1 deposits was found in Area A.

No smelting slags and no fragments of vitrified lining were identified. A series of soil samples was also examined to determine if hammerscale was present. In all but one case, the magnetic fraction recovered (after the soil samples had been sieved) proved to be fragments of corroded iron or pieces of naturally magnetic ironstone. The presence of smithing hearth bottoms (recognisable by

their characteristic plano-convex form) shows that iron smithing was carried out in the vicinity. The quantity of related smithing debris is not great, however, and is likely to have been produced by small scale smithing activity. The absence of vitrified linings indicates that the iron slags were probably not produced within the area excavated but were dumped there. The lack of substantial quantities of hammerscale also shows that very little smithing can have taken place within the area excavated. There was no evidence for iron smelting.

V. Glass

by Holly Duncan

(Fig. 53)

The earliest glass item found at the site is an Early Saxon blue polychrome three-eyed bead which came from the 1987 NVRC investigations. It dates to the 6th to 7th centuries and it is paralleled elsewhere (for example Guido 1999, 54).

In contrast to the 1999/2000 excavations, where only a single sherd of probable modern window glass was found, the 1987 NVRC collection contains seven sherds of window glass. These show signs of weathering and corrosion varying from iridescent patches to totally denatured glass. The state of preservation suggests that most of the glass is probably of potash composition. The most closely datable piece (SF 110) is a painted fragment, probably from a chapel or the adjacent church, depicting a naturalistic vine leaf on a plain ground. The move away from stiff leaved foliage to a more naturalistic depiction is thought to have occurred in the 14th century (Marks 1987, 141–43).

The remaining window glass fragments are unpainted and are not as closely datable. The thickness and denatured condition of one sherd suggests that this fragment dates to the medieval period. Two other sherds are stained, one of ruby and one of amber or yellow colour. Although examples of red or ruby sherds in non-durable glass are known from deposits of the early 10th century at Winchester (Biddle and Hunter 1990, 362 and 381), the presence of a sherd of yellow stained glass suggests this group post-dates the first decades of the 14th century (Kerr and Biddle 1990, 392). The better preserved state of another sherd along with the thinness of the glass (1.7mm thick) suggests that this piece may be of 16th- or 17th-century date, when thin green window glass of less than 2mm thickness become more widely available for use in domestic windows (Oakley 1979b, 296).

The remainder of the household assemblage is limited to vessel glass. The majority of the assemblage, representing from four to five vessels, has weathered, opaque surfaces with a translucent green core, the most common colour of glass used in the medieval and early post-medieval periods. The absence of weathering on the translucent glass with pale blue tinge from Ditch 1 (Period 2.1) may suggest a soda glass composition. However it should also be noted that burial environment may have affect the condition of survival. This fragment appears to be from the shoulder area of a necked vessel.

The form of the two body sherds from Ditch 52 (Period 5) could not be determined. Two joining fragments from one vessel were found in the Period 5 robbing of Wall 2. The curvature of these sherds suggests that they originated from a jar or bottle. The single sherd from Ditch 43 (Period

3.2) derives from the neck of a bottle or flask. Ditch 52 (Period 5) also yielded 12 sherds from an elongated octagonal bottle of late post-medieval/modern date. A single vessel glass sherd came from the 1987 excavations and consists of a curved body sherd in translucent light olive-green glass which may have derived from a jar or jug.

Catalogue of illustrated items
(Fig. 53)

SF 110 Painted **window glass** fragment depicting a naturalistic vine leaf in red paint on plain background. The glass is denatured and heavily weathered on the opposing, external face. No grozed edges survive nor lead staining to indicate original quarry shape. Thickness 2.9mm; Length 35mm; width 27mm. NVRC, Unstratified.

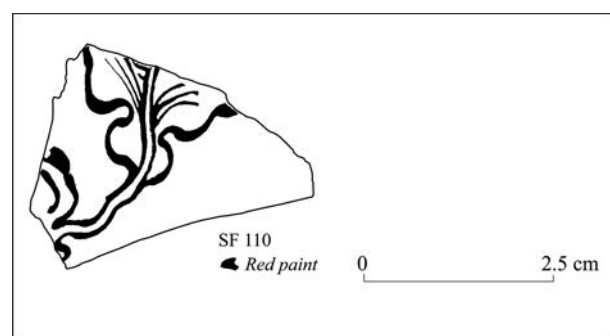


Figure 53 Window glass. Scale 1:1

VI. Roman Pottery

by Stephen Macaulay

A total of 7.063kg of Roman pottery was recovered from the site (774 sherds), which lies close to a known Roman villa (HER 50388). This assemblage consists of 583g (86 sherds) from the 1999/2000 excavation and 6480g (688 sherds) from the 1987 NVRC excavations. The following summary refers solely to the 1999/2000 material; the 1987 NVRC assemblage was simply counted and weighed. The pottery is in a fairly poor condition with the assemblage being largely comprised of abraded pottery weighing on average 6.8g per sherd. This compares to a slightly higher average sherd weight from the 1987 investigation (9.4g). The assemblage would appear to be largely residual, travelling from the adjacent Roman villa (more than 200m away) to be redeposited in Late Saxon and medieval features and the topsoil.

The assemblage is dominated by fine wares, with coarse wares notable by their absence. The material is also generally derived from local sources, the Nene Valley pottery industry unsurprisingly being the dominant material. Exotic wares are confined to Central Gaulish Samian. Forms comprise bowls, dishes and flagons, representing a classic (fine) tableware assemblage. In keeping with the lack of coarse ware, the assemblage is devoid of cooking, storage or transportation vessels. The date range of the assemblage is 3rd to 4th century AD. Earlier material (e.g. 2nd-century Samian) is limited and the group is as would be anticipated, given the proximity of a villa estate at a time of local expansion and growing status during the 3rd to 4th centuries.

VII. Post-Roman Pottery

by Paul Spoerry

(Figs 54–55, Tables 2–19)

Introduction

The 1999/2000 excavations produced an assemblage of 3,321 sherds of post-Roman pottery, weighing 33.58kg. This report also includes study of pottery recovered by the NVRC in 1987. This assemblage constitutes 6,139 sherds weighing 51.53kg. Thus, in total 9,460 sherds (weighing 85.11kg) were studied. Thin Section and ICPS studies of samples of selected fabric types were carried out (Appendix 1). As there were significant uncertainties of provenance for some important fabrics in the medieval assemblage, this work was a valuable contribution to the study, and its results impact considerably on the assessment of pottery supply and provenance.

The Assemblage

Data Collected

All of the assemblage, from both phases of excavation and from the NVRC work, has been quantified into a single Microsoft Access database. Using Microsoft Access and Excel, this database has been interrogated to establish intra-site and phase-based statistical variations in the fabrics and forms represented. Statistics have been compiled using quantitative data deriving from both sherd count and sherd weight. Estimated vessel equivalents (EVEs) have also been determined for surviving vessel rim fragments, but the resultant numbers are too low for the data to be meaningful. The statistics utilised in this report have invariably been converted into percentages of material within the whole site, or part of the site (spatially or temporally) and unless stated otherwise these percentages are based on the weight of pottery present.

Degree of Abrasion and Completeness

A simple tripartite index of abrasion (abraded, moderate and sharp) is included in the quantification database. Analysis of the relative occurrence of these three divisions was carried out for pottery in each phase and for pottery of different period origin. The resultant statistics show some variation in abrasion across phases, but a correlation with the period the pottery derived from was in fact the correct source of this variation. Thus, Roman pottery was almost all deemed to be abraded, regardless of whether in a soft or hard-fired fabric, with the majority of Early to Middle Saxon pottery also being abraded. The majority of Late Saxon and post-Conquest pottery was only moderately abraded, whilst much of the pottery described as 'sharp' was unsurprisingly in hard-fired late medieval and post-medieval fabrics. The fact that Roman finewares were generally abraded and post-medieval finewares were not, suggests that taphonomic processes were the main source of wear.

Residuality and Intrusiveness

Roman pottery is present in small, but significant, quantities in most period assemblages (Table 2), indicating that there was earlier activity across the entire site. The level of this residual material is very high at 20.65% in Period 3.2, however most of this derives from a single large group from one context (NVRC context 512, Building 17) suggesting that these phase statistics should

Pottery Type	Period 1	Period 2.1	Period 2.2	Period 3.1	Period 3.2	Period 4	Period 5	Unphased
Roman	(12.99%)	(3.89%)	(3.80%)	(1.25%)	(20.65%)	(1.57%)	(0.82%)	12.88%
E-M Saxon	26.23%	(3.72%)	(1.52%)	(0.23%)	(0.13%)	(0.94%)	(0)	1.62%
Late Saxon	[54.81%]	61.76%	60.80%	(19.04%)	(18.51%)	(19.40%)	(6.15%)	25.44%
High Medieval	[5.45%]	[29.76%]	[31.79%]	79.20%	52.91%	(35.86%)	(23.18%)	45.09%
Late medieval	[0]	[0.87%]	[2.09%]	[0.26%]	[7.30%]	40.78%	(61.11%)	4.82%
Post-medieval	[0.52%]	[0]	[0]	[0.01%]	[0.49%]	[1.46%]	8.75%	8.38%
Modern	[0]	[0]	[0]	[0]	[0]	[0]	[0]	1.78%

Table 2 Quantity of pottery by ceramic period in each site phase with (residual) and [intrusive] pottery types shown, by percentage

not be taken at face value. In general terms the overall level of residual Roman material, at around 13% of the total, is high for a rural site, and suggests significant reworking of Roman features. Levels of Early–Middle Saxon material are lower, but this material is generally less abundant in the archaeological record, and its presence suggests the reworking of further Anglo-Saxon features on the site.

From Period 3.1 onwards Late Saxon types should be regarded as residual, or at least archaic and/or representative of curated objects. This means that 40% of the pottery in Period 3.2 may be residual, but problems with this phase data set have been outlined in previous chapters. Period 4 spans the currency of both high medieval and late medieval types, the latter being mostly Bourne D wares. Their presence here alongside Bourne B wares perhaps suggests the two were utilised side by side during the 15th century, rather than one being either residual or intrusive.

Period 5 is represented here as late medieval to early post-medieval, but again there are significant amounts of high medieval types which may largely be a result of residuality, although the persistence of usage of earlier types might also be a factor. The fact that many of the features included in this period represent the robbing of earlier structures tends to support the former interpretation.

Intrusiveness from much later periods is generally low, however, in Period 1, Late Saxon types are dominant and in Periods 2.1 and 2.2, high medieval types are also very common. In each case this is likely to be a product of the artificiality of these phasing divisions, since occupation continued through a change in ceramic usage that did not affect all pottery types at exactly the same time. The evidence suggests that Period 1, although described here in simple terms as Middle Saxon, is rather more Middle to Late Saxon, in both the type of pottery utilised and the dating of the activity itself. Furthermore the continuity of occupation in Areas D and E, that in sequential terms spans Periods 2.1 and 2.2, to 3.1 and which covers several centuries, is difficult to separate into simple ceramic periods and these changes in the pottery assemblage do not themselves precisely mirror the phase developments on the site. The dating of Period 2.2 includes the latter part of the 12th century precisely because its ceramic assemblage includes both Saxo-Norman pottery and some high medieval types.

Ceramic Period Assemblages

The unphased pottery assemblage constitutes 43% of the total and being so large it does reduce certainty that the statistics from the individual phases are fully

representative of the assemblage used at the site during each period. General consideration of the wares represented across the whole assemblage can, however, be made by dividing the pottery by ceramic period, rather than by site period, and then assessing the contribution of each ware and fabric to the period assemblage. The amount of pottery in the whole assemblage, by historical period (and thus ignoring stratigraphic origin) is given in Table 3. The greater part of the unphased pottery assemblage derives from the NVRC excavations, for which only partial site records were available.

Period	General Date Range	Wt (kg)
Roman	AD 43-425	7.127
Early-Middle Saxon	AD 425-850	1.128
Late Saxon	AD 850-1100	23.486
High Medieval	AD 1100-1350	40.675
Late Medieval	AD 1350-1550	7.466
Post-Medieval	AD 1550-1770	3.491
Modern	AD 1770+	0.647

Table 3 Pottery by ceramic period, by weight

Early to Middle Saxon Pottery

Pottery from these periods is represented at the site, but for the most part it is small, rather undiagnostic sherds, often surviving as residual material in later contexts (Table 4). No decorated Early Saxon pottery and/or funerary wares were identified, nor are sherds of Middle Saxon Ipswich ware present. The assemblage therefore generally consists of small hand-made sherds, at least some of which are presumably of fairly local origin. Some pottery (c.6%) is vegetable tempered, which is a characteristic more prevalent in the Early Saxon period, whilst others are shell-tempered Maxey-type wares (c.10%) which, when certain characteristics of form are recognised, can be given a Middle Saxon date. Around 10% of the pottery was macroscopically identified as possessing crushed igneous rock temper, usually alongside large plates of mica. These sherds can probably be classified as grano-dioritic pottery, some of which at least may have been made in the Charnwood Forest in Leicestershire, although the issue of provenance for this group is a matter of important debate (Williams and Vince 1997; and below). Overall this group tends to suggest activity from the later part of the Early Saxon period at earliest. Since the amount of Maxey ware is low and no Ipswich wares are present, it is possible that 8th-century activity was limited, but this does not match the structural sequence that

Pottery type	% by wt
Igneous temper	9.84
Maxey-type	10.20
Other hand-made	74.37
Vegetable temper	5.59

Table 4 Early to Middle Saxon pottery in the whole assemblage, as percentages (by weight)

appears to show some continuity into the Late Saxon period in the 9th century, both from the type of structures present and from the fact that in some features there are clearly small groups that include Middle and Late Saxon sherds.

In all, 230 sherds of Early to Middle Saxon pottery were found, weighing 1.128kg. A small number of these are present in all major area and trench assemblages, but the vast majority (170 sherds) derive from the 1987 Manor Site, forming 11% of all sherds recovered there. Although Early to Middle Saxon features were difficult to identify through excavation, this large amount of residual pottery must surely suggest that further activity took place in the vicinity during the 6th to 9th centuries. This might support the assertion that the later manor and church site might have perpetuated earlier post-Roman occupation.

Late Saxon Pottery

Late Saxon pottery is present at the site as both secure stratigraphic groups and as residual material. Table 5 shows the general ware types present. Pottery of this period in eastern England is dominated by St Neots and Thetford type wares and by Stamford ware, and this assemblage is no exception. Here, Stamford ware is most common and, although often seen as a desirable fine ware characterised by a smooth white fabric and glazing, Botolph Bridge was apparently close enough to the production site for Stamford ware to perform utilitarian domestic functions including use as cooking pots, with 52% of pottery showing signs of external sooting. The relative scarcity of Thetford ware at 14%, is doubtless also a result of geographic factors, whilst St Neots type ware is much more common for similar reasons. The minor wares represented are types dating to the later part of the period; early medieval ware, Grimston Thetford ware and micaceous early medieval ware from Essex (Fabric 13, Cotter 2000). Their presence indicates that the activity here is likely to include the 11th to 12th centuries. Conversely there is little evidence that much pottery derives from the 9th to early 10th centuries with the small, early forms of St Neots type ware, for example not being present (one third of rims below 15cm diameter but none below 12cm).

Pottery type	% by wt
Early medieval ware	4.01
Essex micaceous early medieval	0.69
Grimston Thetford ware	0.76
St Neots type ware	36.21
Stamford ware	44.13
Thetford type ware	14.21

Table 5 Late Saxon pottery in the whole assemblage, as percentages (by weight)

High Medieval Pottery

Pottery from the period 1150–1350 includes a whole host of named types from the Eastern region, along with a number of fabrics that have been given descriptive names, and for which definition and provenance is an ongoing process. The key type of pottery in this period is a group of variable Shelly ware fabrics, classified in the past where found in Northamptonshire as Lyveden/Stansion type A and more recently grouped, described and defined as Shelly Ware 1 (SHW) at The Still in Peterborough (Spoerry 1998). Recent thin section and Inductively Coupled Plasma Spectroscopy (ICPS) analyses support the suggestion that these types include Rockingham Forest products from Lyveden and around, but that they also probably include pottery made locally in the Soke of Peterborough and south Lincolnshire (PSHW; Vince and Spoerry, below and Appendix 1). It is unfortunate that the current inability to separate many products from these differing locations by eye, and the lack of any kiln sites for this material outside of the Lyveden/Stansion area, precludes a full assessment of the relative importance of different pottery production areas to the people of Botolph Bridge during the high medieval period. The fact that the third most abundant type in Table 6 is glazed pottery from the Lyveden/Stansion industry, does however imply that Shelly wares from these same kilns must constitute at least part of those found at this site. Oolitic Shelly ware and Sandy Shelly ware, as previously defined at The Still in Peterborough (Spoerry 1998) are similarly unprovenanced but again likely to derive from either South Lincolnshire or Rockingham Forest.

Bourne A and B type wares are the second most abundant type in this period. It is likely that as well as the settlement of Bourne itself, other places nearby possessed kilns making similar pottery; although the one place nearby from which there are actual wasters — Baston — has a recognisably different fabric. The Bourne industry has been known for some decades (*e.g.* Healey 1969), but no definitive and up to date publication exists. Earlier assertions that Bourne A ware is a 13th-century type, with

Pottery type	% by wt
Baston type ware	0.17
Bourne A and B type wares	13.31
Brill ware	0.24
Developed Stamford ware	0.63
Developed St Neots type ware	1.75
Essex Sand and Mica (Fabric 20)	0.08
Grimston	1.31
Hedingham type ware	0.02
Lincoln medium sandy ware	1.55
Lincoln shelly ware	0.03
Lyveden/Stansion glazed ware	11.90
Medieval Ely type ware	1.56
Medium Sandy ware	0.02
Northwest Norfolk reduced wares	0.02
Oolitic Sandy ware	0.02
Oolitic Shelly ware	1.21
Shelly wares (SHW and PSHW)	62.83
Sandy Shelly ware	0.42
Hunts Fen Sandy ware	2.93
Toynnton ware	0.23

Table 6 High medieval pottery in the whole assemblage, as percentages (by weight)

Bourne B ware starting in the 14th century, are almost certainly an over-simplification and, in any case, the two wares are often hard to distinguish. It is important to note here, however, that the earlier dominance of Stamford products has entirely ceased, but that the Lincolnshire component in the Botolph Bridge glazed ware assemblage is maintained through Bourne products. In addition the presence of Lincoln fabrics and material from Toynton shows a wider contribution from the county. Cambridgeshire's contribution to the medieval assemblage is rather insignificant in comparison, being composed of 1.56% Ely ware and another *c.*3% from Hunts Fen Sandy ware and Medium Sandy ware, neither of which is provenanced, but which may both have a Cambridgeshire origin (Spoerry forthcoming).

Other fabrics, mostly small quantities of glazed pottery, derive from the counties of Buckinghamshire, Essex and Norfolk and they perhaps indicate that there was more regular transfer of goods with the counties to the south and east, than with those to the north and west. It is also possible that the presence of the South Lincolnshire and North Northamptonshire pottery industries offered a barrier to occasional supply of vessels to Botolph Bridge from the industries of the rest of the East Midlands.

Late Medieval Pottery

In ceramic terms, the late medieval period is usually given a start date sometime from 1350 onwards, recognising that the social and economic disasters of the mid-14th century eventually manifested themselves in ceramic terms, as a range of new industries and new products. The late medieval assemblage is here characterised primarily by the appearance of Bourne D type pottery (Table 7). Initially given a suggested start date of *c.* 1450 (McCarthy and Brooks 1988) it is now thought that production of this type started some decades earlier (Alan Vince, pers. comm.). Its usage undoubtedly overlaps with Bourne B ware, but the full extent of this is not known. One effect of viewing statistics based on set periods is that pottery types that overlap from one period to the next give figures that must be used with caution, because they necessarily have to be lumped into one period and therefore removed from another. With that in mind, the fact that Bourne D type ware continued in use into the 16th century, alongside some early post-medieval types does imply that its dominance in the real late medieval assemblage is being overstated here and it would be better to consider the period assemblages for more reliable indicators. Nonetheless the dominance of Bourne D ware in the 15th century is clear and it seems to have prevented some other industries from achieving a foothold in ceramic supply at Botolph Bridge, although there is more Grimston pottery

Pottery type	% by wt
Bourne D type ware	78.45
Cheam ware	1.50
Colchester type ware	0.17
Late Grimston ware	3.32
Late Lyveden ware	9.4
Late Med. Lincoln Sandy ware	6.17
Late Medieval Reduced ware	0.76
Orange Sandy ware	0.21

Table 7 Late medieval pottery in the whole assemblage, as percentages (by weight)

than previously and late medieval Lincoln Sandy ware does occur at 9.4%, adding to the strong supply from that county. The contribution from the Lyveden industry declined from its earlier medieval peak and Cambridgeshire products are notable by their absence.

Post-medieval Pottery

This ceramic period assemblage is much more of a composite than the previous examples and these statistics undoubtedly have limited meaning (Table 8). It is important to note, however, that post-medieval redwares, whether of regular type or with black or bichrome glazing, constitute the great majority of the assemblage. These vessels include some made at Ely, but others will have come from further afield. German stonewares appear as the first import identified on the site.

Pottery type	% by wt
Bichrome redwares	12.72
Cistercian wares	3.44
Ely Babylon ware	2.72
English stonewares	2.95
German stonewares	8.22
Metropolitan slipware	1.00
Post-med. black glazed wares	9.60
Post-medieval redwares	45.29
Staffs slipware	5.99
Staffs brown stoneware	2.06
Staffs MO	0.77
Tin glazed earthenwares	2.29
Other	2.95

Table 8 Post-medieval pottery in the whole assemblage, as percentages (by weight)

Site Period Assemblages

Further detailed analysis of temporal variation in the pottery present on the site has been carried out on the period groups that together constitute 43kg of pottery (57% of the total assemblage). For this analysis the pottery has been grouped into a mixture of mostly geographically-defined types that best allow cross-period comparisons to be made. Overall quantifications by period are given in Table 9. To differentiate the site periods from the *Ceramic Period* assemblages, as previously discussed, in this text assemblages from the site periods, (*i.e.* Periods 1 to 5), will often be described as *Phase* groups.

Period 1: Middle to Late Saxon (*c.* 700–*c.* 900)

This phase group represents features of Middle Saxon and Middle to Late Saxon transitional date. Context groups were assigned to this phase on the initial basis that they contained a dominant or significant Middle Saxon component. A few features that were clearly associated with structures of otherwise Middle Saxon date, but which contained very small Late Saxon assemblages, were also included. The Late Saxon sherds, principally Stamford and St Neots type wares, do not appear particularly 'early' in comparison with sherds in later contexts. Amongst the Middle Saxon sherds no Ipswich ware was found, which would in East Anglia perhaps mitigate against a later (8th- to early 9th-century) date. The Soke of Peterborough was, however, part of Mid-Anglia in the 8th century, and thus

<i>Ware/origin</i>	<i>Period 1 (0.388 kg)</i>	<i>Period 2.1 (5.863 kg)</i>	<i>Period 2.2 (7.186 kg)</i>	<i>Period 3.1 (16.609 kg)</i>	<i>Period 3.2 (7.595 kg)</i>	<i>Period 4 (7.014 kg)</i>	<i>Period 5 (3.444 kg)</i>	<i>Unphased (36.809 kg)</i>
Unknown and Roman	13.92%	3.96%	4.40%	4.42%	23.50%	2.91%	1.22%	14.77%
Bourne and environs	5.15%	1.42%	2.32%	8.90%	9.86%	40.70%	55.75%	10.55%
Bucks	0	0	0	0.13%	0.21%	0	0	0.16%
Other Cambridgeshire	0	0.07%	0.25%	0.85%	1.00%	0.29%	0.03%	2.58%
Early medieval ware	0.52%	0.63%	1.07%	0.42%	0.86%	0.16%	0	0.94%
Ely	0	1.64%	0.01%	0.20%	0.58%	1.20%	2.93%	2.47%
Essex	0	0	0	0.05%	0	2.67%	0.38%	0.02%
Import	0	0	0	0	0	0	1.16%	0.67%
Other Lincolnshire	0	0.73%	0	2.17%	6.04%	0.64%	8.62%	1.07%
Local (hand-made Saxon)	26.03%	3.72%	1.70%	0.22%	0.13%	0.93%	0	1.60%
Lyveden-Stanion glazed	0	1.96%	0.99%	4.85%	15.72%	8.35%	13.27%	5.30%
Multi-region modern	0	0	0	0	0	0	0	1.76%
Multi-region post-med	0.52%	0	0	0.01%	0.46%	1.34%	5.55%	6.07%
Norfolk	0	1.26%	0	0.31%	0	3.99%	0.75%	1.53%
SHW and PSHW	0	22.80%	26.29%	60.08%	21.78%	17.41%	4.09%	25.93%
St Neots type	4.90%	24.07%	32.83%	6.45%	8.89%	4.26%	0.75%	9.11%
Stamford	43.30%	24.87%	23.21%	9.04%	6.90%	5.47%	3.02%	13.08%
Surrey	0	0	0	0	0	1.60%	0	0
Thetford wares	5.67%	12.88%	6.93%	1.76%	3.44%	7.78%	2.35%	2.39%
Toynnton	0	0	0	0.11%	0.63%	0.30%	0.12%	0

Table 9 Quantification of site period assemblages, by weight and percentage

within the Mercian sphere of influence. An absence of Ipswich ware might therefore have a more geopolitical explanation and there is no reason to interpret such an assemblage, that includes Maxey ware and hand-made pottery with igneous temper, alongside Stamford ware and St Neots type ware, as being anything other than consistent with occupation spanning the 8th to 9th centuries.

Periods 2.1 and 2.2: Late Saxon to Saxo-Norman (c.1000–c.1200)

These groups represent features of Late Saxon or Saxo-Norman date, but they include less than 40% of the Late Saxon pottery recovered from the site. For the purposes of this study the smaller phase groups (Periods 2.1 and 2.2) have been combined to provide a Period 2 *Phase* assemblage of large enough size for statistical analysis to be meaningful. It is important to note that the pottery from this phase almost all derives from Areas D and E and the adjacent/overlapping NVRC Manor Site. Interestingly, the most common pottery type in this phase group is St Neots type ware, but in the Late Saxon period pottery assemblage Stamford ware is more common. Stamford ware therefore occurs to a greater extent in other phases and in the unphased material. Why this should be so is difficult to explain; it may be that Stamford ware continued in use longer in subsequent phases than St Neots type ware, or it may be that spatial variations across the site and variations in the contribution of different areas of the site to the unphased data have biased the latter figures. Stamford ware is nonetheless still very common in these phases, and at around one quarter of the sherds, and with cooking vessels represented, it was clearly being used as a kitchen and utilitarian product as well as for its appearance as a glazed ‘fineware’. Botolph Bridge, despite being on the south bank of the Nene, was still clearly within the primary orbit of this important industry in the later Saxon periods.

Periods 2.1 and 2.2 both include pottery that in theory does not appear until the mid-12th century, the majority of this being Shelly ware (SHW), that is related to St Neots type wares and represents at least in part the next stage of evolution of its products. As a result the boundary between later and/or Developed St Neots ware and SHW is blurred, and the fact that a large amount of SHW appears alongside St Neots ware in Period 2 groups needs little explanation as undiagnostic sherds can sometimes be assigned to either fabric. In addition during the period of deposition in these feature fills, newer shelly pottery vessel and fabric types were perhaps being made and used alongside older ones. The small volumes of Lyveden/Stanion and Bourne glazed wares probably include both intrusive sherds in Period 2.1, and the earliest later 12th-century examples of these types in Period 2.2.

The assemblages from the key plot boundary and trackway ditches from Periods 2.1 and 2.2 were studied in detail. Although all of these features contained small numbers of Roman sherds, these were not sufficient to suggest earlier origins. Ditch 4 (Period 2.1) contained an assemblage of 70 sherds, the majority being St Neots type ware and Developed St Neots type ware, although an intumed Stamford ware bowl of a type (Form 14) that probably ceased to be manufactured by the later 10th century was also present (Kilmurry 1980). The origins of this boundary feature cannot be very closely dated, but the presence of developed St Neots type ware suggests that the cut was not fully backfilled until after AD 1100, which would place Period 2.2 firmly in the 12th century.

One plot boundary (Ditch 3) produced an assemblage of 72 Late Saxon sherds, with no earlier or later material. This group included some Developed St Neots type ware sherds that ought to place its infilling after c. AD 1100, but the dating of this evolved type is rather unclear. The first recut, however, included no Developed St Neots type ware sherds and instead produced a large assemblage of material (186 sherds) that would normally be dated to the

11th century on account of the Stamford ware forms represented and a lack of any later types. This group includes many sooted sherds in both St Neots type and Stamford wares, mostly jar forms and many also having internal limescale caused by the repeated heating of water. This group of sherds is a good example of a domestic kitchen assemblage of the period. A second recut of this boundary (Ditch 59) contained a smaller, but very similar, assemblage. In conclusion it seems that the boundary was first infilled in perhaps the 11th century, with a large volume of domestic waste being deposited in the backfill of the recut ditch by the end of the same century. The second recut showed no further evolution in pottery types, implying that it too was backfilled quickly, and probably before 1150, by which time stylistic changes and new producers were apparent in the local pottery assemblage.

Periods 3.1 and 3.2: Medieval (c.1200–c.1350)

These phases represent features of, in general terms, high medieval date. As noted above, the Period 3.2 data has a very high level of residuality and so as to account for this the Period 3 assemblages, as with Period 2, have been assessed on their overall statistics based on the larger and more reliable data set offered by combining the two sub-phases. The phase assemblage is dominated by shelly wares, some probably originating in the Lyveden area industry in the Rockingham Forest in Northamptonshire, but also perhaps including pottery deriving from other, closer but unknown producers. Shelly ware is much less common in Period 3.2, compared to Period 3.1 and, even accounting for problems of residuality in the later group there is clearly a decline in its importance in the supply of pottery at Botolph Bridge in the 14th century. There is also a large amount of Lyveden/Stanton glazed ware in both groups, emphasising that the Rockingham Forest was an important source of pottery for the site, but conversely these products are much more common in Period 3.2 than in Period 3.1. This is perhaps a case of one Rockingham Forest product overtaking the other in importance in this market as the decades progressed. Lincolnshire producers are represented mainly by Stamford and Bourne, with the former including developed Stamford ware, but a large part of this group is true Stamford glazed ware that must be residual, or at least very archaic if still in use by this date. The same can be said of the St Neots type and Thetford type wares, although it is hard to see this more utilitarian material being curated, and thus some of this will probably have been residual. The presence of significant quantities of Bourne pottery, both A and B wares, probably indicates a later 13th- to 14th-century date for many contexts; clearly more so for Period 3.2. The 'other Lincolnshire' group includes Oolitic coarsewares that become more prominent in Period 3.2. Cambridgeshire's producers, both Ely ware and other unprovenanced fabrics believed to originate here, barely feature again and Colne products were not identified at all.

Period 4: Late Medieval to Early Post-Medieval (c.1350–c.1500)

The pottery from Period 4 is generally late medieval in date, although it is characterised by both Bourne B and Bourne D pottery alongside Shelly wares (PSW and SHW). This preponderance of earlier medieval survivals usually signifies that a very late medieval date is inappropriate, however, Bourne D ware is traditionally

believed to appear in the mid-15th century, thus offering an alternative dating framework. On balance it appears that this phase includes contexts from a range of dates during the 15th century, and it is also likely that there is high residuality in some later groups. A small increase in glazed pottery from further afield is signified by sherds of Cheam ware from Surrey, and by more Essex (greywares and Colchester ware), Norfolk (Grimston) and Cambridgeshire (Ely) pottery than previously. A lack of transitional or truly post-medieval pottery in any features associated with the use of the buildings on the site suggests that occupation may not have extended into the 16th century.

Period 5: Post-Medieval (c.1500–c.1650)

Despite the dating of Period 5, only modest amounts of true post-medieval products are evident. The assemblage is heavily dominated by Bourne D ware, with late Lyveden and late medieval Lincolnshire fabrics also present, alongside a high proportion of residual material and a small amount of German stonewares. One of the latest features in the stratigraphic sequence is Pit 70, which is believed to include waste from the demolition of the late medieval farm complex. The pottery from this feature consists mostly of Bourne D ware, that was in common usage from the mid-15th century to the mid-17th century. Alongside this was one piece of Frechen or Cologne stoneware, a type that tends to be found in England from the mid-16th century onwards. No later material was present and the ceramic assemblage therefore suggests a date sometime after 1550, but probably not after 1600 for the deposition of this demolition waste.

The Site Area Assemblages

Overview

Table 10 summarises the quantity of pottery (by weight) in each area of the site and in each phase. The site 'areas' have been grouped in the case of Areas A and B, and D and E, to reflect the fact that these modern excavation areas are not necessarily meaningful on their own, but that when grouped in this way they represent recognisable medieval land units or properties. In addition to this, a further layer of recombination of the assemblage on spatial grounds is relevant as Areas D and E can also be grouped with the NVRC Manor Site which was in this same location. This has not been done in Table 10, but it can be seen that the two assemblages do in fact have markedly similar dates, if residual Roman pottery and the subdivisions of Period 2 are ignored. The data in general are, however, biased by the relatively small number of contexts from 1987 that have been successfully combined with the phasing from the later excavation. Maintaining awareness of this problem, it is still possible to assess cautiously the relative date of remains in each area.

The only securely dated Middle Saxon features that produced significant amounts of pottery were in Area C; the Period 1 remains in other parts of the site being for the most part dated by odd sherds. It is clear that the bulk of the dated Late Saxon to Saxo-Norman pottery groups came from Areas D and E and the coincident NVRC Manor Site excavation. Period 3 groups are common in all areas, except the Manor Site, although the large amount of unphased pottery here suggests that caution should be exercised in the use of these statistics. From Table 11 it is

<i>Period</i>	<i>As a percentage of Assemblage in Areas A and B (18.017kg)</i>	<i>As a percentage of Assemblage in Area C (1.966kg)</i>	<i>As a percentage of Assemblage in Areas D and E (13.462kg)</i>	<i>As a percentage of Assemblage in NVRC Manor (9.752kg)</i>	<i>As a percentage of Assemblage in NVRC House (35.114kg)</i>
Unphased	4.08	3.61	10.51	68.47	61.01
1	0.41	7.32	0.61	0.92	0
2.1	0.52	27.11	19.37	22.77	0.88
2.2	0	0	41.71	7.83	2.3
3.1	40.22	10.68	10.49	0	22.05
3.2	9.92	18.01	7.73	0	12.57
4	28.57	22.63	7.35	0	1.18
5	16.28	10.63	2.24	0	0

Table 10 Quantity of pottery by site period and area

in fact clear that the Manor Site assemblage contains a great deal of Roman and Early–Middle Saxon pottery. Although there was clearly still much activity in Area D and E in Period 3, it was not characterised by pottery deposition in the way that the new domestic zone in Area A was. Pottery deposition suggests occupation in this period close to Area C, presumably associated with putative Building 16.

By Period 4 (late medieval) depositional activity appears to have declined at the NVRC House Site and the Manor Site/Area D and E, being instead concentrated in Areas A and B, and to a lesser extent Area C. The change of focus away from the area close to the church and putative manor, and the Oundle Road (House Site), in favour of locations to the south of the hollow way, is clearly demonstrated.

These differences in dating of the ceramic assemblages across some of the areas of the site make it difficult to produce meaningful cross comparisons. Table 11 offers statistics to indicate the relative importance of the different ware types and pottery of particular geographic origins in each site area, but most interpretation that can be gleaned from this is grounded in the differences in dating already discussed. Such difficulties can in part be resolved by study of the pottery by site area, from the phase assemblages that do provide meaningful comparisons. Owing to the very large amount of unphased pottery present at the NVRC Manor Site, it was not deemed worthwhile studying the phases assemblages in detail from this part of the site.

<i>Ware/origin</i>	<i>As a percentage of Assemblage in Areas A and B (18.017 kg)</i>	<i>As a percentage of Assemblage in Area C (1.966 kg)</i>	<i>As a percentage of Assemblage in Areas D and E (13.462 kg)</i>	<i>As a percentage of Assemblage in NVRC Manor (9.752 kg)</i>	<i>As a percentage of Assemblage in NVRC House (35.114 kg)</i>
Not known	2.7	2.8	0.7	1.7	2.4
Bourne and environs	28.4	24.3	2.6	2.6	10.6
Bucks	0.06	0	0	0	0.2
Cambs	0.1	2.2	0.06	0.03	2.9
Early Med. ware	0.1	1.7	0.6	2.5	0.6
Ely	0.6	4.2	0.3	0.07	1.0
E-M Saxon	0.4	3.8	0.5	8.8	0.2
Essex	1.2	0	0	0	0.02
Import	0.2	0	1.1	0.4	0
Lincs	2.8	0.7	2.4	0.3	1.9
Modern	0.03	0.5	0	1.9	0.1
Norfolk	2.0	0	0.04	1.1	1.2
N'hants incl. Lyveden/Stanion	12.7	8.1	3.3	0.4	5.8
Pmed	0.5	8.4	0.7	3.0	0.1
Pmed Ely	0.01	3.5	0	0	0
Prehistoric	0	0	0	0	0.04
Roman	0.6	1.8	3.6	21.0	8.1
SHW and PSHW	34.2	26.1	31.8	8.1	39.2
St Neots type	4.8	4.3	22.4	14.6	10.9
Stamford	3.9	4.3	21.4	26.5	12.3
Surrey	0.6	3.3	0	0	0
Thetford wares	3.4	0	8.6	6.9	2.3
Toynton	0.5	0	0	0	0

Table 11 Quantification of pottery in each site area assemblage grouped by ware and/or geographic origin

<i>Ware/origin</i>	<i>As a percentage of Period 2 Assemblage in Area C (0.533kg)</i>	<i>As a percentage of Period 2 Assemblage in Areas D and E (8.222kg)</i>	<i>As a percentage of Period 2.1 Assemblage in Areas D and E (2.607kg)</i>	<i>As a percentage of Period 2.2 Assemblage in Areas D and E (5.615kg)</i>	<i>As a percentage of Period 2 Assemblage in NVRC House (1.612kg)</i>
Unknown and Roman	0	2.32	4.33	1.39	4.9
Bourne and environs	3.19	2.02	0.15	2.89	5.21
Bucks	0	0	0	0	0.31
Other Cambridgeshire	0	0.09	0.15	0.05	0.93
Early medieval ware	0	0.45	0.35	0.5	1.24
Ely	8.44	0.54	1.69	0	0.31
Essex	0	0	0	0	0
Import	0	0	0	0	0
Other Lincolnshire	0.94	0.32	1	0	0
Local (hand-made Saxon)	0	0.54	1.42	0.12	0.31
Lyveden-Stanion glazed	13.7	1.28	1.3	1.26	0.31
Multi-region modern	0	0	0	0	0
Multi-region post-med	0	0	0	0	0
Norfolk	0	0	0	0	0
SHW and PSHW	64.54	30.69	28.42	31.74	2.92
St Neots type	9.19	30.5	27.73	31.79	30.89
Stamford	0	22.83	21.75	23.33	37.41
Surrey	0	0	0	0	9.43
Thetford wares	0	8.44	11.7	6.93	2.92
Toynton	0	0	0	0	2.92

Table 12 Quantification of pottery by ware type/geographic origin for Period 2 assemblages from key areas of the site

Variation across Site Areas in the Period 2.1 and 2.2 Assemblages

Period 2 is broadly dated to the late 9th to late 12th centuries, but within this long time-span are two sub-periods. The pottery assemblages from these sub-periods are remarkably similar; symptomatic of the slow pace of change of ceramic technology at that time. Table 12 shows composite statistics for Period 2.1 and 2.2 for three parts of the site, and in addition the largest area assemblage, that of D/E, is also broken down into the Period 2.1 and 2.2 groups. This serves to demonstrate how similar these two sub-periods are, in ceramic terms, and little of meaning can be gleaned from their separation.

The assemblage from Area C is quite small and the statistics of doubtful value. For example, the 8% attributed to Ely, is in fact a single sherd from an upper fill of Well 1, that is clearly intrusive. Of more value is a comparison between the groups from the NVRC House Site and Areas D/E, although the former again suffers from the effects of a few intrusive sherds. Of note is the fact that the House Site is dominated by Stamford ware and St Neots type ware, and this is clearly a pre-12th-century group. It includes a variety of Stamford ware vessel types, but is still dominated by jars and cannot be seen as either 'higher status' or even derived from 'table wares'. By way of contrast, the Area D/E assemblage has more Thetford ware and much SHW, and thereby certainly includes 12th-century contexts, although it does represent a wider spread of dates.

An in-depth study was conducted to assess variation in groups at the Period 2 to Period 3 transition. This served to demonstrate that the Period 2.2 groups from both the quarry and from a variety of pits in Area D/E were similar and very clearly of early to mid 12th-century date, being dominated by Developed St Neots ware and SHW in jar forms and with no glazed pottery except for Stamford ware. In contrast, the assemblage recovered from Period

3.1 ditches in Area A is similarly dominated by SHW, but almost devoid of developed St Neots type ware, and they also include new glazed pottery types, principally Lyveden/Stanion glazed ware. Consequently there is a larger proportion of sherds from jugs. This assemblage can clearly be dated to the latter part of the 12th century at the very earliest, and would be equally (or more) representative of the decades after 1200.

Variation across Site Areas in the Period 3.1 and 3.2 Assemblages

Periods 3.1 and 3.2 are broadly dated to the period 13th to 14th centuries but are also characterised by pottery types that occur from the later 12th century onwards, alongside a significant amount of pottery in fabrics that have their origins in the Late Saxon period. Some of this material is doubtless residual in this phase, however, other examples represent the final decades of manufacture and usage of, for example, St Neots type ware and Stamford ware, whilst other examples will still be from archaic and/or curated objects. Table 13 provides comparison for the pottery types in four of the five areas of the site. The NVRC Manor Site assemblage is not large enough to be broken down for comparison and is not shown here. The Area C assemblage is, however, presented although it also is perhaps too small to offer true statistical rigour. Nonetheless some important differences between these area assemblages can be identified. The amount of St Neots type ware, whether residual or not, is fairly consistent, and yet the similarly-dated Stamford ware and Thetford type ware components show marked differences, with a much greater quantity of these types present in Area D/E and to a lesser extent at the NVRC House Site, when compared to Areas A/B and C. The fact that virtually all of the Period 2 activity on the site was in Area D/E (and NVRC Manor Site), and that the Period 2 assemblage in Area D/E includes twice as much St Neots type ware as it

<i>Ware/origin</i>	<i>As a percentage of Assemblage in Areas A and B (9.034kg)</i>	<i>As a percentage of Assemblage in Area C (0.564kg)</i>	<i>As a percentage of Assemblage in Areas D and E (2.450kg)</i>	<i>As a percentage of Assemblage in NVRC House (12.327kg)</i>
Unknown and Roman	5.62	8.16	3.71	15.45
Bourne and environs	3.75	24.82	0	14.3
Bucks	0.12	0	0	0.22
Other Cambridgeshire	0.16	4.43	0	1.45
Early medieval ware	0.12	5.5	0.61	0.7
Ely	0.03	6.74	0	0.36
Essex	0	0	0	0.06
Import	0	0	0	0
Other Lincolnshire	2.03	1.42	11.63	2.88
Local (hand-made Saxon)	0.37	0	0	0.11
Lyveden-Stanion glazed	16.66	9.22	3.76	2.85
Multi-region modern	0	0	0	0
Multi-region post-med	0	0	0.08	0.28
Norfolk	0	0	0.16	0.37
SHW and PSHW	58.04	23.05	42.24	42.79
St Neots type	7.55	2.13	10.12	7.01
Stamford	3.88	6.56	17.51	9.73
Surrey	0	0	0	0
Thetford wares	0.93	7.98	10.16	1.43
Toynon	0.74	0	0	0

Table 13 Quantification of pottery by ware type/geographic origin for Period 3 assemblages from key areas of the site

does Stamford ware, rules out residuality as an explanation for the amount of Stamford ware in the Period 3.1 Area D/E assemblage. This implies that differences in the period of activity represented, or of pottery usage associated with function, or (particularly in the case of Stamford ware) of status are the real cause of this variation. On balance it might be that in Area D/E the 12th century is particularly well-represented, with Stamford ware and Thetford ware being current at that time and St Neots type ware waning in popularity and being replaced by other Shelly pottery (*e.g.* SHW). Alternatively, if the visually striking and technologically advanced Stamford ware can be used as an indicator of relative status, then Areas D/E show higher status assemblages in this phase when compared with Areas A/B, C and the NVRC House site.

SHW is consistent across all areas represented, being the most common type almost everywhere (although in provenance terms this includes pottery from both Northants and Lincolnshire; Vince, Appendix 1). Further significant variation includes the relative occurrence of pottery from Bourne and elsewhere in Lincolnshire, which is much more common at the NVRC House Site, and particularly in Area C and which is entirely absent from Area D/E. There may be a nuanced temporal explanation for this; perhaps there was no new deposition in Area D/E after the 13th century, after which Bourne wares appeared at Botolph Bridge and were used in the newly constructed occupation areas elsewhere. The site phasing suggests that only Building 15 was constructed anew in Areas D/E in Period 3.2, whilst there was new occupation everywhere else in this period. Pottery from Northamptonshire (principally Lyveden/Stanion glazed ware, but also a small amount of oxidised and reduced sandy wares from other Rockingham Forest kilns; Moorhouse 1974) is much more common in Areas A/B and to a lesser extent Area C, although a clear temporal or

other explanation for this difference is not apparent. Lyveden/Stanion glazed ware was widely distributed from the later 12th century onwards (Webster 1975; Chapman *et al.* 2008) and it is likely that the Bourne industry did not start until later in the following century (Healey 1969). Thus the NVRC House Site might be a later assemblage than the others, but this remains uncertain. It is, however, equally difficult to suggest that these differences can be explained through alternative means such as through variation in status or activity type.

Significant quantities of pottery from other parts of Lincolnshire appear in Area D/E, but these are less common elsewhere. They are represented by two related fabrics, these being a 'local' medieval limestone- and sand-tempered fabric in Area A/B and the NVRC House Site, and by Oolitic Shelly ware in Area D/E (Sperry 1998, 108). These are the same as, or similar to, SLSNO in the Lincoln type series (Young and Vince 2005, 123). Little more significant variation can be observed in these figures.

The data was further broken down so that the assemblages from enclosure ditches in Area A were compared with those from similar features in Areas D/E and C. This study was hampered by the small size of these individual feature assemblages, however it clearly established that Ditch 19 in Area D/E is likely to have been infilled in the later 12th or early 13th century, whereas Ditch 44 in Area C, and Ditches 40 and 41 in Area A were all infilled in the later 13th or 14th century. On the face of it Ditch 43 was later still, but it becomes clear on closer study that its upper fills had 15th-century contamination and in fact it could easily date to the later 12th or 13th century.

Variation across Site Areas in the Period 4 Assemblage

The Period 4 statistics are shown on Table 14 and it is clear that the majority of this assemblage derives from Area

<i>Ware/origin</i>	<i>As a percentage of Assemblage in Areas A and B (5.148kg)</i>	<i>As a percentage of Assemblage in Area C (0.445kg)</i>	<i>As a percentage of Assemblage in Areas D and E (0.989kg)</i>	<i>As a percentage of Assemblage in NVRC House (0.408kg)</i>
Unknown and Roman	0.66	5.84	6.88	16.67
Bourne and environs	49.09	67.42	2.53	0.74
Bucks	0	0	0	0
Other Cambridgeshire	0.19	2.25	0	0
Early medieval ware	0	0	0	1.23
Ely	1.63	0	0	0
Essex	3.63	0	0	0
Import	0	0	0	0
Other Lincolnshire	0.27	0	0.81	5.64
Local (hand-made Saxon)	0.64	4.04	1.42	0
Lyveden-Stanion glazed	8.1	7.87	10.21	8.09
Multi-region modern	0	0	0	0
Multi-region post-med	1.46	3.15	0.51	0
Norfolk	5.09	0	0	4.41
SHW and PSHW	12.9	0	38.52	43.87
St Neots type	1.86	4.94	16.99	2.7
Stamford	2.7	0	19.31	10.54
Surrey	2.18	0	0	0
Thetford wares	9.19	4.49	2.83	6.13
Toynnton	0.41	0	0	0

Table 14 Quantification of pottery by ware type/geographic origin for Period 4 assemblages from key areas of the site

A/B, whilst the other area assemblages are barely large enough for their component statistics to be very meaningful. Nonetheless the percentages are shown here. The most striking difference between areas of the site in this phase is in the amount of Bourne wares and SHW. The former are the most abundant types in Areas A/B and C, but are almost absent from Areas D/E and the NVRC House Site. Conversely at the latter two locations the most common type is SHW, which is much less prevalent in Area A/B and absent from Area C. Why this is so is not clear, and again the reason may have a temporal, or activity or status-derived dimension. The Period 4 assemblage from Area A/B is probably later in date than all of the others as it includes much Bourne D ware, first manufactured around 1430 (Hilary Healey, pers. comm.), and it seems likely that the Period 4 stone buildings excavated in that part of the site represent a courtyard farm of the 15th century.

Area C, near the hollow way, yielded a few post-medieval sherds, but the remains here are characterised by Bourne B pottery which ceased to be made in the mid-15th century. It may be that activity here in this phase includes longer-lived features, or at least that they were established earlier. North of the hollow way in Areas D/E, and further afield at the NVRC House Site the Period 4 assemblage is dominated by pottery manufactured in the 11th to 14th centuries and, with the presence of so much earlier occupation at both these sites, it is suggested that this material is for the most part residual. If that is the case then very little of these assemblages truly dates to this stratigraphic phase, and explanations for this must be sought. One reason is probably that the longevity of previously established structures and their rebuilding and reworking has introduced a large residual component. Another reason in Area D/E is that the remains here were very truncated in recent times and in fact the Period 4 buildings only survived very partially, and below

foundation level. If this fact was coupled with a regime of refuse disposal in surface middens and/or away from the main settlement area then the vestigial fragments of buildings that have been recorded might easily stand devoid of similarly dated ceramics.

Variation across Site Areas in the Period 5 Assemblage

Although data from three areas are presented in Table 15, arguably only those from Area A/B provide a Period 5 assemblage of sufficient size for valid statistical analysis. Nonetheless it is important to note that there are obvious differences between these area assemblages and, even though it is such a small group, Area C is clearly different and in fact latest in date. The Area A/B material is dominated by Bourne pottery, principally Bourne D ware, with Lyveden/Stanion glazed wares and Oolitic South Lincolnshire pottery also present. The features here are mostly the backfilled 'robber' trenches of the stone walls, and contexts representing generalised abandonment, which clearly suggests that the pottery assemblage is to a large part residual material disturbed from Period 3 and 4 contexts. Area D/E is more of a mixed assemblage, but again the nature of this pottery reflects the dating of earlier activity here, suggesting that a large residual component is present.

Temporal Variation between Areas

The high levels of residuality in some parts of the assemblage and the low numbers of some feature types, particularly from the NVRC excavations, that have in fact been given phase attributions, skews and reduces the value of study based on stratigraphic phase alone. To counteract this the area assemblages have been broken down on the basis of the usual *ceramic period* to which each pottery type is attributed. Unfortunately at this site a lack of recognisably Saxo-Norman wares means pottery specifically of this date is not represented, those types

<i>Ware/origin</i>	<i>As a percentage of Assemblage in Areas A and B (2.933kg)</i>	<i>As a percentage of Assemblage in Area C (0.209kg)</i>	<i>As a percentage of Assemblage in Areas D and E (0.302kg)</i>
Unknown and Roman	0.2	0	11.92
Bourne and environs	65.46	0	0
Bucks	0	0	0
Other Cambridgeshire	0	0	0.33
Early medieval ware	0	0	0
Ely	1.09	33.01	0
Essex	0.44	0	0
Import	1.36	0	0
Other Lincolnshire	10.13	0	0
Local (hand-made Saxon)	0	0	0
Lyveden-Stanion glazed	12.38	0	31.13
Multi-region modern	0	0	0
Multi-region post-med	0	55.98	24.5
Norfolk	0.82	0	0.66
SHW and PSHW	3.89	11	1.32
St Neots type	0.82	0	0.66
Stamford	2.45	0	10.6
Surrey	0	0	0
Thetford wares	0.82	0	18.87
Toynton	0.14	0	0

Table 15 Quantification of pottery by ware type/geographic origin to Period 5 assemblages from key areas of the site

being present during the later 11th to later 12th centuries being very much the pre-existing Late Saxon types, as shown on Table 16. Here it is quite clear that Roman pottery is primarily present in the NVRC Manor Site and in other areas and trenches beyond those of the main excavation in both phases of investigation. This is a reminder that the medieval settlement at Botolph Bridge sits in a dense landscape of Romano-British occupation. This table also demonstrates that it is the NVRC Manor Site alone that also includes an Early to Middle Saxon component of any size and, perhaps unsurprisingly it is this zone that again sees the first later developments, with over 50% of the assemblages from NVRC Manor Site and Areas D/E being of principally Late Saxon pottery types. A quarter of the NVRC House Site assemblage also dates to this period, demonstrating significant activity. Conversely in Areas A, B and C a relative lack of similar types implies less activity in the pre-Conquest period.

The NVRC Manor Site and Areas D and E overlapped considerably and the lack of pottery of high medieval date or later at the former is odd, and must relate to preferential selection of features to excavate which, on the reinvestigation in 1999 and 2000 was ‘normalised’ through the recovery of the Area D and E assemblages. Taken

together, these groups show a main period of occupation here spanning the Late Saxon to high medieval, with all other parts of the site also heavily used during the latter. Subsequent to that, the abandonment of most areas in the late medieval period is very clear, with only Areas A and B, where the courtyard farm complex was established, and some outlying trenches, appearing to demonstrate continuing activity of any significance. The post-medieval and modern periods are really only represented by the assemblage from the outlying NVRC trenches, which signifies settlement shift to perhaps the Oundle Road and elsewhere. Closer to the main excavation, the continuation of post-medieval to modern occupation is most clearly represented by the existing public house (The Botolph Arms), formerly a substantial farm complex, which has not yet been studied archaeologically (see Section VIII, below).

Vessel Type Variation Between Areas

Table 17 gives percentages of vessels attributable to the main vessel types (basic forms), for all areas and sites. The higher percentages of vessels without an identifiable form in the NVRC assemblage is puzzling, and it may well be that this difference could be due to this assemblage being

<i>Site</i>	<i>Unphased</i>	<i>Prehistoric</i>	<i>Roman</i>	<i>Early/Middle Saxon</i>	<i>Late Saxon</i>	<i>High medieval</i>	<i>Late medieval</i>	<i>Post-medieval</i>	<i>Modern</i>
NVRC House	1.4%	0.04%	8.08%	0.16%	25.59%	63.08%	1.42%	0.1%	0.12%
NVRC Manor	0.50%	0%	21.03%	8.76%	50.97%	11.79%	1.58%	3.46%	1.91%
BB 87 other sites	2.37%	0%	23.92%	0%	1.36%	16.93%	12.24%	37.18%	6.01%
1999/2000 Areas A and B	0.85%	0%	0.60%	0.43%	13.76%	52.23%	30.93%	0.72%	0.03%
1999/2000 Area C	2.80%	0%	1.78%	3.76%	8.75%	66.43%	4.02%	11.95%	0.51%
1999/2000 Areas D and E	0.51%	0%	3.57%	0.54%	50.73%	40.33%	2.50%	1.82%	0%
1999/2000 other pottery	0%	0%	17.42%	0%	20.45%	62.12%	0%	0%	0%
% of total assemblage	1.15%	0.02%	8.38%	1.33%	27.62%	47.77%	8.77%	4.1%	0.76%

Table 16 Temporal variation of the pottery assemblage across sites and areas; presented as percentages of each area assemblage

<i>Area (wt)</i>	<i>No form</i>	<i>Bowl</i>	<i>Drinking Vessel</i>	<i>Jar</i>	<i>Jug</i>	<i>Other</i>	<i>Totals</i>
Areas A and B (69.543 kg)	29.8%	14.0%	0.2%	36.7%	18.5%	0.7%	99.9%
Area C (1.966 kg)	23.0%	13.3%	0.4%	40.6%	22.6%	0	99.9%
Areas D and E (13.462 kg)	27.6%	15.0%	0.1%	42.8%	14.0%	0.6%	100%
NVRC House (35.114 kg)	25.3%	9.2%	0	50.3%	15.2%	0	100%
NVRC Manor (9.696 kg)	64.8%	6.9%	0	16.5%	10.7%	1.1%	100%
NVRC other (6.659 kg)	48.2%	29.7%	2.1%	5.1%	14.9%	0	100%

Table 17 Variation in vessel type across sites and areas; presented as percentages (by weight) of each area assemblage

incomplete. This statistic, coupled with a low number of larger sherds and a relative lack of sherds worthy of illustration in the NVRC assemblage may all point to the ‘best’ sherds having been removed for display and/or illustration, and subsequently mislaid. As this suspicion cannot be confirmed, and as the assemblage is in overall terms large enough for the removal of a small number of pieces to not adversely affect general summary statistics, this matter has not been pursued further in the interpretative process.

Other statistics relating to vessel type reveal a general consistency in the dominance of jars in all parts of the excavation, even though the assemblages from the NVRC Manor Site and Areas D and E have substantially larger components of Late Saxon material when compared to the other locations. This suggests that the date of the assemblage does not significantly affect this general trend.

In Table 18 the statistics used in Table 17 have been ‘normalised’ to account for the variable proportion of sherds of no identifiable vessel type. Presented in this way the figures again reveal a dominance of jar forms, with jugs invariably second most common but at only a slightly higher percentage than for bowls. The only major variation to this trend is seen in the figures for the NVRC ‘other’ sites, where there is a great dominance of bowl forms which can be attributed to this assemblage

including some later post-medieval material mostly constituting large bowl sherds. This area group also differs in its low proportion of jars, again perhaps derived from a comparative lack of earlier medieval material when compared with other area assemblages, and the presence of some drinking vessels in the form of early post-medieval stoneware drinking jugs. It therefore seems that all of the potentially significant differences between the assemblages from different areas can be explained in terms of temporal differences rather than these signifying differences in relative ‘status’ or of the functional assemblage represented.

Vessel Type Variation Over Time

Study of changes in form in the assemblage over time was carried out on both the phase assemblages and the period assemblages and, as previously indicated, the latter was chosen as the most representative set of statistics, as the phase assemblages from these excavations are so mixed.

Table 19 shows statistics for the variation in broad form categories across the ceramic periods. It is interesting to note that, despite the Roman pottery deriving from features unrelated to the medieval sequence, and despite a host of ‘cultural’ and other factors that might conceivably cause great differences between Roman and medieval ceramic assemblages, there is in fact very substantial correlation between the broad range of

<i>Area</i>	<i>Bowl</i>	<i>Drinking Vessel</i>	<i>Jar</i>	<i>Jug</i>	<i>Other</i>	<i>Totals</i>
Areas A and B	19.9%	0.3%	52.1%	26.3%	1%	99.6%
Area C	17.3%	0.5%	52.8%	29.4%	0	100%
Areas D and E	20.7%	0.1%	59.1%	19.3%	0.8%	100%
NVRC House	12.3%	0	67.4%	20.4%	0	100.1%
NVRC Manor	19.6%	0	46.9%	30.5%	3.1%	100.1%
NVRC other	57.3%	4.1%	9.8%	28.8%	0	100%

Table 18 Variation in vessel type across sites and areas normalised to account for pottery of unknown form; presented as percentages (by weight)

<i>Main Period for Fabric (wt)</i>	<i>Bowl</i>	<i>Drinking Vessel</i>	<i>Jar</i>	<i>Jug</i>	<i>Other</i>	<i>Total</i>
Romano-British (0.277kg)	22.7%		56.3%	19.1%	1.8%	99.9%
Middle Saxon (0.113kg)	8.8%		91.2%			100%
Late Saxon (17.094 kg)	16.4%		62.0%	19.9%	1.7%	100%
High medieval (32.212kg)	15.2%		62.2%	22.2%	0.4%	100%
Late medieval (6.673kg)	30.6%		12.3%	57.2%		100.1%
Post-medieval (2.685kg)	65.4%	6.5%	4.8%	19.5%	3.8%	100%
Modern (0.598kg)	61.9%	0.5%	5.9%	31.8%		100.1%

Table 19 Variation in vessel form by ceramic period, normalised to account for pottery of unknown form; presented as percentages (by weight)

vessels found. If this is anything other than a coincidence, then the implication might be that utilitarian assemblages for agricultural communities existing in a given locale might be determined as much by environment and simple economics as by culture, belief and era-specific tradition. The figures for the Late Saxon and high medieval assemblages are almost identical, but the change after the mid-14th century, with the late medieval statistics, is interesting. The drop in the total for jars mirrors nationwide trends seen at that time whereby growing wealth in a lower population triggered greater affordability and usage of metal for cooking vessels, and a corresponding switch towards more varied ceramic vessel types (Dyer 1982). The occupants of the late medieval farm at Botolph Bridge appear to have owned and used more pottery vessels for the carrying and dispensing of water and ale than their counterparts of the previous three or four centuries, whilst at the same time they used less pottery 'cookpots'.

Thin Section and ICPS Analyses

by Alan Vince and Paul Spoerry

Thirty-eight sherds were sampled for Thin Section and ICPS analysis, alongside four tile fragments, to characterise fabric and inclusions and to attempt to understand more clearly the provenance of key wares in the Botolph Bridge assemblage (see Appendix 1).

Five sherds of hand-made Early to Middle Saxon fabrics were sampled and analysed (Appendix 1, V3327, V3348, V3349, V3350 and V3351). The sherds chosen included examples that appeared to have igneous rock fragment inclusions and large mica plates making them visually similar to Charnwood Forest type wares. The thin sections confirmed the presence of fragments of Mountsorrel granodiorite which characterises the Charnwood Forest pottery, but in addition there are other rock fragments present, including Millstone Grit and Permo-Triassic sand. The ICPS analysis showed that all five sherds are generally similar to each other, clustering with a variety of other sherds from the Botolph Bridge area, whilst being chemically distinct from Charnwood Forest sherds. It appears that the Early to Middle Saxon hand-made sherds were all made locally, with a variety of rock fragments deriving accidentally from erratics in the local glacial till or by the selection and crushing of larger boulders to provide the required temper. Whichever of these two alternatives is correct, it is important to note that in this period at Botolph Bridge a distinct type of fabric was being made, at the local level, but to a general East Midlands and/or mid-Anglian pattern. Macroscopic study confirms that this was also the case at many sites further to the south and east in Cambridgeshire. It is evident that this tradition of manufacture was caused by either the selection of certain types of clay deposit from the glacial till (thin section evidence suggests the use of a bedded mudstone with a small quartz silt component), or certain types of glacial erratic for the provision of temper. While there may be little in the way of excavated Early to Middle Saxon remains at Botolph Bridge, it may be possible to observe something of a regional cultural context at that time from the analysis of a small number of residual sherds.

Twenty-one samples of shelly fabrics were analysed. These were chosen to represent St Neots type ware, SHW and a close variant SHW2 (see Spoerry 1998, 108) and in

addition a number of sherds which appeared in terms of their form and fabric to most closely match Northamptonshire Shelly wares were described as Lyveden-type shelly ware. This unsubstantiated term has not been used elsewhere in this report, but was created specifically to present a question of provenance against which the thin section descriptions and ICPS analysis could be judged. The technical analysis supports most of the Shelly ware fabric classification provided by Paul Spoerry, with St Neots type wares being correctly defined, but with the local Peterborough fabrics (mostly SHW2) being grouped together as part of a continuum of variation in one recognisable local type (now PSHW). In contrast the Lyveden-type Shelly wares have been re-classified into either Developed St Neots type wares (some of which may well in fact originate in the Lyveden industry but others probably derive from Bedfordshire), and local Peterborough SHW types. In all cases the latter is clearly defined by the shell-type, it being entirely large oyster-like shell fragments in a marly calcareous groundmass, compared with the much more varied and previously well-described range of shell fossils found in St Neots type ware. Both the clay and shell fragments in the local fabric are likely to derive from one single geological deposit, a mudstone with shell and limestone bands. Close similarities can be identified with contemporary shelly fabrics from Lincolnshire that utilised the Great Oolite formation of the Middle Jurassic. Although extensive deposits of Jurassic shelly limestones are not present locally, there are some limited exposures of this type in the greater Peterborough area. Assessment of the chemical analysis of shelly sherds surprisingly identifies that the St Neots type and Developed St Neots type wares from Botolph Bridge are the products of two different sources, but neither matches wasters from Harrold and Olney Hyde in the south-east Midlands. This important information provides the first opportunity to identify separate producers within the generality of St Neots type wares in Cambridgeshire and Peterborough.

Eight sherds of Bourne/Baston A and B type wares and two similar, though calcareous, sherds were sampled and analysed along with four roof tile fragments in Bourne/Baston type fabrics. Assessment of both the thin section descriptions and the chemical data clearly confirms that the majority of these vessels and tiles were indeed manufactured in the Bourne/Baston industry, although there is also a possibility that another producer in this same general area was responsible for a proportion of them. The calcareous sherds were confirmed, on petrological grounds, as more likely to have originated in the Lyveden/Stanion industry. In addition separation by visual means of Bourne/Baston and Ely products was shown to be successful through chemical comparison with Ely wasters. One floor tile in a yellowish marly fabric was found to be most probably a product of the industries at Ely.

In conclusion it is apparent that pottery manufacture local to the Soke of Peterborough was taking place during most of the periods from which samples were taken, with generally similar chemical fingerprints being identified for both Early to Middle Saxon and later medieval sherds of putative local origin. In the absence of any information regarding kiln sites locally this is a significant advance in current understanding of ceramic production and supply in the Soke.

General Conclusions

Despite its shortcomings, in terms of the level of residuality and the large amount of unphased pottery, this is an important assemblage since it represents the first rural medieval assemblage from the Soke of Peterborough to be fully published and analysed. Through both traditional methods of identification, description and quantification, and through the use of targeted thin section and chemical analysis by ICPS, understanding of ceramic supply and production in this rural Soke in the Middle Saxon to late medieval period has been substantially improved.

The Early to Middle Saxon pottery does not include Ipswich ware and, surprisingly, nor is there any quantity of Maxey ware. The latter is a dominant type in Lincoln and other parts of Lincolnshire from the end of the 8th century (Young and Vince 2005, 11) and was dominant in excavations at the Middle Saxon 'type site' in the north of the Soke of Peterborough (Addyman 1964). The relative absence of both this type and Ipswich ware at Botolph Bridge is hard to explain. It might signify an hiatus in activity from the end of the 8th century onwards, until sometime after AD 850 when the Late Saxon pottery types first appear, but the fact that hand-made Middle Saxon pottery is found alongside Late Saxon sherds in features relating to post-built buildings in Period 1 rather tends to suggest instead that Period 1 actually spans the Middle to Late Saxon transition. In that sense the Period 1 activity here may post-date any 'Middle Saxon shuffle' (Hodges 1982). The absence of Ipswich ware at Botolph Bridge may have a geo-political, rather than temporal explanation, with Botolph Bridge and Peterborough being very much within the Mercian, rather than the East Anglian, sphere of influence.

It is clear that pottery was being made locally in the Middle Saxon period and again from the 12th century onwards. In the case of the former, such production was to a recognisable regional template (the grano-dioritic or Charnwood Forest type), in terms of the type of fabric and temper chosen. In the case of the latter, local shelly pottery was produced that was generically like that manufactured in both Northamptonshire and Lincolnshire from the 12th century onwards, but in a now distinctive and recognisable fabric nonetheless. The description of SHW and SHW2 previously used at The Still, in Peterborough (Spoerry and Hinman 1998) will suffice as a definition alongside the petrological description given in Appendix 1.

In between these two episodes of reasonably local production it seems that the large-scale Late Saxon industry at Stamford offered a partial solution to the need for locally-produced, and therefore easily and cheaply acquired, utilitarian vessels. It is important to note that Stamford ware was commonly used for cooking vessels at Botolph Bridge, to an extent not so far seen in the town of Peterborough itself, which is perhaps surprising. Simple geographical proximity ensures that Stamford ware was even more readily available on the northern part of the Soke at, for example, Maxey (Fletcher forthcoming), but why rather more of it appears to have been used on the south bank of the Nene at Botolph Bridge, than on the north bank further downstream in the well-connected hub of the burh at Peterborough is puzzling. It is likely that further excavation in the monastic and economic quarters of Peterborough will revise this view in time.

The importance of St Neots type ware in the Late Saxon period must also be remarked upon as this material was clearly being brought in from some distance away; it is now known to be unlike the local shelly wares but, curiously, also unlike known St Neots type products from Bedfordshire and Buckinghamshire. It is perhaps to Huntingdonshire and Northamptonshire that we may need to look for the source of these vessels, although different producers must be anticipated for both the true Neots type ware and the later, developed, variant. As was the case with the assemblage from The Still, in Peterborough, the East Anglian Late Saxon products (Thetford type ware and Early Medieval ware) did not constitute very significant components of the ceramic assemblage at Botolph Bridge. Both were present, and Thetford ware was chosen for its large storage vessels and, to a lesser extent, for spouted pitchers.

Glazed pottery was not heavily utilised at Botolph Bridge and the industries that supplied such visually more attractive pieces were those that might be expected; Stamford, followed by Lynden/Stanton and then Bourne. Few glazed jugs from elsewhere were identified. The pottery identified as probably from Bourne (Bourne type A and B wares) has, through thin section and chemical analysis, been for the most part clearly sourced to that general industry, with the majority of sherds analysed matching contemporary wasters from Bourne and Baston parishes. The products of the Stamford industry were probably transported to Botolph Bridge in the 11th and 12th centuries, via the Great North road, with perhaps a short downstream journey on the River Nene.

Unlike Stamford ware, however, which was only moved across one watershed and even then this was via the country's major north-south overland routeway, pottery made in the Bourne area had to be transported across two watersheds (relating to the Rivers Glen and Welland) if it were to be moved overland to Botolph Bridge. The water-borne alternative was, however, indirect and complicated. From Bourne, for example, pottery vessels could have been loaded onto barges and transported along the medieval Bourne Eau watercourse to the River Glen, but if they were then to be moved into either the Welland or Nene systems, no contemporary alternative route is currently known other than a long travel out to sea via the estuaries and The Wash. This diversion cannot have been realistic and thus portage overland to the Welland must have been instead the favoured transportation mode for Bourne products heading southwards. Once access to the Welland was gained, bulky ceramic loads could have either continued on wagons southwards, or instead have been placed on barges and sent via Crowland. Here at the famous triangular medieval bridge there existed a link between the Welland and the Nene system along a man-made channel that ran south-east along Green Bank, thence linking up with the Old South Eau, itself an early braid of the Nene (Hayes and Lane 1992). This short cut was undoubtedly much used in former times and it is precisely such innovations, this one putatively of Late Saxon origin, that would have enabled potters from South Lincolnshire to exploit markets at modest distance in places such as Botolph Bridge.

The publication of excavations at The Still, Peterborough included maps of those centres and routeways deemed important in the supply of pottery to the town over the period from c.1000 to c.1600. If the

significance of some occasional imports is diminished, these maps (Spoerry and Hinman 1998, figs 17–19,) are commended to the reader as also applicable to the picture that has now emerged at Botolph Bridge.

The assemblage at Botolph Bridge offers few surprises in terms of the vessel types represented, functions thus implied, and the interpretation of wealth or status that can be attached to the relative proportion of finer, decorated and/or glazed vessels. This is clearly a domestic assemblage from an agricultural community and little further interpretation can be gleaned. Changes that happen over time merely mirror changes in ceramic supply and use that are seen almost everywhere; when eating habits changed from the later 14th century onwards and vessels change accordingly, it is seen in the assemblage here, as it is elsewhere.

The late medieval farming complex is characterised by Bourne D type pottery; at least some of this will undoubtedly have been made at Bourne itself, but it is clearly possible that other producers existed as the range of Bourne D type fabrics seen across the region exceeds the range so far observed in wasters at Bourne itself. The demise of the late medieval farm complex appears to have occurred by the mid-16th century; there being almost no later pottery to report on. This implies major settlement relocation at this point, with the extant Botolph Arms Public House being the obvious candidate for the succeeding post-medieval farmhouse.

Catalogue of illustrated items

Cross-referenced to Thin Section/ICPS numbers (see Appendix 1), thus: V1234

Fig. 54

- 1 STAM jar (form 3), sooted externally with limescale internally, light pink-buff fabric. (1066), Ditch 58, Period 2.2
- 2 STAM bowl (form 14), knife-trimmed base, yellow-green glaze, buff-light grey fabric. (1418), Ditch 4, Period 2.1
- 3 NEOT internally lid-seated jar rim in dark brown to black fabric. (870), unstratified. V3343
- 4 NEOT inturned, carinated straight-sided bowl rim, sooted externally in mid-brown/black fabric. (1059), Ditch 59, Period 2.2. V3324
- 5 NEOT inturned, carinated bowl, sooted externally in mid-dark brown fabric with lighter core. (1066), Ditch 58, Period 2.2. V3345
- 6 NEOT inturned, carinated bowl rim in mid-brown/mid grey fabric. (1059), Ditch 59, Period 2.2. V3344
- 7 PSHW wheel made concave sided bowl with internally thickened rounded rim. Very black-brown fabric with brown margins and mid-grey core with slightly rough surfaces and a hackly fracture with common medium-coarse shell. (233), Period 3.2. V3361
- 8 PSHW jar with everted simple rim of early hand-made form in dark grey-dark brown-red-brown fabric with mid to dark grey margins and core. Hackly fracture with abundant ill-sorted coarse to very coarse shell, much of which has been leached from the external surface. (25), Quarry 1, Period 2.1. V3362
- 9 SHW jar, thumbled rim, sooted externally on rim and body in externally sooted black fabric with common coarse shell. (1242), Building 10, Period 2.2
- 10 SHW, upright, squared jar rim in buff-mid-grey fabric with common medium to very coarse shell. (631), Well 1, Period 2.1
- 11 SHW, lid-seated jar rim in red-brown/mid-grey fabric with external sooting. (707), Un-numbered ditch, Period 3.2

- 12 PSHW near complete profile of a flared bowl with slightly sagging base. Mid-brown fabric and margins with mid-grey core, sooted externally on the side. Hackly fracture with abundant medium-coarse shell, much of which has been leached from the internal surface. (232), Surface 11, Period 4. V3359
- 13 PSHW wheel made firestand base, externally thickened and flattened right-angled rim/base. Hard fired orange-brown surfaces and margins with mid-grey core and a hackly fracture. Ill-sorted coarse-very coarse shell. (177), Ditch 28, Period 3.1. V3363
- 14 DNEOT jug strap handle, incised decoration in smooth red-brown fabric with sparse very coarse shell. (543), Pit 22, Period 3.1. V3335
- 15 PSHW upright, cordoned shouldered jar rim in hard-fired grey-brown to orange-brown fabric with common, medium to very coarse ill-sorted shell. (631), Well 1, Period 2.1. V3340
- 16 PSHW wheel made or wheel finished jar with everted rim with additional clay piece applied externally on the neck. Light grey fabric margins and core and a hackly fracture with abundant medium to very coarse, ill-sorted shell. (1100), Pit 38, Period 3.1. V3341
- 17 PSHW near complete profile of a hand-made, wheel finished rounded bowl with externally bevelled rim and sagging base in mid-brown to grey fabric, internal mid-brown margin and mid-grey core. Hackly fracture with common medium to very coarse ill-sorted shell. (1242), Building 10, Period 2.2. V3342

Fig. 55

- 18 PSHW near complete profile of a wheel made, rounded, handled bowl with sagging base and applied strip inside everted rim. Orange-brown to dark grey fabric and dark grey core internally/externally heated/sooted and a hackly fracture. Abundant fine ooliths and sparse coarse shell. (1065), Ditch 42, Period 3.1. V3338
- 19 DNEOT shouldered jar rim with internal residue/sooting in mid-brown/dark grey fabric with moderate, ill-sorted very coarse shell. (229), Pit 50, Period 3.2. V3358
- 20 BONB jar rim and globular body in buff/mid-grey fabric, externally sooted. (2040) unphased
- 21 BONA sharply everted jar rim in buff/mid-grey fabric, externally sooted. (853), Ditch 19, Period 3.1. V3325
- 22 BONA short everted jar rim in mid-brown/grey slightly calcareous fabric. (715), Ditch 44, Period 3.2. V3332
- 23 BONA short everted jar rim in dark grey/brown calcareous fabric. (597), Wall 2, Period 4. V3330
- 24 BONB Large angled bowl with thickened rim in mid-brown/grey sandy fabric with external sooting. (853), Ditch 19, Period 3.1
- 25 SLOQ, angled bowl profile, sooted on external thumbled rim edge in dark brown/red-brown fabric with mid-grey core with leached, common calcareous inclusions including ooliths. (244), Pit 59, Period 3.2. V3352
- 26 BONA Jug handle with slashing and thumbing in hard, dense orange sandy fabric with dark grey core. (208), Ditch 41, Period 3.2. V3356
- 27 BOND inturned, 'ginger jar' rim in smooth hard orange fabric with external buff slip. (103), Pit 50, Period 5
- 28 BOND inturned, thickened 'ginger jar' rim in smooth hard orange fabric with external buff slip. (71), Pit 70, Period 5

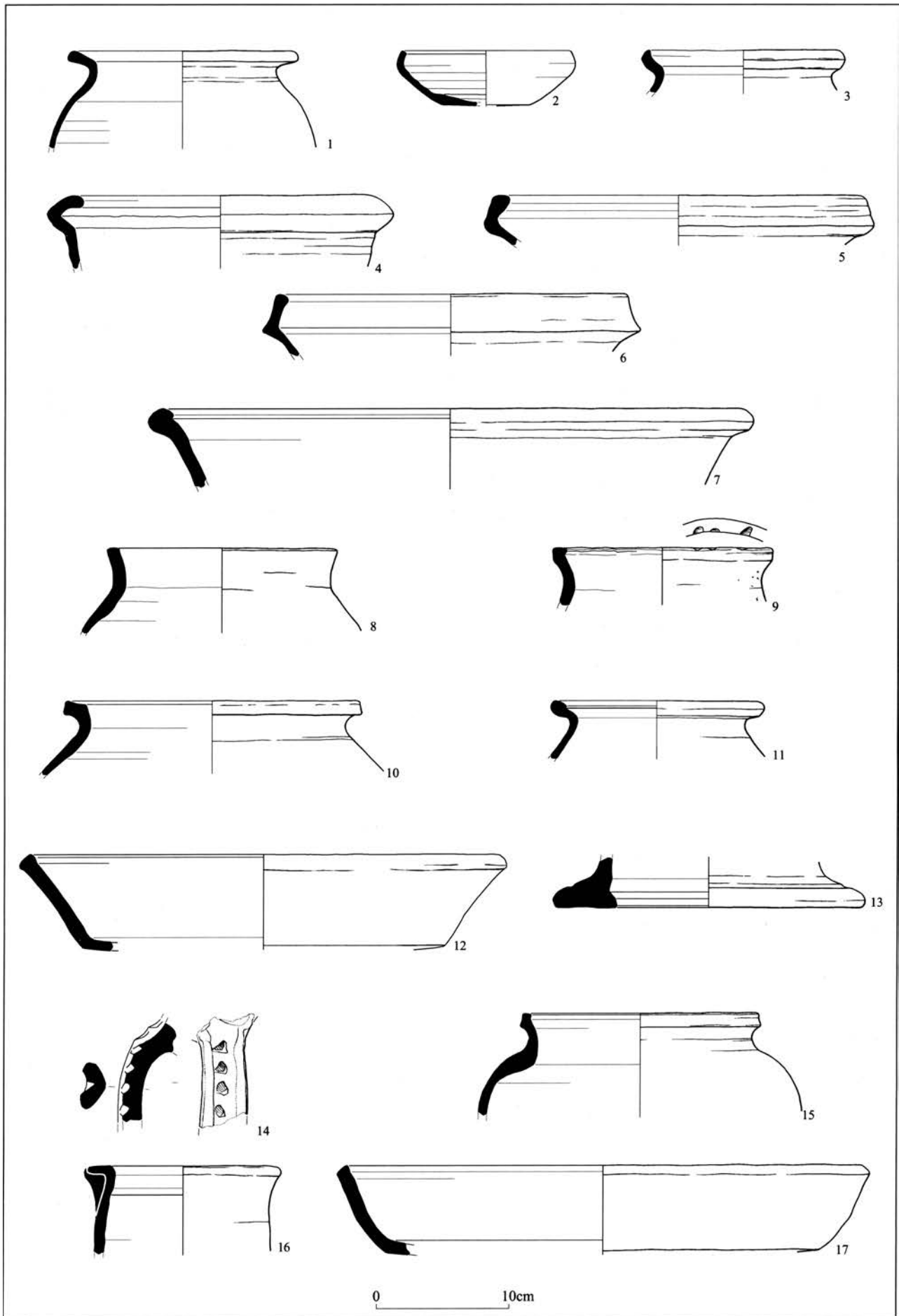


Figure 54 Post-Roman pottery (Nos 1-17). Scale 1:4

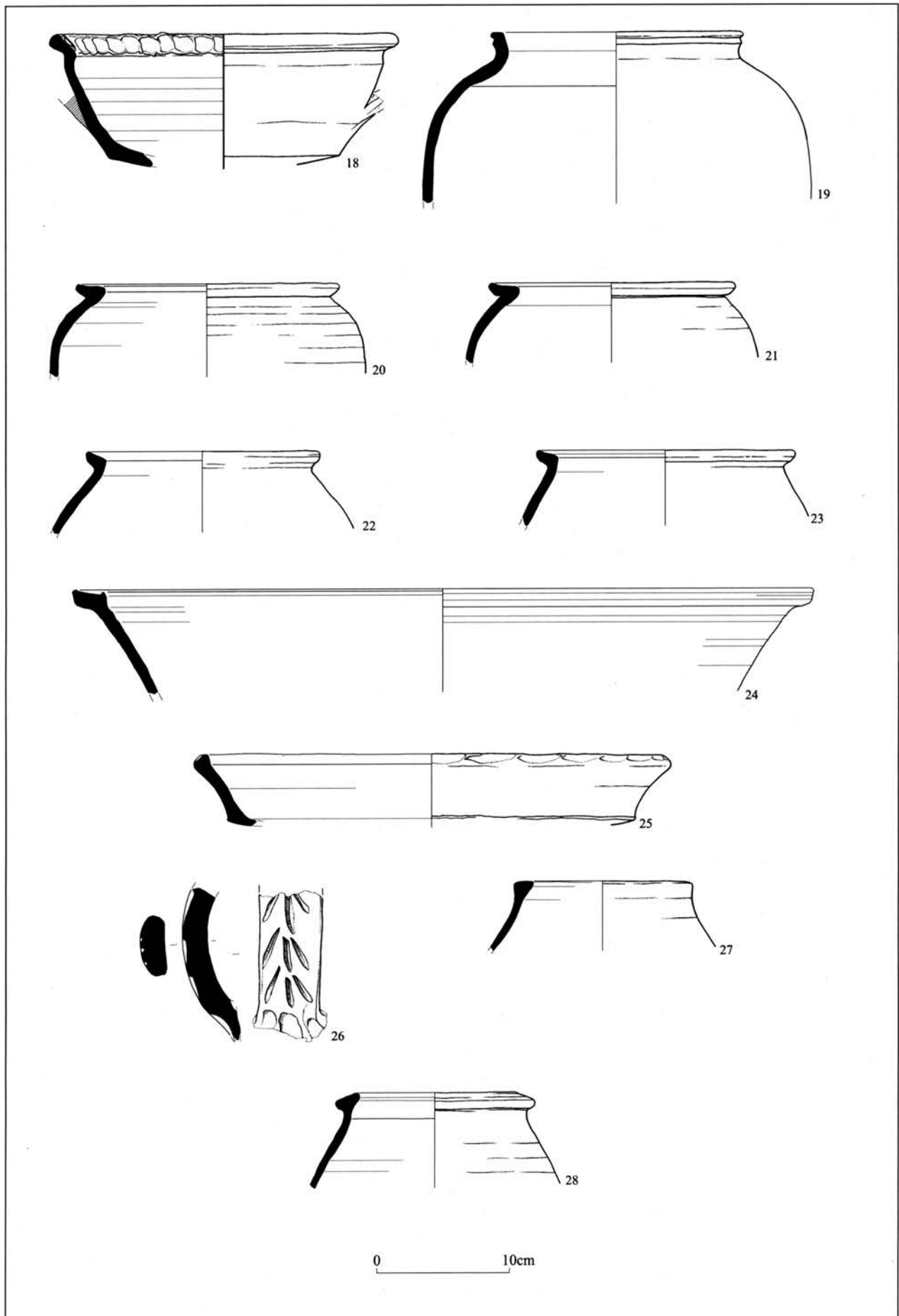


Figure 55 Post-Roman pottery (Nos 18–28). Scale 1:4

VIII. Ceramic and Stone Building Material

by Rob Atkins, Carole Fletcher and Stephen Kemp

The Assemblage

Approximately 9kg of Roman and medieval building material was recovered from the 1999 and 2000 excavations. The assemblage consists of Roman tile (2.320kg; 15 fragments), medieval ceramic brick and tile (1.046kg, 13 fragments), medieval stone roof tile (6 fragments), undiagnostic brick/tile (22 fragments), fired clay (4.173kg) and daub (0.261kg). Material from the 1987 NVRC excavations has not been analysed. Selected samples of tile were analysed by thin section and ICPS (see Appendix 1).

Ceramic Brick and Tile

The Roman brick/tile presumably derived from the adjacent villa site and includes an imbrex. Some of the post-Roman brick and tile may share its provenance with the pottery recovered from the site, with some fabrics appearing similar to those of medieval Ely and Bourne types including five with green glaze (thin section analysis of the Bourne/Baston material is noted above and discussed in Appendix 1). The assemblage is very small considering the presence of the numerous medieval buildings examined. Medieval material comprises three fragments of a single late medieval brick, one floor tile, and fragments of six individual roof tiles (four ridge tiles and two peg tiles). The medieval pieces were found across the excavation area (in Areas A, C and D/E), most of the tile coming from Area A (58.3% by weight). The recovery of only a very small quantity of roof tile can be at least partly explained by the effects of machining, which removed demolition deposits and topsoil. While some building material may have been robbed from the site, it is also possible that some of the buildings were thatched — this would be typical of buildings in the fenland basin where thatch was the predominant roofing material (see Clapham, Chapter 5.VI). Certain buildings, however, are more likely to have had ceramic or stone tiled roofs, either as a result of function or status.

One floor tile from Period 5 Pit 70 is 15th century in date and is of small square mosaic type with dark brown glaze on all surfaces and lime mortar still adhering to the sides. It measures 7cm² and 28mm deep with vertical sides. This particular tile may have come from the adjacent church.

Stone Tiles

Seven stone roof tiles were found, largely Collyweston Limestone roofing slates although two red or yellow sandstone roofing tiles are also present (see Kemp below for a discussion of stone sources). Six of these tiles came from Period 3 deposits. All of the tiles are incomplete. Only one example gives the complete width of a prepared tile (180mm), while the maximum length of a limestone tile fragment recovered was 200mm, with the thickness ranging from 12 to 20mm. There is a single tapering tile, with a minimum thickness of 7mm. Peg holes vary in diameter between 7mm and 12mm, although part of a square peg-hole 22mm in length survives. The sandstone tiles are 9 and 12mm thick. Such heavy tiles would have been supported on oak roof structures with square sectioned rafters (Collyweston Stone Slater's Trust 2005).

An indication of the character of the related buildings is provided by The Botolph Arms to the south of the site along the earlier course of the Oundle Road. The extant building incorporates a small early 17th-century house, the ground floor of which is of stone with the first floor timber-framed and jettied. The roof is a Collyweston stone roof with end stacks. This building was standing before the demolition of St Botolph's Church and is likely to have been built soon after the manorial farm buildings excavated in 1999/2000. At Drayton's Irthlingborough manorial farm, some 32km distant, Collyweston-type roof tiles were found within the rubble of all three manorial farm buildings within the excavation area comprising a malt house, dovecote and possible kitchen although no medieval ceramic tile was recovered (Chapman *et al.* 2003).

Fired Clay and Daub

The fired clay came from all phases and was recovered both by hand excavation and sampling. The material is likely to derive from ovens/hearths or similar structures. Although this is a small assemblage, a cluster of fragments (2.636kg) came from a Period 2.1 pit (Pit 2) in Area A. A small quantity of material from Period 4 (0.120kg) was recovered from a hearth/oven within Building 13b, which may have functioned as a bake-/brewhouse. These fragments perhaps formed part of the hearth/oven lining. Most of the remaining assemblage came from the fills of pits and ditches and mirrors the deposition of other domestic refuse. The five fragments of daub, all of which were redeposited in ditch fills, were identified through the presence of wattle impressions.

IX. Quernstones, Rubbing Stones and Whetstones

by Stephen Kemp

Querns

A small assemblage of ten rotary quernstone fragments came from medieval to post-medieval deposits (Periods 3 to 5). The actual numbers of querns these fragments represent is difficult to establish since some are highly fragmented and there are no clear joins. Four materials were used: basalt (lava; 5 examples), gritstone (1) and limestone (3) and a single example of puddingstone conglomerate. The lava querns came from Periods 3.1 to 4, while the limestone examples were only recovered from the late medieval phase (Period 4). The gritstone querns came from Period 3.1 and Period 5.

Two sooted limestone quern fragments came from Building 13b (Period 4, Area A). A lava quern and four heavily sooted and heat affected gritstone fragments (which may have seen secondary use as a hearth stone) were found in two separate contexts in Building 10 (Period 2.2, Area D/E). Two lava fragments came from different fills of Ditch 68 (Area A), while gritstone fragments found in Ditch 30 (Period 3.1, Area A) were also sooted on the exterior.

Whetstones and Rubbing Stones

A small group of six whetstones and three rubbing stones was recovered. Of the whetstones, one example came from Ditch 3 (Period 2.1) and another from Pit 26 (Period 2.2). The remainder were unstratified with the exception of one recovered from Period 5. One of the rubbing stones

came from Period 2.1 (Ditch 3) and one from Period 2.2 (Ditch 58), while the third was from Period 2.1 (Ditch 29). The objects utilised a wide variety of raw materials, the whetstones being made from shale, sandstone and limestone. The most distinctive find (from Period 5) is a sandstone whetstone measuring 180 x 110 x 45mm which was almost split in two by a worn cleft of up to 6mm in width. The rubbing stones are generally of more coarsely crystalline schist and granite with the exception of one example formed on a quartzite pebble with a particularly high gloss polish.

Discussion

Botolph Bridge lies on Terrace Gravels overlooking the River Nene. The valley beneath is alluviated whilst the surrounding landscape is largely composed of a geology made up of Jurassic, Cretaceous and Quaternary rocks and sediments. The major local deposits are the alluvium lying within the river valley of the Nene, the River Terrace Gravels, the Oxford Clays, the Cornbrash Limestone and the Blisworth Limestone. The Terrace Gravels and glacial deposits, outwash deposits and Boulder Clays, are likely to contain a wide variety of geologies. Both the River Nene and ice sheets crossing the area would have transported erratics from local and distant sources including the Lincolnshire Wolds, the Peak District and Scandinavia. Lithologies might include conglomerates, granites, gritstones, limestones, quartzites, sandstones, schists, shales and many other igneous and metamorphic rocks. Conglomerates or puddingstones are common across Eastern England, particularly in Bedfordshire, Essex and Hertfordshire where they can be seen along roadsides and are occasionally used as a building stone (East Hertfordshire Council 2005). Although present in such deposits the more 'fragile' rocks such as the

gritstones may have occurred in a very degraded state rendering them unsuitable for the making of querns and grindstones.

Not all of the limestone fragments can be specifically identified to a relevant formation, although a number of examples can be more accurately attributed to Blisworth Limestone, Cornbrash Limestone and Collyweston Stone, with the occasional object made from Lincolnshire Limestone.

Both Blisworth Limestone and Cornbrash are available locally within the parish. It has been suggested that a distance of 1km was typical for the resourcing of the raw materials for a building in the medieval period (Sutherland 2003). Providing suitable exposures existed, which it appears likely they did, then both these limestones would lie within 'easy' procurement range. The Collyweston stone tiles were probably sourced from further afield: the raw material can be found in North Northamptonshire, South Lincolnshire, Rutland and north-west Cambridgeshire. The items made from sandstone are likely to have had a number of potential sources. Sandstone may be found within the local gravels or split tablets sourced from Lincolnshire. Some of the sandstone may derive from the Grantham Formation, a sandy limestone which can be found to the west of Peterborough. The conglomerate may also be locally available, although in the form of a quernstone as in the Botolph Bridge example, is likely have required considerable workmanship and may therefore have been a specialist traded item. Likewise the gritstone querns are also likely to have had a regional source and were probably not made from locally derived raw materials. Lava querns were imported from the continent (those here being most likely to have come from the Rhineland), but were clearly available for trade within the region.

Chapter 5. Zoological and Botanical Evidence

I. Animal and Bird Bones

by Ian L. Baxter and Chris Faine
(Figs 56–58, Plates XVI and XVII)

Introduction

A total of 329 ‘countable’ fragments of animal bone (NISP; see below) were hand-collected from the site (Table 20) and a further 230 fragments were recovered from the residues of sieved samples (Table 21).

Bone preservation across the site was generally good. The assemblage came from a wide variety of features including ditches, pits, layers, surfaces (including floors), gullies, postholes, drains, a pond, demolition deposits and robber trenches. Most of the animal bones were found in ditches and pits. The large number of skeletons and bones in articulation recovered suggests that a significant number of bones were in primary deposition.

Methods

The mammal bones were recorded on an Access database following a modified version of the method described in Davis (1992) and used by Albarella and Davis (1994). In brief, all teeth (lower and upper) and a restricted suite of parts of the skeleton was recorded and used in counts. These are: horncores with a complete transverse section, skull (zygomaticus), atlas, axis, scapula (glenoid articulation), distal humerus, distal radius, proximal ulna, radial carpal, carpal 2+3, distal metacarpal, pelvis (ischial part of acetabulum), distal femur, distal tibia, calcaneum (sustenaculum), astragalus (lateral side), centrotarsale, distal metatarsal, proximal parts of the 1st, 2nd and 3rd phalanges. At least 50% of a given part had to be present for it to be counted.

The presence of large (cattle/horse size) and medium (sheep/pig size) vertebrae and ribs was recorded for each context, although these were not counted. ‘Non-countable’ elements of particular interest were recorded but not included in the counts. For birds the following were always recorded when present: scapula (articular end), proximal coracoid, distal humerus, proximal ulna, proximal carpometacarpus, distal femur, distal tibiotarsus, and distal tarsometatarsus. The ilium and main long bones were recorded and used in counts for anuran amphibians, with generic identification based on the morphology of the ilium following Gasc (1966).

The separation of sheep and goat was attempted on the following elements: horncores, dP₃, dP₄, distal humerus, distal metapodials (both fused and unfused), distal tibia, astragalus, and calcaneum using the criteria described in Boessneck (1969), Kratochvil (1969), Payne (1969 and 1985) and Schmid (1972). The shape of the enamel folds (Davis 1980; Eisenmann 1981) was used for identifying equid teeth to species. Equid postcrania were checked against criteria summarised in Baxter (1998a). Wear stages were recorded for all P₄s and dP₄s as well as for the lower molars of cattle, sheep/goat and pig, both isolated and in mandibles. Tooth wear stages follow Grant (1982).

Measurements are listed in the archive. These in general follow von den Driesch (1976). All pig measurements follow Payne and Bull (1988). Humerus HTC and BT and tibia Bd measurements were taken for all species as suggested by Payne and Bull (1988) for pigs. SD on dog long bones is measured as suggested by Harcourt (1974) and represents the midshaft diameter (msd).

Frequency of Species

Cattle fragments are numerically the most frequent at the site during the earlier medieval period (Periods 1–3.1). Sheep/goat shows a steady increase in numerical frequency and in Periods 3.2, 4 and 5 (AD 1250–1650) this taxon is more common than cattle. Pig numbers are variable during Periods 2–4 but peak in Period 5 where they account for 43% of the main domestic species. This pattern is broadly similar to that encountered at The Still, Peterborough (Roberts 1998), although pig is relatively more frequent at Botolph Bridge in all periods (Fig. 56). Other species present at Botolph Bridge at lower frequencies include horse, dog, cat, red deer, fox, polecat/ferret, rabbit, rat, mice and voles, common shrew, mole, chicken, goose, buzzard, marsh harrier, wood pigeon, diving duck, a wader, grass snake, frog, toad and great crested newt.

Cattle

Very few cattle horncore fragments were recovered at Botolph Bridge and none of these are complete. The few available appear to derive from shorthorned beasts. The few measurable bones display no evidence of differences in overall size throughout the period of occupation of the site. Complete bones recovered from Periods 2 and 3 derive from beasts ranging between 115–120cm high at the withers (N = 4, Mean = 118cm) based on the multiplication factors of Matolcsi (1970) compared with a range of 101–114cm (N = 3, Mean = 108cm) in Period 4 and 117–122cm (N = 2) in Period 5. In all periods the majority of mandibles came from adult or elderly beasts and the majority of available epiphyseal ends of bones are fused. Younger animals include perinatal fragments. Several bones belonging to the same hind leg were found in Ditch 20 (Area D/E, Period 2.2). A number of arthropathies typical of cattle employed for purposes of traction (Bartosiewicz *et al.* 1997) were observed among the cattle bones. These include metapodials with a broadened distal epiphysis and palmar depressions found in Ditch 29 (Area A, Period 3.1) and Ditch 40 (Area A, Period 3.2). The cattle fragments represent the waste from primary and secondary butchery.

Sheep/Goat

The majority of the ovicaprid remains that could be identified to species belong to sheep. The only goat fragment is a female horncore found in Ditch 68 (Area A, Period 3.1). The few mandibles found in Period 2 deposits display a wide range of ages. In subsequent periods older

Taxon	Period										Total
	I AD 700-900	2.1 AD 1000-1150	2.2 AD 1150-1200	3.1 AD 1200-1250	3.2 AD 1250-1350	4 AD 1350-1500	5 AD 1500-1650				
Cattle (<i>Bos</i> f. domestic)	5	22	23	10	8	26	9			103	
Sheep/Goat (<i>Ovis/Capra</i> f. domestic)	2	10	12 ¹	5	13 ²	27 ³	17			86	
Sheep (<i>Ovis</i> f. domestic)	(-)	(4)	(3)	(1)	(6)	(12)	(7)			(33)	
Goat (<i>Capra</i> f. domestic)	(-)	(-)	(-)	(1)	(-)	(-)	(-)			(1)	
Red Deer (<i>Cervus elaphus</i>)	-	-	-	+	1	1	-			2	
Pig (<i>Sus scrofa</i>)	-	7	13	11 ⁴	4	10	20 ⁵			65	
Horse (<i>Equus caballus</i>)	-	7 ⁶	3 ⁷	7 ⁶	4	22	6			49	
Dog (<i>Canis familiaris</i>)	-	-	2 ⁸	1 ¹¹	3 ⁹	4	2 ¹⁰			11	
Cat (<i>Felis catus</i>)	-	-	-	-	-	1	-			1	
Rabbit (<i>Oryctolagus cuniculus</i>)	-	-	-	-	-	-	+			+	
Rat (<i>Rattus</i> sp.)	-	-	-	1	-	-	-			1	
Fowl (<i>Gallus</i> f. domestic)	-	1	1	1	1	+	+			4	
Goose (<i>Anser/Branta</i> sp.)	-	-	+	+	1	-	+			1	
Buzzard (<i>Buteo buteo</i>)	-	1	-	-	-	-	-			1	
Marsh Harrier (<i>Circus aeruginosus</i>)	-	1 ¹²	-	-	-	-	-			1	
Wood Pigeon (<i>Columba palumbus</i>)	-	-	-	-	-	-	-			1	
Bird (<i>Aves</i> sp.)	-	-	+	-	-	2	-			2	
Anuran Amphibian (<i>Rana/Bufo</i> sp.)	-	-	-	-	-	-	-			+	
Total	7	49	54	36	35	93	55			329	

Table 20 Animal bone. Number of hand-collected identified specimens (NISP)

'Sheep/Goat' also includes the specimens identified to species. Numbers in parentheses are not included in the total of the period. '+' means that the taxon is present but no specimens could be 'counted' (see text).

¹Includes ten bones from a partial skeleton

²Includes thirty-nine bones from a partial skeleton

³Includes seventeen bones from a partial skeleton

⁴Includes forty-nine bones from a partial skeleton

⁵Includes nine bones from a partial skeleton

⁶Includes four and three bones from partial skeletons

⁷Includes eight bones from a partial skeleton

⁸Includes sixteen bones from a partial skeleton

⁹Includes eight bones from a partial skeleton

¹⁰Includes one hundred and nine bones from a partial skeleton

¹¹Includes nine bones from a partial skeleton

¹²Includes twenty-eight bones from a partial skeleton

Taxon	Period										Total
	1 AD 700-900	2.1 AD 1000-1150	2.2 AD 1150-1200	3.1 AD 1200-1250	3.2 AD 1250-1350	4 AD 1350-1500	5 AD 1500-1650				
Cattle (<i>Bos</i> f. domestic)	1	-	-	1	1	-	-	1	-	-	3
Sheep/Goat (<i>Ovis/Capra</i> f. domestic)	1	4	1	2	4	4	2	4	2	2	14
Sheep (<i>Ovis</i> f. domestic)	(-)	(1)	(-)	(-)	(1)	(-)	(1)	(1)	(1)	(-)	(3)
Pig (<i>Sus scrofa</i>)	2	8	3	5	1	1	1	1	1	-	20
Horse (<i>Equus caballus</i>)	-	-	-	-	2	2	1	2	1	-	3
Dog (<i>Canis familiaris</i>)	-	-	-	-	-	-	-	-	2 ¹	-	2
Cat (<i>Felis catus</i>)	1	-	2	+	-	-	-	-	-	-	3
Polecat/Ferret (cf. <i>Mustela putorius</i>)	1	-	-	-	-	-	-	-	-	-	1
Rabbit (<i>Oryctolagus cuniculus</i>)	-	-	-	-	1 ²	1	1	1	1	-	2
Rat (<i>Rattus</i> sp.)	-	-	-	2	1 ³	-	-	-	-	-	3
Water Vole/Rat (<i>Arvicola/Rattus</i> sp.)	1	-	+	+	+	+	+	+	+	-	1
Water Vole (<i>Arvicola terrestris</i>)	-	-	2	4	2	2	1	2	1	-	9
Mouse/Vole (Murid/Microtine)	2	2	3	13	19	1	2	19	1	1	42
House Mouse (<i>Mus</i> sp.)	(-)	(-)	(-)	(-)	(-)	(-)	(1)	(-)	(1)	(-)	(1)
Wood Mouse (<i>Apodemus</i> sp.)	(-)	(1)	(1)	(-)	(1) ⁴	(-)	(-)	(1)	(-)	(-)	(3)
Bank Vole (<i>Clethrionomys glareolus</i>)	(1)	-	(1)	-	(1)	(1)	-	(1)	-	-	(3)
Field Vole (<i>Microtus agrestis</i>)	(-)	(-)	(-)	(2)	(4)	(-)	(-)	(4)	(-)	(-)	(6)
Mole (<i>Talpa europaea</i>)	-	1	1	2	1	1	2	1	2	2	7
Common Shrew (<i>Sorex araneus</i>)	-	-	-	-	2	-	-	2	-	-	2
Fowl (<i>Gallus</i> f. domestic)	-	1	1	+	1	1	+	1	+	+	3
Goose (<i>Anser/Branta</i> sp.)	-	-	-	+	-	-	-	-	-	-	+
Raptor (<i>Accipiter/Circus</i> sp.)	-	-	+	-	-	-	-	-	-	-	+
Duck (cf. <i>Aythya/Bucephala</i> sp.)	-	-	-	1	-	-	-	-	-	-	1
Wader (<i>Vanellus/Pluvialis</i> sp.)	-	+	-	-	-	-	-	-	-	-	+
Bird (<i>Aves</i> sp.)	+	+	1	+	+	+	+	+	+	+	4
Grass Snake (<i>Natrix natrix</i>)	9	1	1	1	1	1	1	1	1	1	13
Anuran Amphibian (<i>Rana/Bufo</i> sp.)	5	8	10	45	21	7	1	21	7	1	96
Frog (<i>Rana</i> sp.)	(3)	(1)	(2)	(6)	(2)	(2)	(-)	(2)	(2)	(-)	(16)
Toad (<i>Bufo</i> sp.)	(1)	(2)	(2)	(3)	(2)	(-)	(1)	(2)	(-)	(1)	(11)
Great Crested Newt (<i>Triturus cristatus</i>)	-	-	-	-	-	-	-	-	+	-	+
Total	23	25	25	76	57	10	14	57	10	14	230

Table 21 Animal bone. Number of identified specimens (NISP) in the sieved assemblage

'Sheep/Goat', 'Mouse/Vole' and 'Anuran Amphibian' also includes the specimens identified to species. Numbers in parentheses are not included in the total of the period. '+', '-' means that the taxon is present but no specimens could be 'counted' (see text).

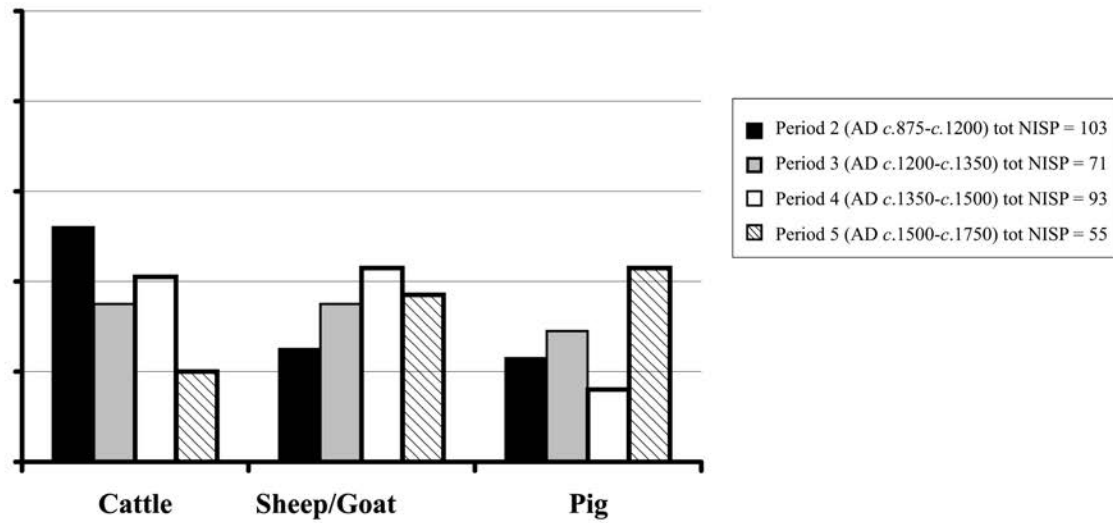
¹Includes three bones from a partial skeleton

²Includes juvenile skeleton

³Includes skeleton

⁴Includes four bones from a partial skeleton

Botolph Bridge



The Still

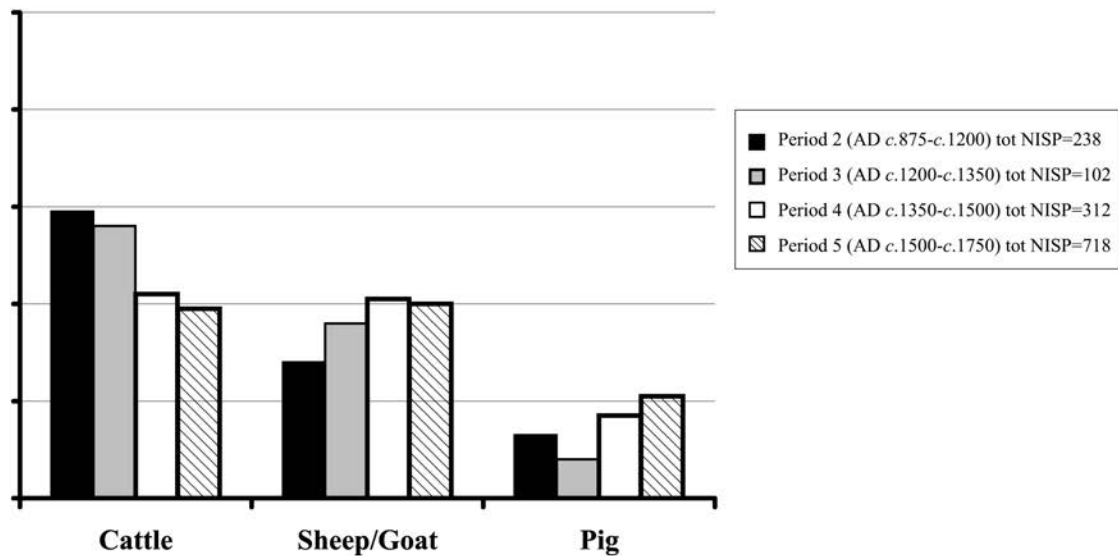


Figure 56 Animal bone from Botolph Bridge compared with The Still, Peterborough (based on Roberts 1998)

animals predominate. Most epiphyses are fused in all periods. Perinatal animals are represented amongst the younger animals. As with the cattle, no real trend towards an increase in overall size of the sheep can be ascertained from the few measurable bones available. The only complete bones were recovered from Pit 45 (Area A, Period 3.2) and derive from animals of between 56–61cm high at the shoulder (N = 4, Mean = 59cm) based on the multiplication factors of Teichert (1975). The partial skeleton of a subadult ewe was found in a drain associated with Building 18 (Area D/E, Period 4). The animal was aged very approximately two years as M₁₋₂ are fully worn but M₃ remains unworn (Crabtree 1989). A second ewe

burial found in Ditch 40 (Area A, Period 3.2) was that of an older animal aged at least 4 years. Sheep metapodials recovered from Pit 45 (Area A, Period 3.2) have cut marks resulting from skinning. A sheep mandible found in Pit 7 (Area D/E, Period 2.1) has the dP₂ worn at an angle of 45° front to back. The sheep/goat fragments are derived from primary and secondary butchery waste.

Pig

Pig numbers are generally higher at Botolph Bridge than broadly contemporary deposits at The Still (Table 20). In Period 5 pig fragments constitute 43% of the main domesticates at Botolph Bridge. Ageable mandibles were

only recovered from Periods 2–4. Most of these are immature or subadult but young adult mandibles with M₃ in wear were present in Periods 2 and 3. Very few pig bones with the epiphyseal ends preserved were recovered from the site and no clear pattern of pig slaughter can be established for any period. Younger remains include those of perinatal animals. The partial skeleton of a subadult female pig was found in Pit 16 (Area D/E, Period 3.1). This animal probably died from disease or other natural causes. Two metacarpals found in Pit 70 (Area A, Period 5) along with other bones from the same foot came from a large animal around 89cm high at the shoulder based on the revised multiplication factors of Teichert (1975). There is documentary and archaeological evidence for the artificial selection and better feeding of pigs in the earlier post-medieval period to produce larger and better fattened animals, although new genetic strains were not introduced until the 18th century (Trow-Smith 1957; Baxter 1998b and 2004). A pig mandible from a ditch in Area D/E (Period 3.2) has fire damaged teeth, possibly resulting from roasting.

Horse

Horse remains include mandibles and loose teeth from Ditch 68 (Area A, Period 3.1), Ditch 49 (Area B, Period 3.2) and a layer within Building 18 (Area D/E, Period 4) deriving from animals aged respectively 11 years, 7–8 years and 6 years based on the comparative wear curves of Levine (1982). An upper first incisor found in a drain in

the same building came from a horse aged 5–6 years, an upper 2nd incisor recovered from the same building came from an animal aged around 5 years. An upper 1st incisor from a horse aged 5–6 years was found in Pond 3 (Area A, Period 4) (Barone 1980). A lower first incisor from a horse aged 6–8 years found in Ditch 14 (Area B, Period 2.1) has abnormal wear suggestive of buccal-lingual malocclusion and a lower 2nd incisor found in Ditch 17 (Area D/E, Period 2.1) came from an animal of approximately 10 years. A much younger animal aged under 2½ years is represented by two unworn and unerupted premolars found in Pit 35 (Area D/E, Period 3.1). A lower 3rd molar belonging to a horse aged over 5 years was found in the same context.

An unfused distal tibia belonging to an animal aged less than 2 years was found in Ditch 28 (Area A, Period 3.1) and the radius of a neonatal foal in Surface 2 (Area A, Period 4). Complete long bones from Pit 4 (Area D/E, Period 1), Ditch 40 and Pit 57 (both Area A, Period 3.2), and Pond 3 (Area A, Period 5) came from animals of approximately 13–15 hands high based on the multiplication factors of Kiesewalter (1888). Finds of articulating horse vertebrae were made in Ditch 15 (Area C, Period 2.1), Pit 35 (Area E, Period 3.1) and Ditch 43 (Area D/E, Period 3.1), the latter accompanied by the right innominate.

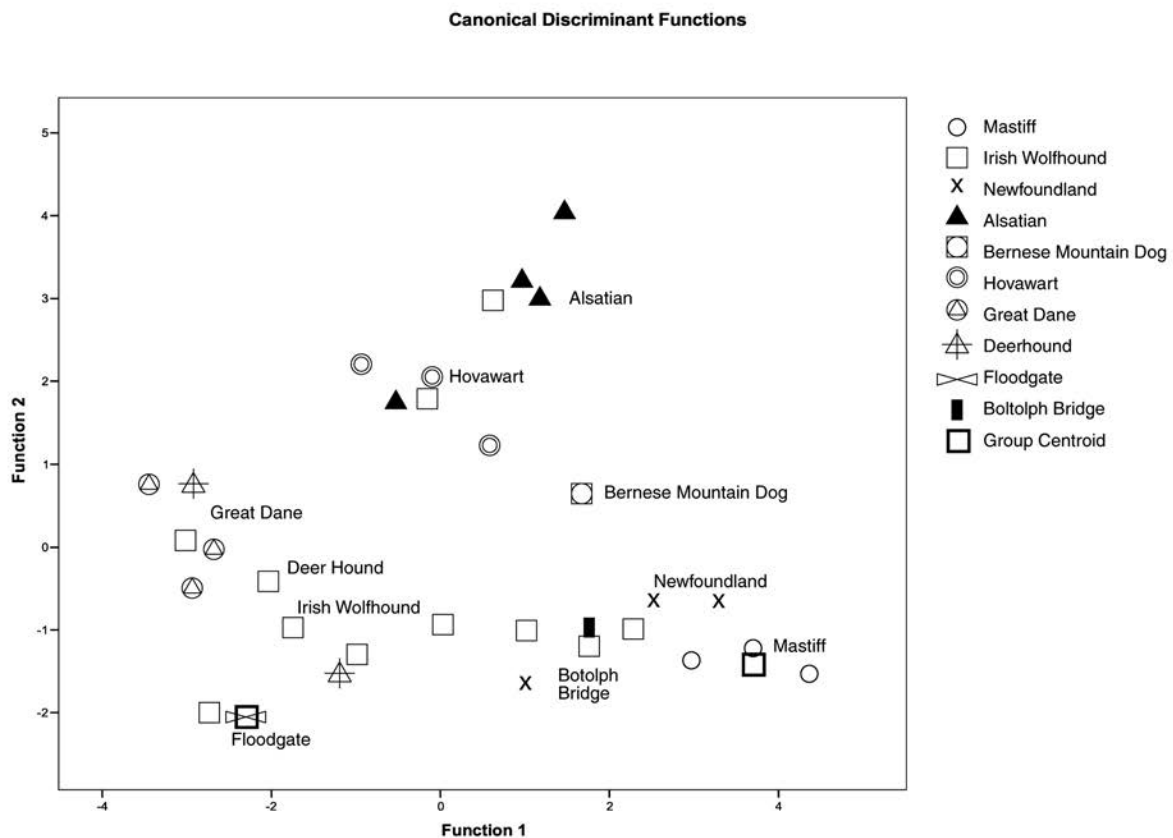


Figure 57 Tooth measurements of the large dog mandible from Area A Period 4 Pit 68 compared with those of modern breeds and the large dog from Floodgate Street, Birmingham



Plate XVI Engraving of a 19th-century Mastiff, 'Mr. Wallace's Turk', from V.K. Shaw's *The Book of the Dog* (1883–96)

Dog

Remains of medium-sized dogs include mandibles found in Ditch 44 (Area C, Period 3.2), Ditch 43 (Area D/E, Period 3.1) and the drain within Building 18 (Area D/E, Period 4). The maxilla of a small, relatively short-faced dog was found in an Area E unstratified cleaning layer. Sixteen bones belonging to the skeleton of a dog approximately 45cm high at the shoulder based on the multiplication factors of K.M. Clark (1995) were recovered from Ditch 43 (Period 2.2) and the fifth metatarsal of a dog around 50cm high at the withers in Ditch 44 (Area C, Period 3.2). Several bones from the lower hind leg, fore and hind feet of a fairly small dog were found in Ditch 28 (Area A, Period 3.1). This animal stood between 35–40cm at the shoulder based on the multiplication factors of K.M. Clark (1995). Due to similarity in size the metapodials of this specimen were compared with those of fox (*Vulpes vulpes*) but are significantly larger in their distal dimensions (Ratjen and Heinrich 1978). A distal 2nd metatarsal found in Ditch 41 (Area A, Period 3.2) came from a much larger dog.

The partial skeleton of a large dog was recovered from Pit 68 (Area A, Period 4, Plate XIV). Although the cranium is fragmentary and incomplete, the size of the mandibular teeth and robusticity of the limb bones are indicative of a Mastiff (Fig. 58A). The midshaft diameter index (msd.100/tl) (Harcourt 1974) of the humerus is 9.6 which is greater than the index of 8.8 for the same bone from an 18th-century Mastiff skeleton in the collection of Leicester City Museums. Withers height for the 18th-century dog is estimated at 73cm and the mean of eleven estimates for the Botolph Bridge animal is 75cm (Harcourt 1974; K.M. Clark 1995). The limb bones of the

Pit 68 animal are much more robust than those of a large dog of similar period found at Floodgate Street, Birmingham that was similar in form to a modern Irish Wolfhound. This animal stood approximately 70cm at the shoulder and the humerus has an msd Index of 8.3 (Baxter 2005). Measurements taken on the mandibular teeth of the Pit 68 dog were compared with those of modern breeds and the Floodgate Street animal by Dr Marc Nussbaumer of the Albert Heim Foundation for Canine Research and were found to group with the Mastiff types (Fig. 57) (Phillips *et al.* 2009). A second mandible from a similar type of dog was found in Period 4 Pond 3. This specimen appears to have M₃ congenitally absent and could not therefore be directly compared with the other specimens. A fourth metacarpal, possibly belonging to the same animal, found in the same context came from a dog approximately 75cm high at the shoulder (K.M. Clark 1995; Fig. 58B). As the pond was still part-open in Period 5 these two large Mastiff type dogs may be of similar date (Paul Spoerry, pers. comm.).

The English Mastiff nearly became extinct at the beginning of the 20th century and again after the Second World War. The remaining animals were bred with other types of dog including Great Dane, Bullmastiff and shorthaired St Bernard before the present breed standard was fixed (Røed 1998–2010). Consequently, archaeological Mastiffs may be expected to have had an appearance different to the dogs of today. Animals described as Mastiffs appear in the paintings of old masters such as Titian and Velasquez and in naïve 18th-century depictions (MacDonagh 1999). These were leaner, less jowly dogs than today's Mastiffs, characteristics also displayed by an 1880s engraving of 'Mr. Wallace's Turk' (Plate XVI).

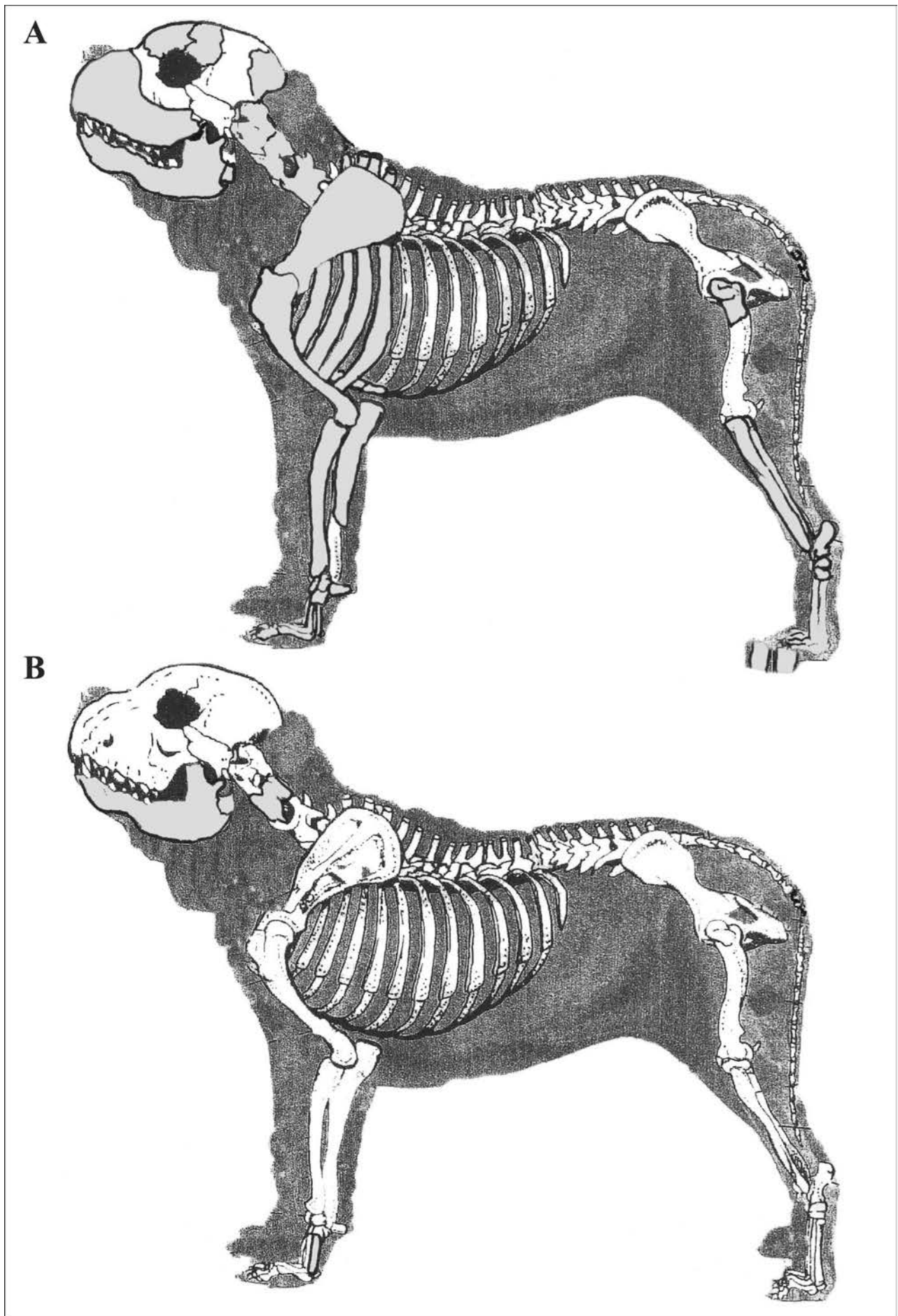


Figure 58 A) Skeletal elements present of the large Mastiff type dog found in Period 4 Pit 72 B) Skeletal elements present of the large Mastiff type dog found in Period 4 Pit 85



Plate XVII Marsh Harrier (*Circus aeruginosus*), female left and male right. Copyright Alastair Proud, by kind permission

Cat

Scarce domestic cat remains are represented by scattered postcranial elements in features dating from Periods 1, 2.2, 3.1 and 4.

Wild Mammals

Red deer (*Cervus elaphus*) is represented by calcanei found in Ditch 19 (Area D/E, Period 3.2) and Pond 3 (Area A, Period 4). An antler tine sawn from the beam by a single-bladed saw was recovered from Ditch 68 (Area A, Period 3.1). Rabbit (*Oryctolagus cuniculus*) remains found in sample residues include a juvenile skeleton found in Pit 45 (Area A, Period 3.2) and an upper incisor in Pit 70 (Area A, Period 5). The lower canine of a polecat (*Mustela putorius*) or ferret was found in a sample from a wheel rut associated with Building 18 (Area D/E, Period 4). Rat (*Rattus* sp.) remains were found in Period 3.1 and Period 3.2 contexts, including a skeleton in Pit 45 (Area A, Period 3.2). Water vole (*Arvicola terrestris*) is present in sample residues from Periods 2.2, 3.1, 3.2 and 5. Smaller murid and microtine species, including wood mouse (*Apodemus* sp.), bank vole (*Clethrionomys glareolus*) and field vole (*Microtus agrestis*) occur in sample residues from medieval features. House mouse (*Mus* sp.) was only recorded in Period 5. Isolated bones of mole (*Talpa europaea*) and common shrew (*Sorex araneus*) were found in several medieval sample residues.

Birds

by Ian L. Baxter and S. Hamilton-Dyer

Bones of domestic fowl are relatively scarce at Botolph Bridge, but occur in all periods except Period 1. Goose fragments were found in Periods 2.2, 3.1, 3.2 and 5, but in most cases it is not possible to ascertain if they derive from wild or domestic birds. Wild birds potentially constituting food items include a wood pigeon (*Columba palumbus*) femur found in Ditch 50 (Area A, Period 4), and a domestic size pigeon (*Columba livia*) occipital fragment and tibiotarsus found unstratified in Area A. The femur of a small diving duck of tufted (*Aythya fuligula*) or goldeneye (*Bucephala clangula*) size was found in a sample from Ditch 68 (Area A, Period 3.1). The proximal humerus of a lapwing (*Vanellus* sp.) or plover (*Pluvialis* sp.) sized wader was recovered from a sample from Quarry 1 (Area E, Period 2.1). A small passerine tibiotarsus found in a sample from Ditch 42 (Area D, Period 3.2) is similar in size to a corn bunting (*Emberiza calandra*) or redwing (*Turdus iliacus*), and bones from samples in Pit 3 (Area D/E, Period 2.2), Pit 24 (Period 2.2) and Ditch 49 (Area B, Period 3.1) are sparrow sized.

The partial skeleton of a marsh harrier (*Circus aeruginosus*) was found in Pit 7 (Area D/E, Period 2.1). From the size of the bones this was probably a female. Typically a bird of fen and marsh this largest of British harriers was probably common in the extensive wetlands of lowland Britain before serious drainage got under way in the 17th century (Martin 1992) (Plate XVII). The left

proximal femur and tarsometatarsus of a slightly immature buzzard (*Buteo buteo*) were also found in Pit 7. The claw bone of a sparrowhawk (*Accipiter nisus*) or harrier-sized raptor was found in a sample from Ditch 3 (Area D/E, Period 2.1).

Reptiles and Amphibians

Vertebrae of grass snake (*Natrix natrix*) occurred in sample residues from all periods except Periods 4 and 5, and the vertebra of a great crested newt (*Triturus cristatus*) in Period 4. Anuran amphibians, both frogs (*Rana* sp.) and toads (*Bufo* sp.), are frequent inclusions in the medieval ditch sample residues.

Discussion

Spatial analysis of the faunal assemblage demonstrates that animal bones from medieval deposits (Period 3) occurred across the site but were concentrated within the manorial enclosure (Areas D and E). In contrast, the majority of faunal remains from late medieval and post-medieval deposits (Periods 4 and 5) came from features associated with the farmhouse in Area A.

Species distributions associated with the medieval phase (Period 3) at Botolph Bridge are similar to those observed at other manorial sites such as Goltho (Jones and Ruben 1987) and Raunds (Davis 2009). The sites at Wharram Percy (Richardson 2009) and West Cotton (Albarella and Davis 1994), however, show slightly lower instances of pig than Botolph Bridge and indeed smaller numbers of pigs have been noted in many medieval assemblages. In the context of manorial sites it has been noted that pig may have been considered a lower status meat (Albarella 2006). The stable numbers of cattle in the assemblage from all phases and the traction related pathologies noted on the bones suggest that arable farming was the main occupation during Periods 3 to 5. The decline of cattle relative to sheep in Periods 4 and 5 is probably the result of the increasing importance of sheep in the post-medieval period, reflecting the burgeoning wool industry and the increasing use of horses as draught animals (Langdon 1986). There is some evidence for an increase in the size of pigs in the post-medieval period but little other metrical data was available.

The wide age range of animals observed in all periods suggests on-site breeding, with animals being exploited for secondary products such as skins and dairying, although the latter cannot be entirely confirmed due to the lack of sexable elements recovered. This wide age range also indicates that both the manor and farm were relatively self sufficient in terms of their meat supply. Any exportation of livestock to urban markets such as Peterborough would result in a dearth of young adult 'market age' animals (Richardson 2009); this trend is not apparent in the Botolph Bridge assemblage.

Taken as a whole, the faunal assemblage paints a picture of a settlement in which animal exploitation, both domestic and wild, formed only a part of a diverse economy. The geography of the parish — in particular its proximity to pasture and fresh water — made it ideal for the raising and hunting of a variety of species. The presence of two Mastiffs is notable. During the medieval and later periods, such animals are known to have been used for hunting and as guard dogs due to their courage and ferocity. The close association of the Botolph Bridge animals with the manorial farm suggests that they served as guard dogs.

II. Fish Remains

by S. Hamilton-Dyer

Methodology

The fish bone discussed in this report was recovered from an extensive sieving programme. Taxonomic identifications were made using the current author's modern comparative collections. All fragments were recorded but identification to species concentrated on the most diagnostic elements, including vertebrae, jaws and other major cranial parts. No attempt was made to identify ribs, fin rays and gill apparatus. The few measurements available follow Morales and Rosenlund (1979) and are in millimetres unless otherwise stated.

General Results

A total of 540 specimens were recorded (Table 22). The number of specimens per context is very variable, from just one in many cases to a maximum of 108 from Building 8 (Period 2.1). The overall mean is 6.9 bones per context. All the fish remains were recovered from sieved samples, with none found in the hand-collected bone assemblage.

A relatively high proportion of the remains were identified to species, or at least family. Fewer than 30% were not identified; most of these 158 specimens are of fin rays, ribs, cranial fragments and other largely undiagnostic material. Over 56% of the identified specimens are of eel, almost 29% are of herring. The remaining bones are of Cyprinidae, including some pharyngeals positively identified as roach, together with a few bones of pike and perch.

The Period 1 assemblage is very small at 13 bones, and is from three widely-dispersed ditches. The 130 bones from Period 2.1 are all from the large area north of the hollow way (Area D/E), with the vast majority being recovered from features associated with Building 8. The statistics are dominated by two large groups of herring bones from this building, with eel next most common. Similarly, in Period 2.2 all 132 bones are from Area D/E, the vast majority deriving from features constituting Building 10 (a possible kitchen), which lay adjacent to the hollow way. In contrast, however, although all taxa are present, eel are most common and herring quite rare.

Period 3.1 has the largest number of contexts containing fish bone (N = 25), eight of which are from Area D/E and the remainder from Area A, south of the hollow way. Of the 148 bones, the largest group came from Area D/E, however, the majority of assemblages of note derive from ditches and pits in Area A. Almost 40% of these bones remain unidentified, but otherwise eel is most common followed by herring and then cyprinids. The assemblage from Period 3.2 is somewhat smaller at only 56 bones, mostly from ditches and with eel commonest. The features derive from all of the investigated areas. The Period 4 assemblage is notable for the lack of fish bone recovered, at a time when there was significant activity and deposition of other material types on the site. Periods 4 and 5 offer a few bones of eel alongside a little pike and perch, from mixed contexts.

Relative Importance of Taxa

The number of individual specimens (NISP, distribution by species and period given in Table 22) is clearly dominated by eel and herring but, as indicated above, the

<i>NISP</i>		<i>eel</i>	<i>herring</i>	<i>cyprinid</i>	<i>pike</i>	<i>perch</i>	<i>unident.</i>	<i>Totals</i>	<i>No. contexts</i>	<i>Mean bones per context</i>
Period 1	Total	7	4	0	0	1	1	13	4	5
	percentage	53.8	30.8	0.0	0.0	7.7	7.7	100		
	% excl. unid.	58.3	33.3	0.0	0.0	8.3				
Period 2.1	Total	22	87	8	8	0	5	130	9	10.1
	percentage	16.9	66.9	6.2	6.2	0.0	3.8	100		
	% excl. unid.	17.6	69.6	6.4	6.4	0.0				
Period 2.2	Total	84	4	11	1	1	31	132	13	8.7
	percentage	63.6	3.0	8.3	0.8	0.8	23.5	100		
	% excl. unid.	83.2	4.0	10.9	1.0	1.0				
Period 3.1	Total	54	8	12	2	0	72	148	25	6.1
	percentage	36.5	5.4	8.1	1.4	0.0	48.6	100		
	% excl. unid.	71.1	10.5	15.8	3.6	0.0				
Period 3.2	Total	20	7	3	5	0	21	56	13	3.4
	percentage	35.7	12.5	5.4	8.9	0.0	37.5	100		
	% excl. unid.	57.1	20.0	8.6	14.3	0.0				
Period 4	Total	6	0	1	1	2	13	23	8	2.7
	percentage	26.1	0.0	4.3	4.3	8.7	56.5	100		
	% excl. unid.	60.0	0.0	10.0	10.0	20.0				
Period 5	Total	18	0	0	0	0	12	30	2	15
	percentage	60.0	0.0	0.0	0.0	0.0	40.0	100		
	% excl. unid.	0.0	0.0	0.0	0.0	0.0				
Unphased	Total	2	0	0	0	0	0	2	4	2
	percentage	100.0	0.0	0.0	0.0	0.0	0.0	100		
	% excl. unid.	0.0	0.0	0.0	0.0	0.0				

Table 22 Fish total frequency

distribution of fish bones is extremely variable. Most of the herring bones, for example, were found in just two contexts from Period 2.1. The eel bones are more evenly distributed but again there are some contexts that offer more than most, such as Building 10 and Ditch 58 in Period 2.2, and Ditch 68 in Period 3.1. When considering NISP by phase herring is more frequent than eel in Period 2, but in all other periods this relationship is reversed.

With the large number of bones in an individual fish, the distribution data can be considerably biased by the finding of a single meal or part of a fish in comparison with the fewer, larger, bones from mammals. An alternative way of considering the data is to examine the frequency of occurrence. Each taxon was therefore recorded as present or absent for each context.

It can be seen that eel still dominates, being found in 54 of the 78 contexts (69.2%) while herring is just pushed into second place by cyprinids. Pike and perch remain minor constituents but also increase their relative share. The frequency distributions vary slightly between the main period groups but, as both the number of bones and number of samples is relatively small, this may not be significant. Perch is the rarest of the species, both by number and frequency; just four bones in four separate contexts. Pike is next with 17 bones from 11 contexts. Herring and cyprinids have similar importance, depending on the counting method, and eel dominates regardless. The relative importance in the diet, however, could depend on the size of the fish and the likelihood of recovery. For the sizes, pike can be very large fish offering more meat per bone found but in this case all of the bones are from very small specimens. Recovery of fish bones is

dependant not only on individual size but also on structure and chemistry, which is more variable than in mammals. Fish have large numbers of vertebrae and these are also often robust in comparison with head elements — it is vertebrae that are most frequently represented here. The presence of head elements for all the species, however few, does imply that whole fish are represented.

A few fish bones from contexts in Period 2.2 and 3.1 had been charred or calcined but there were no groups of such material. The occasional charred bone may be from grilling or from plate waste thrown in the fire. A herring vertebra from Ditch 22 (Period 1) and an eel vertebra from Ditch 42 (Period 3.2) are crushed in the manner described by Jones (1986). This implies human consumption, either spat out or, often, passed right through the digestive system. None of the bones shows butchery evidence, but this is not unusual for fish (especially those of small size).

Source of Fish

Only one of the species, the herring, is an obligate marine fish, which must have been traded in to the settlement. Huge shoals of herring may be found in the North Sea and Baltic and the East Coast fisheries were at their peak in the medieval period. Preserved herrings were an important medieval commodity, especially at Lent and for other fasts. Fish for the Peterborough area would have been supplied from Great Yarmouth, probably through (King's) Lynn. Stourbridge Fair was the source of much stored fish and supplied herring for the Cambridge colleges, also brought in from Lynn (Dyer 1994).

The eels represented here are not the large eels returning to the sea but the small ones common in almost

all freshwaters. They can also be kept in quite small and muddy ponds, as they are more tolerant of low oxygen levels than most fish. The cyprinids are a very large family of fish that includes bream, roach, chub and carp. The only cyprinid that could be identified to species here is roach, a very common fish in rivers and lakes and, like eel, quite tolerant of poor conditions. These and the other cyprinid bones are not of large fish; the biggest would have been no more than 15cm length.

Predatory pike can be very large and are mainly found in slow rivers and lakes. A medieval pike fishery was located at Wittlesea Mere (Lucas *et al.* 1998), but this would have been supplying good-sized fish to high status households. As indicated above the pike bones here are of small fish and were probably caught locally: young fish can be found in most well-vegetated waters, even in flooded water meadows (Wheeler 1978). Perch are found in still or slow waters, feeding on smaller perch and cyprinids. Although they make good eating and can grow to several kilos they are usually smaller, especially in restrictive conditions. Again, the few bones here are not of large fish.

None of the bones of any of the species here are of large specimens and all (except herring) can be found in slow flowing rivers (such as the Nene) as well as lakes and ponds. Hooks, traps, nets and baskets can all be employed to catch these species and it is possible that they were caught together, eels perhaps being the main target.

Comparison with Other Local Sites

At The Still, Peterborough (Roberts 1998), fish are mentioned as being recorded in small numbers throughout the phases, and in 56 of the 59 sieved samples. Cod, bream and roach were identified from this probably domestic urban site. Saxo-Norman contexts at Orchard Lane, Huntingdon contained eel, herring and cyprinids but also one vertebrae of a salmonid (Smith 1997). At High Street, Huntingdon (Locker 2001) — a domestic site of fairly low status — the fish remains were mainly herring, eel and cyprinids as here, but other species were also identified including the marine haddock and whiting.

In recent years the present author has identified eel, herring, cyprinids and sometimes small pike and perch from a number of small sites in Cambridgeshire, including several in Ely, at Red Lion Lane, Sutton, at Soham, and from Stukely Road, Huntingdon. This last also offered cod, as did Willowbrook Farm at Maxey, just north of Peterborough. Interestingly, pre-Dissolution contexts at Abbey School, Ramsey offered the marine species haddock as well as the usual eel, herring, cyprinids and pike; all from just four samples (Hamilton-Dyer 2008).

Conclusions

The overall number of bones recorded is not high despite careful extraction from sieved samples of 78 contexts. Since no fish were recovered by hand the importance of sieving for recovery of fish bone is very clear, particularly at rural sites where the density of fish bones is usually lower than in urban deposits. There are no large bones — not even of Gadidae, the cod family, often traded as preserved stockfish — despite the known presence of a fishery at Botolph Bridge in the 13th century. The species list is very limited and dominated by the ubiquitous eel, but does include the marine herring as well as common lowland freshwater species. The sizes of all the freshwater

fish are small — even the largest roach pharyngeal suggests a fish no longer than 15cm. It seems probable that these other species were incidental, but probably welcome, side products of eel fishing with traps, baskets or nets.

In comparison with urban and coastal assemblages in the area (*e.g.* Norwich, Locker 1997; Great Yarmouth, Wheeler and Jones 1976) and further afield (*e.g.* Southampton, Coy 1996; Salisbury, Hamilton-Dyer 2000), this site offers little fish either by amount or variety, but it is similar to other rural ones with import of herring supplemented by locally caught eels and small freshwater fish. Even at Fishergate in York, where extensive sieving recovered a very wide variety of fish, eel and herring are the common species (O'Connor 1991). The dominance of herring in the marine species is typical of inland sites (Locker 2001). Cod and other stored fish would have been available to those who could afford them but fresh marine fish would have been extremely limited and very expensive. Most of the freshwater fish, in particular the larger ones such as pike and salmon, would also have been restricted to those with money and status. For those of lower status at rural sites only eels and other small fish would have been available, probably home-caught.

III. Marine Mollusca

by Jan Light

Introduction

A total of 130 bags containing varying amounts of shell (weight range 1g–746g) were examined, the material having been retrieved from 40-litre soil samples. Approximately 60% of the samples consisted of less than 10g of shell. All of the material has been examined and identified to species. No samples yielded sufficient material to justify direct measurement of the oyster shells which have simply been described as small, medium or large.

Species Represented

Overview

Six marine taxa have been identified of which two species dominated the assemblages, namely the native oyster, *Ostrea edulis* and the common mussel, *Mytilus edulis*. Considerably fewer numbers of the common cockle *Cerastoderma edule*, the edible winkle *Littorina littorea*, the top shell *Gibbula* sp., and the tellinid bivalve *Macoma balthica* were present, as were very occasional specimens of the terrestrial snails *Helix aspersa* and *Cepaea* spp. These rare occurrences of non-marine species are not considered below.

Native Oyster (*Ostrea edulis*)

With the exception of Sample 46 (Pit 45, Area A, Period 3.2), which contained 25 oyster valves, no samples contained more than five shells. Sizes of oysters range from small to large (35–92mm shell height, taking the largest dimension measured from umbo to ventral margin) and occasional specimens show damage to the ventral margin consistent with patterns of breakage observed in oysters from other archaeological assemblages and interpreted as damage sustained during opening of the oyster for consumption (*e.g.* Light 2001a; 2001b; 2001c; 2003; Winder 1992). The oysters in Sample 46 are all

smaller than those generally associated with harvesting for food and relatively few shells bear traces of epifauna. A substantial number of the oysters are heavily coated in a dark orange ferruginous deposit. This feature has been also observed in other archaeological assemblages of oysters (Light 2001b; 2003; Winder 1994) and has sometimes been associated with decay of organic matter (e.g. residual oyster meat adhering to the shell) in an accumulation of shells in a rubbish or cess pit. Another possible agent for the heavy, crustose deposits in this instance, however, is the percolation of water through the infill material. In the case of the oyster shell from Sample 784 this is consistent with the interpretation of that context as the fill of a pond (Pond 1, Period 4). Some of the larger oyster shells were evidently bored by a species of polychaete worm, but they lack evidence of other organisms which infest oysters such as the boring sponge *Cliona* sp. and calcareous epifauna. Most of the oyster shells are in a reasonable state of preservation, lacking the flakiness that can occur during prolonged burial.

Common Mussel (Mytilus edulis)

The mussel shell is in a good state of preservation in terms of colour and shell integrity. Most samples are dominated by complete or nearly complete valves and significant umbonal fragments. The second set of samples contain mussel in rather more fragmentary condition. The shells are relatively thin and show little sign of wear on the exterior. There is no widespread evidence of epifaunal encrustation (for example serpulids and barnacles). As with the oysters, some of the mussels are coated in a dark orange ferruginous deposit (Pits 38 and 45, Periods 3.1 and 3.2 respectively) and the same mechanisms producing this taphonomic feature as outlined for the oysters, are proposed for the mussels. Although adult, the mussel shells are quite small and their morphology is uniform across the samples. Thin-shelled, unabraded mussels lacking calcareous epifauna can be indicative of mesohaline seawater and are consistent with a sheltered, low energy environment of provenance.

Common Cockle (Cerastoderma edule)

Although small in number, the valves and fragments of this species which were examined are well preserved, showing strongly marked ribbing and clean fracture surfaces, consistent with live-collection, presumably for food. One specimen is an articulated pair.

Littorina littorea, Gibbula sp. and Macoma balthica

The few shells of *Littorina* (common/edible winkle) tend to be smaller than the size at which winkles are harvested in the present day, and in some cases the shells are very worn and broken. Together with the top shell (*Gibbula*) and the tellin (*Macoma*), it was initially thought that such shells represent bycatch rather than food remains because *Macoma balthica* is a species with a tolerance of mesohaline environments as it occurs in estuarine and saltmarsh habitats as well as on more open marine soft sediment shores. The species is not considered to be a comestible, nor is there evidence that it may have been exploited as a food in the past. Further *Littorina* specimens in the second batch of samples analysed favour their interpretation as possible food debris.

Mollusca by Period

Period 2: Late Saxon to Saxo-Norman

Shell remains from earlier period samples are sparse: three contexts in Area A (Period 2.1) yielded very small samples of assorted marine shell fragments but no oysters. All oyster finds of this date were associated with the later site of the manorial enclosure (Area D/E), including 10 oysters retrieved from Ditch 3.

Period 3: Medieval

Contexts assigned to Periods 3.1 and 3.2 in Area A were most prolific in yielding marine shells and indicate a peak in marine mollusc exploitation. In Period 3.2, Pit 45 yielded 32 oyster valves, with only two other contexts in Area A yielding oyster shell. Of seven shell-bearing contexts in Area D/E, six yielded oysters. Mussel shell was retrieved from all 18 contexts yielding molluscs in Area A. Some of the heaviest samples are dominantly mussels: 309g from Pit 42 and 699g from Ditch 32. Most Period 3.2 samples contain sparse remains of the four principal marine mollusc species found at the site.

Period 4: Late Medieval to Early Post-Medieval

Only seven shell-bearing contexts were present in Period 4. Notable are the few oyster remains from Building 18 and 403g of mussels fragments from Ditch 51 in Area C.

Discussion

The marine shells examined represent food remains, with the proviso outlined above. None of the samples contained a sufficient number of shells to carry out abundance and biometric analyses which might shed light on any possible selection strategies employed during harvesting. With the exception of the opening damage observed on some oyster shells, none of the shells show post-harvesting human modification which might be evidence of attempts to re-use them for ornamental or utilitarian purposes. Many of the samples were taken from ditch and pit fills, perhaps the result of rapid infilling as sites of primary discard. Disposal of marine shell representing food debris has been documented at many other sites, e.g. Shapwick, Somerset (Light 2001b). The shells analysed from Botolph Bridge are believed to represent a small fraction of the total amount of shell which may have been discarded on the site, and/or used as infill.

Mussels are tolerant of slight reductions in salinity and oysters to a lesser extent. Both species are capable of living in less than fully open marine environments. *Littorina littorea* and *Cerastoderma edule* can be associates of mussel and oyster beds in intertidal settings and are also tolerant of small reductions in water salinity in estuarine habitats.

Despite the long interval through which mussel shells were found at the site, implying their exploitation, the uniformity of the shell characteristics and condition suggests that the site from which they were harvested was consistent, or at the very least, the environment of exploitation was constant. Today, oysters and mussels occur in estuaries and along creeks, both species having a tolerance to less than fully open marine conditions and to less than full seawater salinity. In this context consideration should be given to the sea-level history of the area and the tidal range of the River Nene. The Saxon shoreline of the Wash is believed to have been, in places,

up to 17km landward of the present day shoreline putting Wisbech on the coast at that time (Darby 1983, fig. 4; Spoerry and Hinman 1998, fig. 17). Furthermore since 1936, the Nene has been tidal beyond Wisbech as far as the 'Dog in a Doublet' sluice near North Side, east of Peterborough (T. Youdan, pers. comm.) and prior to that time it was tidal as far as Orton Staunch. In addition there was an inland port at Yaxley which, although no longer visible, is believed to have been approached via the 'old course' of the Nene through March and the meres of Ramsey and Whittlesey (Hall 1992). On this basis, the mollusc species exploited by the inhabitants of the Botolph Bridge settlement may at times have been relatively proximal to the site.

At The Still, Peterborough (Spoerry and Hinman 1998) evidence has been presented to show that other shellfish species (whelks) were transported upstream from the Wash to supplement locally produced foodstuffs. At a Saxon and medieval settlement in Ely (Mortimer *et al.* 2005) there was evidence of shellfish (snail, oyster, mussel) exploitation as a food resource throughout the settlement period, with a peak in importance during the 12th to 14th centuries. This was deduced to reflect changes in diet with an increase in access to sea resources. At the Blackhorse Lane site at Swavesey, Rackham (in Roberts 2001) found evidence for trade with a coastal area in the transport of mussels, cockles, oysters and periwinkles, of which mussels were the most important species in the site's mollusc shell assemblages. Concentrations of fragmented mussel shell were obtained from a pit context but edible marine shell fragments occurred with a wide range of other foodstuff debris in sampled deposits which were interpreted as rubbish dumps. The aforementioned suite of species is the same as that excavated at Botolph Bridge and, as food resources which are known to live within a range of salinity tolerances, these may well have been more proximal to the site at Swavesey depending on the inland tidal reach of the River Ouse at that time.

In 1875, Frank Buckland produced a report on the fisheries of Norfolk with a number of references to Wash fisheries. Even at that time the fisheries were in decline. An oyster and mussel fishery in Lynn Deep in the Wash was the subject of a Borough Order of Regulation in 1872 (Buckland 1875). For oysters, after 1872, there were seven principal beds, besides small patches of oysters in the fishery. The largest bed was seven miles long and averaged half a mile in width. These beds were natural and the mussels would have accumulated on the muddy bottom. At that time 39 boats dredging in the season (1st March to 1st June) collected some 700,000 marketable oysters. There were 17 mussel beds, the largest being half a mile long and 300 yards in width. Winter harvests for marketing ranged from 2480 tons to 4452 tons.

As part of the older fishery, many thousands of tubs of oysters (*c.*50 individuals/tub) were relaid in Norton Creek, Brancaster Staithe in former times (Anon 1976) and traces still exist in the form of storage pits which were later used (1920s) for cleansing whelks and mussels. The creek was said to promote rapid growth and fattening, it having the advantage of containing a certain depth of water at all states of the tide. The creek was ideal for the purpose of oyster culture. About a mile of the creek bed was immediately available for relaying while large expanses of the banks could be converted into storage ponds with

little labour. Its sheltered position between Scolt Head and the mainland rendered it accessible at all times. Apart from geographical considerations of proximity to modes of transport off site, its chief advantage lay in its apparent freedom from pollution by sewage. Oysters relaid in Norton Creek were stated to have suffered very little mortality from frost.

There are natural oyster grounds on the banks which have been exploited in the past and these are sited all along the Norfolk coast between Brancaster and Yarmouth. Mussels live on the shore and are intertidal, but in the present day, the most extensive beds are on offshore banks: some 71 mussel beds were recorded (and mapped) in the Wash during the 20th century (Peter Walker, CEFAS pers. comm.). Many of these mussel colonies have smaller, associated cockle beds. There are colonies in the present day along the coast from Skegness round to Cromer and they are also at Hunstanton and West Runton. The Hunstanton population is on a wavecut platform stretching out to sea for about half a mile (Paul Dansey, pers. comm.) and has been exploited commercially. At West Runton mussels colonise all available hard substrates. The coast from Hunstanton to Cromer is mainly sandy with dune systems and saltmarshes and the only available suitable substrates are old shipwrecks, rubbish and breakwaters. There are records of populations along that stretch wherever there is favourable habitat (JNCC MNCR database; Neil Golding, pers. comm.). *Cerastoderma edule* and *Littorina littorea* populations also occur alongside mussels at some sites.

Conclusions

The marine molluscs recovered from the Botolph Bridge site were clearly harvested from a source which was presumably relatively local, but insufficient material has been retrieved to infer the extent of the contribution such resources may have made to the settlement economy. At certain times, notably in Period 3.1, marine molluscs evidently formed a component of the economy of the inhabitants of Botolph Bridge village, which had a long period of settlement. In view of the fact that archaeological research into the medieval town of Peterborough is in its infancy, this relatively small collection of marine shell, as an example of food refuse, provides a useful assemblage for comparison with other similar material which might be recovered from future excavations in the local area and in a wider regional context. Some preliminary comparisons with previous excavations have been drawn. The use of the Botolph Bridge marine shell species composition as a baseline assemblage can be supplemented by other features, such as the observed temporal pattern of species exploitation, and the morphological characters of the shells of the oysters and mussels as being typical of a sheltered, low energy environment.

IV. Pollen

by James Greig

Samples collected from two ponds, one associated with the manorial site (Area D/E) and the other within the manorial farm courtyard (Area A) yielded a range of pollen and parasite ova which provides useful information about the site and its surroundings. Subsamples of 100ml were measured out by water displacement, and the

material dispersed in water. Organic material was washed over from the container and collected in a 500 micron sieve. It was sorted in water using a stereo microscope and plant remains picked out and identified with reference to the current author's own collection.

The pollen samples were processed using the standard method; about 1cm³ sub-sample was dispersed in dilute NaOH and filtered through a 70µm mesh to remove coarser material, which was then scanned under a stereo microscope, revealing sand, silt, clay and charcoal. The finer organic part of the sample was concentrated by swirl separation on a shallow dish. Fine material was removed by filtration on a 10µm mesh. The material was acetolysed to remove cellulose, stained with safranin and mounted on microscope slides in glycerol jelly. Counting was done with a Leitz Dialux microscope. Identification was done using the writer's own pollen reference collection, seen with a Leitz Lablux microscope. Standard reference works were used, notably Fægri and Iversen (1989) and Andrew (1984). The pollen types with names according to Bennett *et al.* (1994) have been listed in taxonomic order according to Kent (1992), in Table 23.

The pollen spectrum from 15cm depth within Pond 3 (Period 4, Area A) shows that pollen is preserved in this pond deposit, with fair preservation and concentration. The results obtained show an open largely treeless landscape as might be expected in a medieval village. There was limited evidence for pine, oak and hazel. The discovery of a parasite ovum indicates sewage contamination, most probably either from pigs or humans. The cereal pollen could also come from sewage, or nearby grain processing (possibly the adjacent brewhouse/bakehouse, Building 13b).

The macrofossils from the upper fills of Pond 1 (Period 5, just to the north of Area D/E) were rather few and consisted of aquatic plants, water snails and some possible amphibian bones. The pollen was not as well-preserved and contained degraded pollen and limited range of pollen types. This poor preservation could be a

sign that the pond did not hold water all the time, and dried out. The pollen was mainly of a range of herbs and a few wetland plants. Pine was the only tree pollen present, which is somewhat unusual.

V. Phosphate Analysis

by Paul Middleton

Phosphate analysis provides one method of detecting chemical markers of previous activity, of which all physical trace may have gone. A sample was taken from beneath the flagstones of the dovecote (Building 23) assigned to Period 4 and associated with the late medieval to early post-medieval farm.

The sample was treated with an acid digestion method, using a hydrochloric acid bath to extract phosphorus into solution (*cf.* Dick and Tabatabai 1977). Since phosphorus is colourless, the solution is reacted with a reagent, using an adaptation of Murphy and Riley's standard molybdenum blue method (Murphy and Riley 1962). The resultant blue colour intensity is measured by use of a spectrophotometer. The more intense the blue colour, the higher the concentration of phosphorus present. This is quantified by reference to a standard curve.

The Soil Chemical Atlas of England and Wales gives a background phosphate value of between 55.9 and 76.5mg P/100g soil for the lower Nene valley and, against that benchmark, the recorded level of 260mg P/100g soil from the dovecote is very high, both for the region and for settlement sites. It should be taken as clear evidence that a specific activity was undertaken in the structure which significantly enhanced the levels of phosphate deposited. Clearly a single sample has limitations, but such a result is consistent with the interpretation of the building as a dovecote.

Sample	99/15 cm	00/30 cm	Common Name
Pollen			
<i>Pinus</i>	-	9	Pine
<i>Quercus</i>	3	-	Oak
<i>Corylus</i>	1	-	Hazel
Chenopodiaceae	1	-	Goosefoot
<i>Rumex</i> -tp.	?	-	Docks and sorrels
<i>Persicaria bistorta</i>	-	2	Amphibious bistort
Brassicaceae	1	6	Brassicacae
Fabaceae	+	-	Vetch family
<i>Plantago lanceolata</i>	-	2	Ribwort plantain
Rubiaceae	1	-	Bedstraws
Lactuceae	15	16	A group of composites
<i>Aster</i> -tp	5	4	Daisies <i>etc</i>
Cyperaceae	-	1	Sedges <i>etc</i>
Poaceae	20	29	Grasses
Cerealia-tp.	2	-	Cereals
Total pollen count	51	69	
Parasite ovum			
<i>Trichuris</i>	+	-	Whipworm

Table 23 Pollen and parasite ova from Pond 3 (Area A, Period 4)

VI. Plant Macrofossils and Other Remains

by A.J. Clapham

Introduction

A total of 29 samples were analysed for charred and mineralised plant remains. Of the 170 samples floated at assessment stage, 29 significant samples were recommended for total analysis (Campbell 2002). All of these came from two feature types: ditches or pits. In addition, a sample from a Period 4 hearth within Building 13b (a possible bake-/brewhouse associated with the manorial farm) is included. This sample was reported on at assessment stage but its flots were lost and so could not be analysed further. The majority of samples contained charred remains of cereals, other crops and wild plant species.

Method

The samples selected for further analysis were firstly sorted by a third party and then passed on to the author for identification and scoring. In some cases secondary flotation of the dried heavy residue had to be undertaken to recover those remains, mainly wheat grains, which failed to float in the initial processing. These samples have been treated as samples in their own right in the analyses. Identifications were carried out using a low-power stereomicroscope (x6.4–x40 magnification) and the modern plant reference collection housed in the George Pitt-Rivers Laboratory, Department of Archaeology, University of Cambridge. Nomenclature of the wild species follows that of Stace (1997) and Zohary and Hopf (2000) for cultivated plants. The traditional classifications for cereals are used (Zohary and Hopf 2000, tables 3 and 5). Tabulated results of the analyses are presented in Appendix 3.

Results

Overall, the samples contain large quantities of charred plant remains, especially those of cereal, including both grains and chaff. Weed seeds are also common and can be used to determine the soils used for cultivation and the habitats exploited by the occupants of the site, either for wild food or for other purposes such as for roofing material. Only one sample analysed, from a pit in Period 3.2 (14th century) contained mineralised plant remains, whilst a sample from a contemporary ditch contained silicified chaff remains. The preservation of the charred material was adequate to permit identification of most remains to species level. The distribution of samples across the phases was uneven, with the largest number of samples being from Period 3.1 (13th century). From the later periods, (Periods 4 and 5; late medieval to post-medieval) only single samples were analysed. The earlier phases (Periods 1 and 2.1) also had fewer samples analysed. The distribution of samples across feature types was also uneven with 22 samples from ditches and only seven from pits being analysed.

The majority of the plant remains were of cereal grains and chaff, especially free-threshing wheat, of which there were two varieties. Other cereals recovered included barley, oats and rye. Some glumed wheats were also identified but these may represent a residual component of the assemblages dating from earlier occupations of the site.

Period 1: Middle to Late Saxon (c.700–c.900)

(Table App. 3.1)

Samples of this early date were obtained from fills of Pit 4 and Ditch 22, which lay adjacent in Area D/E. The cereal remains found in the sample from fills of the ditch were dominated by free-threshing wheat grains. There appear to be several types present, as indicated by grain and chaff morphology. The majority of the grains are small and rounded and are present in considerable quantities. A large number of the rachis fragments are bread wheat-like, suggesting that this species may be present. A short articulated hexaploid free-threshing rachis fragment was also identified. Another species of wheat identified from the chaff remains is tetraploid free-threshing macaroni/riquet wheat. Other cereals present include barley, rye (with chaff present) and oats. Flax capsule fragments were the only other crop remains to be identified from Ditch 22. In Pit 4 the tetraploid free-threshing macaroni or rivelet wheat (*Triticum durum/turgidum*) was identified by its characteristic rachis fragment.

The majority of the wild species assemblage is often associated with crop cultivation and includes buttercup, fat-hen, sheep's sorrel, docks, charlock pod fragments (*Sinapis arvensis*), greater plantain, red bartsia, cleavers, cornflower, nipplewort, stinking chamomile, scentless mayweed, dandelion and brome. Other habitat types indicated include grassy places (tare/vetchling, ribwort plantain, thistles and small-fruited grasses) and wet places (common sedge (*Carex nigra* type), yellow water-lily (*Nuphar lutea*), ragged-robin (*Lychnis flos-cuculi*) and bur-reed. The dominant habitat type indicated is of cultivated/waste ground — the species identified include orache, redshank (*Persicaria maculosa*), black bindweed, sheep's sorrel, docks, black mustard, cleavers, cornflower, nipplewort, stinking chamomile, scentless mayweed, meadow-grass (*Poa* sp.) and brome. A wetland habitat may well be represented by the presence of common sedge and other sedges (*Carex* spp.).

Period 2.1: Late Saxon to Saxo-Norman (c.1000–c.1150)

(Table App.3.2)

Proto-Manorial Enclosure (Areas D/E and C)

Four samples were analysed from this period in the northern part of the site, two each from Ditches 3 (Area D/E) and 8 (Area C). Several cereal types are represented in these samples, the majority being various types of wheat. In the Ditch 3 samples chaff remains of spelt wheat (*Triticum spelta*) were identified. These were found in small quantities and it is suspected that these are residual and from an earlier occupation of the site. This could also be said for the single find of an emmer (*Triticum dicoccum*) spikelet fork in Ditch 8. The majority of the wheat remains found in the ditches consist of the free-threshing type. Most of the grains are smaller and rounder than is usually considered for bread wheat, although some larger, more 'normal' bread type grains are also present. The majority of the wheat chaff remains were identified as belonging to bread wheat, although for some of the basal rachis fragments it was difficult to distinguish between wheat and barley. In Ditch 8, a further type of wheat was identified by its characteristic rachis fragment, this being the tetraploid free-threshing macaroni or rivelet wheat (*Triticum durum/turgidum*). Other cereals present include barley, rye and oats, although not in as great quantities as that of wheat. The presence of chaff remains of each of the cereals suggests that all the crops were grown and processed locally.

Other crops identified from this phase include field bean (*Vicia faba* ssp. *minor*), lentil and pea. A smaller legume was also identified from the samples and it is not possible to determine whether this is immature peas or cultivated common vetch (*Vicia sativa*). Flax (*Linum usitatissimum*) is also present in the form of seeds and capsule fragments suggesting local cultivation and processing. It is not possible to determine whether the flax was cultivated for its fibre or seeds, but the most likely scenario is that it was grown for both.

The wild species associated with crop cultivation are more diverse than those of the preceding phase and include: buttercups, common nettle (*Urtica dioica*), small nettle (*U. urens*), many-seeded goosefoot (*Chenopodium polyspermum*), fat-hen, chickweed (*Stellaria media*), corncockle, campion (*Silene* sp.), black bindweed (*Fallopia convolvulus*), docks, cabbage/mustard (*Brassica* sp.), wild radish (*Raphanus raphanistrum*), clover, hedge-parsley (*Torilis* sp.), black nightshade (*Solanum nigrum*), corn mint (*Mentha arvensis*), greater plantain (*Plantago major*), red bartsia (*Odontites vernus*), cleavers, cornflower, nipplewort (*Lapsana communis*), stinking chamomile, scentless mayweed (*Tripleurospermum inodorum*), dandelion and brome. The presence of stinking chamomile and sheep's sorrel (*Rumex acetosella*) suggests that both heavy clay and light acid sandy soils were cultivated.

Wild species indicative of other types of habitat include woodland/scrub with the presence of nutshell fragments of hazel (*Corylus avellana*), possibly indicating a wild food source. The presence of wet places is indicated by the presence of purple loosestrife (*Lythrum salicaria*), duckweed (*Lemna* sp.), common spike-rush (*Eleocharis palustris*) and bur-reed (*Sparganium* sp.). The majority of the wetland species came from the ditches, which suggests that at the time of occupation they were full of water.

Grasslands are also indicated by the presence of hairy tare (*Vicia cf hirsuta*), tare/vetchling, black medick (*Medicago lupulina*), selfheal (*Prunella vulgaris*), ribwort plantain (*Plantago lanceolata*), thistles (*Cirsium* sp.), glaucous sedge (*Carex flacca* type), fescue (*Festuca* sp.) and small-fruited grasses.

South of the Hollow Way (Area A)

Two samples from the area to the south of the hollow way (Area A) were analysed for charred plant remains, one each from a ditch (Ditch 1) and a pit (Pit 1). Cereal remains were readily identifiable and consist of both grains and chaff. The dominant cereal is a free-threshing hexaploid wheat which can be divided into two different types on the basis of grain morphology. In Ditch 1, the dominant cereal is that of free-threshing wheat and from the size and shape of the grain it is most likely to be that bread wheat (*Triticum aestivum* s. l.): this is confirmed by the presence of bread wheat chaff in the sample. The wheat grains from Pit 1 are smaller and rounder in appearance than those in the ditch sample. Other cereals found in Period 2.1 include barley (*Hordeum vulgare*), rye (*Secale cereale*) and oats (*Avena* sp.). As a result of the lack of floret bases which would allow the identification of the oat grains to species it is not possible to determine if the grains are of a wild or cultivated species. Due to the overall numbers of grains found in the samples it can be suggested that it is most likely that they are of a cultivated species. A single find of lentil (*Lens culinaris*) was made from Pit 1 and pea (*Pisum sativum*) remains were identified from both the ditch and pit samples. It is probable that all the crop species were grown and processed locally, and that they were dumped after being either charred in the course of processing (i.e. drying) or from accidents resulting from spillage in domestic food preparation.

The majority of the wild species found in both samples can be said to represent cultivated, waste, open or disturbed ground and are likely to be associated with crop cultivation. The species identified from Period 2.1 include buttercups (*Ranunculus acris/repens/bulbosus*), corncockle (*Agrostemma githago*), docks (*Rumex* sp.), clover (*Trifolium* sp.), henbane (*Hyoscyamus niger*), cleavers (*Galium aparine*), cornflower (*Centaurea cyanus*), stinking chamomile (*Anthemis cotula*), corn marigold (*Chrysanthemum segetum*), darnel (*Lolium temulentum*) and brome grass (*Bromus* sp.). The only other habitat type represented in Period 2.1 is that of grassy places, which could either be associated with the crop or be found growing at the field edges. These include tare/vetchling (*Vicia/Lathyrus* sp.) and small-fruited grasses (Poaceae).

Period 3.1: Medieval (c.1200–c.1250) (Table App.3.3)

Manorial Enclosure (Area D/E)

The cereal remains from a pit in this part of the site (Pit 27) are dominated by free-threshing wheat, most likely bread wheat as identified from the rachis remains. Other cereals identified include barley and oats, although no rye was found. Remains of field bean and possible common vetch also came from this pit.

South of the Hollow Way (Area A)

Twelve samples of this period were taken from Area A. Of these, four samples were analysed from Ditch 27, which lay to the east of the track running between fields (Route 4). The dominant cereal recovered is that of free-threshing wheat grains. Some of the wheat grains are small and rounded but the majority are probably bread wheat, as identified by the presence of the characteristic rachis fragments. A single rachis fragment of the free-threshing tetraploid wheat was also noted, along with barley, rye and oats. Other crops identified include field bean, peas and possibly cultivated common vetch. Flax is represented in the form of a single seed.

The wild species present in the ditch fills represent several habitat types. The majority of the remains are cornfield weeds and include small nettle, fat-hen, docks, clover, henbane, corn mint, greater plantain, red bartsia, cornflower, darnel and brome. The presence of corn spurrey (*Spergula arvensis*), and stinking chamomile suggests that both sandy and heavy clay soils were cultivated. Wetland is represented by the presence of hemlock (*Conium maculatum*), common club-rush (*Schoenoplectus lacustris*), great fen-sedge (*Cladium mariscus*), hairy sedge (*Carex hirta* type) and bur-reed. The presence of these species in

the ditch may suggest that it contained water and therefore supported wetland plants at the time of occupation, perhaps suggesting that other wetland habitats such as fen may have been exploited. Grassy habitats are represented by tare/vetchling, glaucous sedge and small-fruited grasses. A woodland scrub element is indicated by the presence of hazel nutshell, greater burnet-saxifrage (cf *Pimpinella major*) and elder (*Sambucus nigra*).

A group of ditches closely associated with each other in the north-west corner of Area A and to the west of the track were also sampled (Ditches 29, 30 and 68). Free-threshing wheat grains were the most common find in these ditch samples, the majority being of the small round type. Bread wheat is indicated by the presence of some larger free-threshing grains and rachis fragments, although some shorter, stunted articulated rachis fragments were also identified. Some of the grain may well have belonged to the tetraploid free-threshing type as there were some rachis fragments of type present in all of the ditches. Other cereals present in these assemblages include barley, rye and oats. Some chaff of both barley and rye was also found. Other crops recovered from these ditches include field bean, pea and possible cultivated common vetch.

The wild species retrieved from this group of ditches belong to several habitat groups. The greatest proportion belong to that associated with cultivation or disturbed open ground. These include many-seeded goosefoot, fat-hen, orache (*Atriplex* sp.), corncockle, knotgrass (*Polygonum aviculare*), black bindweed, docks, mallow (*Malva* sp.), *Brassica* sp., seeds and pods of wild radish, scarlet pimpernel (*Anagallis arvensis*), clover, shepherd's-needle (*Scandex pectin-veneris*), henbane, corn gromwell (*Lithospermum arvensis*), red bartsia, cleavers, narrow-fruited cornsalad (*Valerianella dentata*), cornflower, nipplewort, scentless mayweed, darnel, brome and sterile brome (*Anisantha sterilis*). The cultivation of heavy clays and light sandy acid soils is indicated by the presence of stinking mayweed, corn spurrey, sheeps' sorrel and possibly fairy flax (*Linum catharticum*).

Woodland and scrub habitats (including possible hedgerows) are represented by hazel nutshell fragments, tufted vetch (*Vicia cf cracca*) and elder seeds. The presence of common spike-rush, common club-rush and great fen-sedge indicate a wetland element in the assemblages whilst hairy vetch, black medick, rye-grass (*Lolium* sp.), bent grass (*Agrostis* sp.) and small-fruited grasses indicate the presence of grassy or open areas.

Single samples were also analysed from two minor ditches (Ditches 26 and 48) running parallel to each other in the south-west corner of Area A. From studying Table App.3.3, it can be seen that there are slight differences in the composition of the cereals found in each ditch. Both ditches contained free-threshing wheat grains but in Ditch 26, the bread wheat type dominates whilst in Ditch 48, the smaller, rounder grains of wheat dominate. Barley was found in both ditches but rye and oats only occurred in Ditch 48. The remains of peas were found in both ditches whilst the remains of field bean and possible common vetch were found in Ditch 48. Ditch 26 contained fewer wild species than Ditch 48. The majority of the species from Ditch 48 are those usually found associated with cultivation or disturbed ground, including buttercup, docks, red bartsia and darnel. The only other habitat represented in Ditch 26 is wetland, as indicated by the presence of great fen-sedge.

In Ditch 48, arable habitat is indicated by finds of fat-hen, orache, corncockle, knotgrass, black bindweed, docks, mallow, wild radish pod fragments, cleavers, cornflower and darnel. The cultivation of heavier soils is suggested by the presence of stinking chamomile. A wetland habitat is represented by ragged-robin, hemlock and great fen-sedge. It is possible that these species indicate the local flora of the ditch. Grassy places, which could include the edges of fields, are represented by tare/vetchling, selfheal, glaucous sedge and small-fruited grasses and a more woodland/scrub/hedgerow environment is indicated by elder seeds.

Single samples from two pits (Pits 40 and 42) were examined. The cereal remains from each pit are very similar in composition. The majority of the free-threshing wheat grains are small and round. The presence of bread wheat rachis fragments suggests that the larger grained bread wheat is also present. Other cereals represented include barley, rye and oats. Pit 40 yielded remains of peas whilst in Pit 42, possible common vetch and flax capsule fragments were identified. In both pits the wild species component of the assemblages is dominated by those usually associated with crop cultivation, including buttercup, fat-hen, campion, docks, clover, red bartsia, cleavers, cornflower, stinking chamomile, scentless mayweed, darnel and brome. A grassy component is also common to the two pits. In Pit 40, a wetland aspect is indicated by the presence of great sedge-fen and in Pit 42 a scrub component is suggested by hazel nutshell fragments.

Period 3.2: Medieval (c.1250–c.1350)
(Table App.3.4)

Manorial Enclosure (Area D/E)

Four samples from Ditch 42 were analysed; this ditch formed part of the manorial enclosure boundary. The cereal remains are once again dominated by free-threshing wheat grains, the majority of which are small and round, although the wheat chaff shows that there are at least three types of free-threshing wheat present; the tetraploid macaroni/riquet and the hexaploid bread wheat. Another possible wheat identified is a glumed wheat, but it is not possible to determine if this is emmer or spelt wheat. Other cereals identified are hulled barley, some of the chaff suggesting that it could be 2-row (*Hordeum distichum*), rye and oats. Other crops found in the four samples from Ditch 42 include peas, immature peas/cultivated common vetch and flax capsule fragments.

The majority of the wild species identified are commonly associated with crop cultivation. They include poppy capsule fragments, many-seeded goosefoot, fat-hen, corncockle, sheep's sorrel, docks, charlock pod fragments, wild radish pod fragments, henbane, corn gromwell, red bartsia, cleavers, cornflower, stinking chamomile, scentless mayweed, dandelion and brome. A woodland/scrub/hedgerow type environment is represented by hazel nutshell fragments and wild cherry stone fragments. These remains could be considered a food source. Wetlands are represented by the remains of lesser celandine tubers (*Ranunculus ficaria*), bogbean (*Menyanthes trifoliata*), common spike-rush, great fen-sedge and hairy sedge. Grassy areas are indicated by tare/vetchling rye-grass and small-fruited grasses.

South of the Hollow Way (Area A)

The cereal remains from Ditch 41 (the northern boundary to Field 3 at the manorial farm site) are dominated by free-threshing wheat grains. The majority of the grains are small and round, bread wheat and it is evident that the tetraploid free-threshing macaroni/riquet wheat were also grown, given the presence of chaff fragments of the two species. Other cereals present include barley, rye and oats. The only other crop remains found are possible immature peas or cultivated common vetch. Many of the wild species are usually found associated with the cultivation of crops. These include goosefoots (Chenopodiaceae), docks, *Brassica* sp., clover, henbane, greater plantain, red bartsia, cornflower, stinking chamomile and scentless mayweed. Other habitats identified from the ditch include wetland and grassland.

Cereal remains recovered from Pit 45 which was associated with the farmhouse (Building 12) consist of free-threshing wheat grain which may be bread wheat due to their association with bread wheat chaff. Other cereals identified include barley, rye and oats. Chaff of barley and rye was also identified. The only other crop remains found are possible immature peas or cultivated common vetch. The wild plant remains in this pit are mainly preserved by mineralisation, although some charred remains are present. The mineralised species are buttercup, fat-hen, dock, wild radish seed, apple (*Malus* sp.), tare/vetchling and bent grass. It is most likely that these species were associated with the crops, but the presence of the apple seeds may suggest the remains of food. The charred remains include docks, corn gromwell, stinking chamomile, scentless mayweed and dandelion: these are usually associated with arable production.

Period 4: Late Medieval (c.1350–c.1500)

(Table App.3.5)

Only one sample was analysed from Period 3, deriving from Ditch 51 located near to Wall 2 in the eastern part of the manorial site (Area C). In addition, a sample from a hearth in Building 13b (Area A) was assessed and was recommended for total analysis (Campbell 2002) but unfortunately the flots were lost before this took place. The dominant cereal remains found in a sample from Ditch 51 are small, round wheat grains, although some of the chaff may suggest that both bread wheat and macaroni/riquet wheat are also present. Other cereals found are hulled barley, rye and oats. No other crop remains were identified from this sample.

The number of wild species found within this sample is limited and is dominated by those that are usually found associated with crop cultivation: fat-hen, clover, cornflower, nipplewort, dandelion and brome. Other habitats represented by the remains include woodland/scrub (hazel nutshell fragments and greater stitchwort), wetland (great fen-sedge and hairy sedge) and grassy places (tare/vetchling, glaucous sedge and small-fruited grasses).

Period 5: Post-Medieval (c.1500–c.1650)

(Table App.3.6)

A single sample from Pit 70, which cut into the remains of the former farmhouse in Area A, was analysed. Compared to the other samples, it

yielded few plant remains. Cereals are represented by free-threshing wheats, probably bread wheat. Other cereals preserved include hulled barley and oats. The only non-cereal crop to be identified is the remains of pea. Overall, there are few wild species present in this sample. The majority are arable weeds, such as fat-hen, sheep's sorrel, docks (the most common remain), *Brassica* sp., wild radish pods, clover, corn gromwell, cleavers, stinking chamomile, corn marigold and onion couch-grass (*Arrhenatherum elatius* var. *bulbosum*). The only other habitat recorded from this sample is one of grassy places, which may have occurred at the edge of fields. Species identified are hairy tare, tare/vetchling, black medick and small-fruited grasses.

Discussion

The Crops

Wheat

The glume wheats were rarely found at Botolph Bridge, and were mainly from Period 2. The finds consist of an emmer spikelet fork and an indeterminate glume base from Ditch 8, four spelt glume bases and six indeterminate glume bases from Ditch 3 and one from Ditch 8. Nine glume wheat grains were identified from Ditch 41 in Period 3.2. Due to the lack of finds of glume wheats it can be suggested that the remains represent some residual component of the assemblages and date to earlier occupation of the area: however, charred material is very resilient to decay and is therefore able to persist for long periods of time — with continual disturbance it may become incorporated into earlier assemblages.

The most common cereal remains found at Botolph Bridge in all phases are of free-threshing wheat. From the remains identified (grain and chaff) it is possible to distinguish two possible types, one hexaploid and one tetraploid. The most accurate method of identifying tetraploid free-threshing wheats (*Triticum durum/turgidum*) is not by grain size and shape but by rachis internode morphology, as pointed out by Moffett (1991). The earliest occurrence at Botolph Bridge of tetraploid free-threshing wheat rachis internodes is in Period 1 (in Pit 4 and Ditch 22). Rachis internodes are also found in all subsequent phases, except Period 4. Apart from the finds in Pit 4 (Period 1), all other finds are from ditch samples.

From ecological and historical data (Moffett 1991), it is probable that the remains at Botolph Bridge are of rye wheat (*Triticum turgidum*) rather than macaroni wheat (*Triticum durum*). Bread wheat (*Triticum aestivum*) is once again best identified from the rachis fragments, which occurred in all phases of occupation except Period 4. The greatest number of finds of bread wheat internodes came from Ditch 42 in Period 3.2 where more than 1000 rachis internodes were identified. Apart from the rachis fragments, some larger free-threshing type grains were identified and are thought to be of bread wheat. Some smaller grains of similar shape were found and are probably tail grains.

The majority of the grains are smaller and rounder than those expected for 'normal' bread wheat. Some articulated rachis internodes are also shorter than the classic bread wheat rachis internodes. These internodes consist of a much reduced rachis length, giving the impression of a stunted ear which could produce much smaller and rounder grains. This may not necessarily be true as a compact rachis does not necessarily mean compact round grain (Miller 1992). Another possibility is that the compact grain may be a result of environmental conditions. If the growing conditions are less than ideal, it

is possible that one way the crop may respond is by producing smaller, stunted ears and therefore reducing the size and changing the shape of the grain. The conditions that are likely to produce this effect are temperature, soil quality and soil water content. If one of these factors, or a combination of some or all of them, were present at Botolph Bridge in the past, then it may be possible that shorter, rounder grains would form in stunted ears.

Other Cereals

Barley grains (*Hordeum vulgare*) came from all phases of occupation, including tail grain and some sprouted ones. The barley is of the hulled variety but whether it is six- or two-row is difficult to determine from the grains alone. Campbell (2002), states that very few grains were twisted suggesting that the barley crop grown at Botolph Bridge was of the two-row variety (*Hordeum distichum*). The more consistent way of identifying the variety is from the rachis internodes. Surprisingly, at Botolph Bridge very few barley rachis fragments were recovered and the majority came from the base of the rachis internode, making identification impossible. The complete rachis internodes recovered appear to be of the two-row variety.

Although, sprouted barley was found in Period 3.1 (in Ditches 27, 30 and 68), it consists of only a few grains, suggesting that this represents spoilt grain rather than evidence for malting.

Rye grain (*Secale cereale*) was found in all phases apart from Period 5 and tail grain along with chaff remains were found in Periods 2.1, 3.1, 3.2 and 4. Rye cultivation is usually associated with the medieval period as agriculture expanded onto the poorer soils. This species has a competitive advantage over wheat on poorer, lighter sandy soils (Robinson 1995 and 2002). It was often thought that rye cultivation took off in the medieval period (Greig 1991a) but evidence is now coming to light that rye cultivation in Britain may have started far earlier in the Roman period where sites were located on or near expanses of lighter, sandy soils (Robinson 1995 and 2002).

It is difficult to determine whether oats (*Avena* sp.) are of the cultivated or wild type if the floret bases are not preserved, as is the case here at Botolph Bridge, although due to the large number of oat grains found in all phases of occupation it can be suggested that oats were indeed grown as a crop at Botolph Bridge.

Other Crops

Field bean (*Vicia faba* ssp. *minor*) was found occasionally in Periods 2.1, 3.1 and 3.2. The majority of remains are of cotyledons and cotyledon fragments, clearly identifiable as field bean. Whether the bean was used as a human food source or as animal fodder is uncertain but it is most likely that the former use is represented here.

Lentil (*Lens culinaris*) was found in Period 2.1 (Pit 1). Lentil has often been reported from medieval contexts (Greig 1991a) and would have provided an excellent source of protein. Since lentil is usually considered a crop grown further south in warmer climates, it can be suggested here that the remains represent a high status food. Pea (*Pisum sativum*) was found in all occupation phases and consists of complete peas, cotyledons and hilums. Again, peas can be considered a staple food for the residents of the area.

Several small legumes came from some of the samples in all phases. It is possible that these remains are of very immature peas, left after processing, but it is more likely that they are of another legume crop, cultivated common vetch (*Vicia sativa*). It is most likely that this was grown as a fodder or hay crop. It has been documented for the medieval period and some archaeobotanical specimens of this date have been identified (Moffett 1995). Although the earliest reliable finds of common vetch are from the early 12th century at West Cotton (Campbell 2010), it can also occur as a contaminant of lentil cultivation (Zohary and Hopf 2000).

Seeds and capsule fragments of flax/linseed (*Linum usitatissimum*) were found in Periods 2.1, 3.1 and 3.2. The presence of flax capsule fragments does suggest local growing and processing of the crop. Whether the crop was used for fibre or oil cannot be determined from the remains of the seeds and capsule fragments only, but it is most likely that it was used for both purposes.

The Wild Species

Overview

Most of the samples contained a number of wild species and it is possible to divide these into preferred habitat types, providing an indication of the agricultural practices and other environments exploited by the inhabitants of Botolph Bridge. Some species are found in more specific habitats than others. The habitats represented in the charred plant assemblages examined here are as follows: cultivated/waste/open/disturbed ground, woodland/scrub/hedgerow, wet places and grassy places. In Period 2.1 it appears that only the cultivated/waste/open/disturbed ground and grassy places habitats are represented, but in later phases the other habitats become more common. This may be due to the uneven distribution of samples across the occupation phases and perhaps the location of the samples studied.

Cultivated/Waste/Open/Disturbed Ground

This category is by far the one most commonly represented in the plant assemblages and is closely associated with human activity, especially crop cultivation. Some of the species are found in all phases (docks, clover and cleavers) and again this is probably due to the uneven distribution of samples across the phasing. What does seem evident is that the presence of this category and the cereal chaff remains in each phase shows that the crops were grown and processed locally. The occurrence of stinking chamomile also suggests that the heavier clay soils were exploited throughout the occupation of the site, although sandy soils were also cultivated, as indicated by corn spurrey, sheep's sorrel and fairy flax (in this area, however, fairy flax is found on calcareous ground; Wells 2003). Period 3.1 saw the rapid expansion in the cultivation of these lighter poorer soils, although these soils are quite rare in this area dominated by calcareous pelosols composed of chalky glacial drift. Such soils are slowly permeable, well-structured and non-calcareous clayey soils with impeded drainage (Wells 2003), which may well explain the preponderance of stinking chamomile in most of the samples. The presence of henbane in some of the phases may indicate that manuring of the fields may have occurred, as this species

is often found associated with concentrations of manure (Stace 1997).

According to Greig (1991b), cornflower became a characteristic weed of rye and became common from about AD 1200 onwards. The earliest record at this site is, however, from Period 1 dating from *c.*700 to *c.*900 and it becomes more common through time especially in Period 3.1 (13th century) which concurs with Greig's suggestion.

Darnel can be a serious pest in cereal crops, not just because it is a pernicious weed but because it is very poisonous. If it becomes incorporated into the food supply it can have serious consequences. It is found in the majority of the phases at Botolph Bridge (except Period 5) which suggests that the local population were aware of the problems associated with this weed and therefore very careful about removing it in the final stages of cleaning the crops.

Woodland/Scrub/Hedgerows

A few species present may have come from this type of habitat. The presence of hazel nutshell fragments in most phases may suggest that nuts were gathered in the autumn for consumption throughout the rest of the year. It is possible that they could have been gathered from managed coppiced woodland, or even from hedgerows but they would have made a welcome addition to the diet. The presence of wild cherry may also have the same origins, as might the apple core found in Period 3.1 (Campbell 2002) and the mineralised apple pips found in Period 3.2. The greater stitchwort, tufted vetch and greater burnet-saxifrage may have become incorporated into the assemblages at harvest, as they may have been growing in the hedgebanks surrounding the fields.

Grassy Places

This habitat type is the second largest category in the whole plant assemblage and may be considered as part of the arable weed component. Most species in this category are often seen growing at the edges of fields and it is not surprising that they became part of the assemblage; here their frequency within ditch fills may suggest they were growing on the ditch sides. It is also possible that these species represent the remains of hay which, after use, was dumped into the ditch.

Wet Places

Another large component of the assemblage is that of wet places. This habitat starts to become exploited in Period 1 but the main phase of exploitation is Period 3.1 and is mainly linked to the ditches. Again, it is possible that these species represent the flora growing in and around the ditches but, as the material is charred, it suggests that they were gathered from somewhere else and then dumped into the ditches after use.

The majority of the species present at Botolph Bridge can be found in the fens, especially the great fen-sedge, common club-rush (also known as bulrush), hairy sedge, hemlock, bur-reed and common spike-rush. One possible use of these species is as a floor covering, although the sharp edges of the great fen-sedge leaves could be painful on the feet. Another possible use of the great fen-sedge, which has a long tradition in this area as a roofing material, is as torches — this may explain the presence of the nutlets. In fact whole areas may have been harvested and used as roofing material, then dumped after the roof

caught fire. Matting can be made from the common club-rush but in this case it was probably strewn on the floors of the buildings along with the other fen plants that would have grown along with it.

Some of the species present, such as yellow water-lily, bog-bean and duckweed, are more open water species and were probably growing in the ditches or ponds in the area. Greig (2002) identified some duckweed fruits from Pond 1 and this may have been the source for the other species as well.

Mineralised Material

Mineralised weed species were found in Pit 45 (Period 3.2). It is likely that mineral replacement occurred when these seeds were dumped into a pit full of rubbish, possibly of soiled stable waste. This would provide enough mineral for mineralisation to take place. Due to the species mineralised, such an interpretation is far more likely than that the material originated from cess.

Conclusions

This site provides an opportunity to increase current knowledge of medieval rural economy which is lacking in the eastern region. The archaeobotanical evidence from Botolph Bridge can be compared to the Saxon/medieval sites further up the Nene valley at West Cotton and Higham Ferrers (Campbell 2010; Moffett unpublished). Although the site at Higham Ferrers is earlier in date there is some overlap with the time of occupation at Botolph Bridge. It is evident that the crops grown at all three sites are similar, although a wider range of activities seems to have taken place at West Cotton, including the malting of grain. Evidence for malting (the presence of sprouted grain) at both Higham Ferrers and Botolph Bridge is lacking, with very few sprouted grains of either wheat or barley being found.

The main crop at these sites appears to have been free-threshing wheat with barley, rye and oats being present in lesser quantities. Campbell (2010) suggests that at West Cotton the free-threshing wheats may have been grown as a mixture or a pure crop, or even as a maslin with rye. The barley and oats could have been grown as a mixture known as a dredge, especially if the crop was intended for malting, or as a pure crop. At West Cotton, rye appears to have been grown as a pure crop at least in the early medieval period. How the crops were grown at Botolph Bridge is not clear: they could have been grown either as mixtures or pure crops.

The cultivated legumes at all three sites were found in small quantities in the assemblages. Flax remains were only recorded at West Cotton and Botolph Bridge, suggesting some cultivation. The presence of flax seeds in the waterlogged samples at West Cotton may suggest retting for fibre production. It is not possible to confirm whether this is the case at Botolph Bridge but the presence of flax capsule fragments does suggest that some processing for seeds was carried out here and indeed there was some archaeological evidence for pits associated with ditches which might have provided the necessary retting pits and flowing water.

The weed assemblages at all three sites are again very similar in composition suggesting the use of various soil types and the exploitation of similar habitats, although at both West Cotton and Botolph Bridge damp or wet habitats were exploited which was not the case at Higham

Ferrers. At Botolph Bridge there is also evidence that the nearby fens may have been exploited for the provision of flooring, roofing or fuel.

Comparison of the archaeobotanical evidence from Botolph Bridge with that of an urban flora of similar date is possible with The Still at Peterborough. The dating of the latter site is between AD 1000 and 1600+ which compares favourably with the date range at Botolph Bridge. The plant remains at The Still were largely from pits and consisted mainly of charred remains (Schlee 1998). The dominant cereal was of *Triticum aestivum/compactum* and bread wheat chaff was common. Hulled barley, rye, oats, field bean and peas were also identified (Schlee 1998). These crops are exactly the same as those found at Botolph Bridge and a glance at the weed species shows a similar composition although there is no evidence for the exploitation of fenland environments.

In conclusion, it is clear that the main cereal grown at Botolph Bridge was a small rounded form of bread wheat.

Rivet wheat was also grown, although not in such great quantities. Other cereals included hulled barley, rye and oats along with peas, beans and common vetch. It is likely that the vetch was grown as a fodder crop. These crops were grown on the widespread heavy soils, although there is some evidence that lighter, poorer soils may have been utilised. There is evidence for other habitats being used, especially the fenland, which may have provided material for roofing, bedding and possibly lighting. From studying other archaeobotanical assemblages in the area it can be seen that a similar regime of crops was grown and it is possible that sites such as Botolph Bridge provided food and other commodities for the local urban centres. The agricultural activities at all of the rural sites appear to have been very similar although, despite the suggestion that one building may have served as a brewhouse or bakehouse, there is no evidence for malting being practised at Botolph Bridge as there is at West Cotton.

Chapter 6. General Discussion and Conclusions

by Paul Spoerry, Elizabeth Popescu and Rob Atkins

I. The Prehistoric and Roman Legacy

One of the project's research objectives was to examine the evidence for settlement before nucleation, defining the prehistoric and Roman legacy to the medieval settlement pattern and land use (MSRG 1996; Lewis *et al.* 2001, 21–3). Activity appears to have been initially attracted to the Botolph Bridge area by the river and viable crossing point, subsequently reflected in the location of a Middle Iron Age to Roman settlement. The recovery of a few earlier prehistoric finds from the recent excavations may indicate sparse and intermittent early activity: seven residual sherds of Bronze Age pottery were found during the 1987 excavation while a background scatter of flint tools (including a leaf-shaped arrowhead) came from the 1999/2000 excavations, dating from the Mesolithic to the Bronze Age (Kemp, Chapter 4.I). Evaluation adjacent to the subject site in 1997 found a possible Iron Age burial, ditches and pottery dating from around the 2nd century BC (Fig. 1, PHER 50388; McKenna 2001). The recovery of only a handful of possible Iron Age sherds from the 1987 and 1999/2000 excavations suggests that such activity did not continue to the west.

The settlement pattern and associated road network in the vicinity during the Roman period are illustrated in Fig. 3. Two probable Roman roads ran through Botolph Bridge. One is shown by aerial photographs running north-west to south-east from the town of *Durobrivae* to a large legionary fort at Longthorpe and on through the excavated area at Botolph Bridge along the later course of the medieval hollow way (Route 1; Plate III; Figs 2–4). Just to the south-east of the site, this road linked to another probable Roman road which ran east to west from Peterborough to Oundle, along which many of the tofts associated with the later settlement at Botolph Bridge developed (Fig. 4). The first documentary evidence for this road occurs in the mid 10th century, although the position of Early Saxon settlements and burials (which respect its course) may imply a far earlier origin, probably in the Roman period (see below and Fig. 2).

The PHER records a Roman burial ground to the east of the river crossing at Botolph Bridge with an adjacent villa lying *c.*200m to the north of the former Peterborough road (Figs 2 and 3, PHER 1414 and 50388; McKenna 2001). At site PHER 1414 human remains, animal bones and pottery were found during dredging operations in 1934, suggesting the presence of a settlement with associated burials. The proximity of the villa suggests that both observations may relate to a single settlement associated with the ford (Fig. 1), covering an area of at least 400m in length and up to 300m wide. Such a settlement would have lain between the junction of the two Roman roads with easy river access (Fig. 3). Farmsteads and villas are known to have been particularly numerous around Roman towns, as was evidently the case in this part of the Nene valley (Upex forthcoming): the numerous sites in the vicinity are noted in Chapter 1 and Fig. 3. This part of the country seems to have relatively wealthy, with

notable high status sites in the vicinity, such as a possible palace at Castor. The Botolph Bridge area would no doubt have benefited from trading with nearby *Durobrivae* (*c.*5km to the north-west) and the site became increasingly affluent during the 3rd and 4th centuries. The adjacent evaluation and watching brief at site PHER 50388 (Fig. 1) conducted by the NVRC found the foundation trenches of former walls and evidence that at least one building was provided with a hypocaust (McKenna 2001).

Despite the evident proximity of major Roman buildings, no contemporary features were found at the Botolph Bridge site itself, suggesting that the excavated area lay within the fields of the adjacent villa, although only one ditch of the period was recorded (at the NVRC House Site). Pottery and other finds were perhaps introduced to the site during manuring, particularly in the 3rd and 4th centuries. Such activities may account for the significant amount of Late Roman pottery found in a very abraded condition (774 sherds weighing just 7063g; average sherd weight 9.1g), which was notably dominated by fine wares (Macaulay, Chapter 4.VI). Other finds include brooches and bracelet fragments, a pair of tweezers, a clasp knife handle, a spindle whorl and a horse harness pendant of a type normally associated with the military (see Duncan, Chapter 4.III). The twenty-two Roman coins suggest a possible focus of activity from the second half of the 3rd century to the 4th century (Allen and Popescu, Chapter 4.II).

II. Roman to Saxon Continuity?

There is increasing evidence in Eastern England for the continued settlement of Roman sites into the Anglo-Saxon period, particularly those located next to rivers. In the Nene valley, however, there is as yet relatively little detailed evidence for villa estates and their continuity: while Peterborough and Oundle (near the un-walled Roman settlement at Ashton) appear to have had Roman origins, they do not seem to have been directly linked to villa sites (Upex forthcoming). At Castor, however, there may be a link between an estate (or estates) based on the major villas at Upton and/or Helpston, with a subsequent ecclesiastical estate centred on St Kyneburgha's monastery which was built within the Roman ruins (Dallas 1973; Upex forthcoming).

While it is now clear that the settlement at Botolph Bridge has its origins in the Iron Age to Roman periods, the possibility of continuous occupation into the Anglo-Saxon period remains speculative. There was clearly activity of the Early to Middle Saxon period both in the immediate vicinity of the subject site and the surrounding area. The dedication of Longthorpe's church to St Botolph may suggest an early date for the settlement on the other side of the river crossing since this is often an early dedication, with known links to gates and bridges, and in this instance it is a location with very significant activity during the Roman period. The few Early and

Middle Saxon finds recovered from the recent excavations include a late 5th- to early 6th-century cruciform brooch, a 6th- to 7th-century glass bead and sherds of Early to Middle Saxon pottery, suggesting activity close by prior to the Middle to Late Saxon (Period 1) domestic remains described in Chapter 3.

Following general patterns elsewhere in the country, there are numerous examples in Cambridgeshire and Northamptonshire for the positioning of Early to Middle Saxon burial grounds next to Roman roads; the numerous examples in the area surrounding Botolph Bridge are shown in Fig. 2. Just to the south-east of the excavated area, an Anglo-Saxon cemetery was found near the junction of the putative Roman roads (PHER 50386). Nearby, four other Anglo-Saxon burials/cemeteries were clustered along part of the Peterborough to Oundle Road near Botolph Bridge, two lying *c.*400m to the north-east and the others *c.*1km to the north-east (PHER 1416, 1716, 01656 and 01666/50480; Abbott 1920; Walker 1899). Further to the west, a 5th- to 6th-century cemetery comprising at least twenty-two cremations and two inhumations lay in the north-western quarter of former Longthorpe Fort I (PHER 01382a; Frere and Joseph 1974, 8) and another cemetery lay between the Longthorpe road and the River Nene (PHER 08254). Approximately 3km to the west of Botolph Bridge, a mixed cremation/inhumation cemetery of at least sixty-one burials dating to the 6th century lay to the north of the projected Peterborough to Oundle road (Fig. 2, PHER 50648; McDonald and Last 1999) with another cemetery positioned nearby (PHER 00917). At Castor, a late 6th-century cemetery was aligned on the Roman road at King Street despite the fact that the surface of the Roman road was no longer extant (Fig. 2, PHER 00646; Taylor and Angus 1999, 95–7).

The movement, refounding and/or replacement of many settlements in the Middle Saxon period is a well-documented phenomenon, first outlined in detail by Richard Hodges more than twenty years ago (Hodges 1989). This so-called ‘Middle Saxon shuffle’ cannot, however, be used to explain the small yet significant quantities of Middle Saxon finds and remains at Botolph Bridge as the excavated area and the zone from which metal finds were recovered from the topsoil is unfortunately too small when compared with the settlement and parish as a whole. What can be said is that the area of gravel terraces around the former Roman river crossing clearly continued to exert an attractive effect after the Roman period, with both Early Saxon cemeteries and Middle Saxon occupation present within the general vicinity of the previous Roman settlement and routeway. Detailed field investigation of other parts of this landscape might yield more subtle changes in the position and shape of Early and Middle Saxon settlement.

III. Middle Saxon Settlement Origins

The earliest settlement at the Botolph Bridge site dates to the Middle to Late Saxon period (Period 1). There are, however, issues relating to the dating of this activity, as has been explained in previous chapters. A few features were perhaps of Middle Saxon date, while others probably related to the Middle to Late Saxon transition. Only a few early features contained pottery, which was often a mixture of Roman, Early/Middle Saxon and Late Saxon

sherds; albeit very few of each. Most of the features assigned to Period 1 were dated by virtue of their stratigraphic position and spatial relationships, rather than through their artefactual content. Those features containing the same range of pottery but where Late Saxon sherds predominated were assigned to Period 2.

Interpretation of the initial settlement has been severely hampered by the very partial nature of the evidence, but nonetheless it is evident that various sinuous ditches probably represent the presence of different phases of curvilinear enclosures and trackways, within which a loose grouping of domestic structures was positioned. The most convincing evidence for activity at this early date is provided by Building 1, which can immediately be classified as a post-built Anglo-Saxon hall or house (Hamerow 2002; West 1985), of two-square and door width plan, with opposed entrances between wider set and possibly double postholes on the centre of its long sides. This building form has its origins in indigenous Romano-British structures, and to a lesser extent in Germanic houses (James *et al.* 1984). Previously the more descriptive term ‘wall-post building’ (in this case, of earth-fast posthole foundations) was used by Drury (1982), and this term has found favour again in at least one recent publication (Lucy *et al.* 2009). Such structures can date to any part of the period from the 5th to 9th centuries, but tend to be less common later on (Lucy *et al.* 2009, 107). Here, however, Building 1 included a single sherd of Late Saxon pottery in the fills of its postholes, and more pertinently its existence influenced the position and alignment of new Late Saxon boundaries in Period 2.1, clearly indicating that it was still in use during the early 11th century. Whenever Building 1 was first constructed, it clearly had considerable longevity. This latter consideration may in fact explain the second element to the plan of Building 1 (as shown on Fig. 12). Inside the structure were several additional postholes that might represent internal fittings, although those positioned along the central axis might also constitute secondary roof supports. Normally the roof load is entirely supported on the walls in this class of building, meaning that such posts are not needed. It is possible, therefore, that these represent a revision of the building, perhaps a propping up of old roof timbers, and this would be consistent with the very long lifespan that is suggested for this structure (from Period 1 to Period 2.1).

If Building 1 is of a recognisable type, then the other structural remains are much harder to interpret. They can be divided into three types; further earth-fast posthole structures (Buildings 2 and 5), a probable sill-beam structure (Building 2a) and post-in-trench structures (Buildings 3 and 4). The latter term is the second variant of the ‘wall-post building’ (Drury 1982), but the Botolph Bridge buildings are very partial survivals (Fig. 13). Of the former group very little can be ascertained from the fragments available. The postholes are typically small at around 0.5m in diameter, and closely-spaced, similar to those forming Building 1. The latter group, by virtue of the post-in-slot construction, are more likely to date to the 8th or 9th century, but numerous examples are known from the 6th century onwards. Building 2a was very fragmentary and no real form can be elucidated, but it does appear to have had sill-beam foundations which, although known from earlier contexts, have been identified as ‘primarily a late Saxon technique’ (Rahtz 1976, 85). Our

understanding of this dating has not changed in the intervening decades and, together with Buildings 3 and 4 and the apparent longevity and later dating of Building 1, it seems correct to interpret Period 1 as representing the Middle Saxon period and the transition to Late Saxon (perhaps *c.*700–*c.*900). Building 4 was so partial as to warrant little in the way of discussion except to note that one associated timber impression may have been of a plank rather than a post. The 1980s NVRC excavations, although successful in many ways, did not result in a very clear view in plan of the surface of the trench, and this must in part explain the failure to recognise any other part of this building, although it is entirely possible that its other foundation members were too shallow to have survived later truncation. A similar explanation of the partial survival of Building 3 seems reasonable, although it was a little more complete.

The absence of evidence for sunken-featured buildings (other than the possible example associated with Building 3), the other very common Anglo-Saxon type, would be particularly surprising if the settlement at Botolph Bridge had its origins in the 5th or 6th century, when these structures were most common. Other excavated settlements founded in the Middle Saxon period, such as Brandon or Flixborough, are similarly typified by halls *without* attendant sunken-featured buildings (Carr *et al.* 1988; Loveluck and Atkinson 2007) which adds support to the suggestion of a later date for the Period 1 activity here.

In recent decades study of settlement development in the Middle Saxon periods has included the model of a Middle Saxon ‘shuffle’ (Hodges 1989), which is used to explain why most excavated Early Saxon settlements appear to have been abandoned by the end of the 7th century. Although the alternative of the ‘wandering settlement’ and the very partial nature of most excavations was later used to challenge this model (Hamerow 1993), a mature explanation now exists based on a greater volume of data, that allows for a process of shift and expansion onto heavier soils that ‘began sometime in the eighth century, lasted at least a century, and proceeded at different rates in different regions’ (Hamerow 2002, 122–3). This change took place in the context of other alterations in rural settlement that spanned the 7th and 8th centuries: the appearance of planned settlements, of high status centres and exotic goods, of agricultural reorganisation manifested in enclosure complexes, of the growth of Christianity and the move away from traditional burial grounds. As noted above, in the landscape around Botolph Bridge Early Saxon settlement and burials had significant spatial associations with the existing dense Roman landscape, demonstrating a significant degree of continuity. Dislocation therefore only occurred here in the Middle Saxon period, with the foundation of the Period 1 settlement at Botolph Bridge in perhaps the 8th or 9th century (albeit very close to earlier Roman and probably Early Saxon occupation) representing a phenomenon that was being repeated up and down the country at that time.

The relatively large quantities of stonework found in early ditches in the northern part of the site may reflect the robbing of the former Roman villa 200m to the north-east. Such materials may have been used in the construction of the church at any point from the 10th century onwards.

IV. Late Saxon Settlement

Any of the models of a Middle and/or Late Saxon settlement shift from the 8th century onwards would, at Botolph Bridge, perhaps see nucleation planned or developed around the precursor of the primary manor site, adjacent to the parish church, which with its dedication to St Botolph ought to be an early foundation. These foci appear to represent the core of the new settlement after the initial centuries of more dispersed habitation, and the curvilinear boundaries and loose grouping of buildings already described in Period 1 are not dissimilar to some other minor settlements at this time, such as at Cottenham, Cambs (Mortimer 2000). The Period 1 remains certainly provide evidence for a move to this general location, but it is not until the subsequent phase (Period 2.1), that the settlement was clearly planned.

The Anglo-Saxon Chronicles record that, in *c.*869, the Danes killed King Edmund and conquered all the land: ‘at the same time they came to Peterborough: burned and demolished, killed abbot and monks and all that they found there ... so that what was earlier very rich was as it were nothing’ (Swanton 2002, 71). Botolph Bridge lies only *c.*6km to the south-west of Peterborough and may have been affected by the Danish onslaughts. It is necessary to mention this since, while Period 2.1 undoubtedly reflects Late Saxon settlement, the nature of the pottery assemblage tends to suggest a date in the later 10th or more probably the 11th century for this activity. This suggests a possible hiatus of activity on the site from the later 9th century, for perhaps a century or more, before the settlement was laid out on an entirely new plan and alignment, albeit in the same position as the known Period 1 remains. It is therefore tempting to link the absence of 10th-century remains on the site with documentary evidence, although given the small size of the area actually investigated this is far from certain. Nonetheless, similar shifts of settlement are known in many places at precisely this time, including at Thetford and Brandon (Atkins and Connor 2010; Tester *et al.* forthcoming) which both lay within another area of intense Danish activity.

Many of the parishes fronting onto the River Nene in the Norman Cross hundred, including Botolph Bridge, were linked by the east to west road running from Peterborough to Oundle (Figs 2 and 6). This route, which may have Roman origins, was first documented *c.*948 when it appears to be mentioned in a land grant concerning the adjacent Ortons by King Eadred (Hart 1966, 22–3; see Chapter 2.II). It passed through the settlements of Fletton and Woodston before reaching Botolph Bridge, then on to Orton Longueville, Orton Waterville and Alwalton where it met Ermine Street (Fig. 2). The regularity of these parishes suggests that they may have been deliberately planned (Fig. 6) and their establishment may reflect a local reorganisation when hundreds and parishes were formed: the hundreds are first mentioned in a Peterborough Abbey charter dated 963–984 which refers to ‘the two hundreds which owe suit to Norman cros’ (Wickes 1985, 31). It is therefore clear that such a reorganisation had occurred by the mid-10th century, and it quite probably heralded the break-up of what had previously been a single much larger estate and/or minster parish unit that had encompassed as many as six later parishes, that all lay east of Ermine Street. Those parishes immediately south of the Nene (Alwalton, The Ortons,

Botolph Bridge and Woodston) may have been carved out of a single estate, or may have been part of the unit later to be called Yaxley that survived as a wide block to the south. Further east, Stanground was separated from Farcet at a later date and undoubtedly evolved separately from those units further west; from a simple assessment of the shape and position of boundaries, Fletton may have evolved similarly.

Cyril Hart previously proposed the late 9th century settlement by members of a Danish army centred on a fortified burh at Huntingdon as a reason for administrative and settlement revision at this time: 'these settlers completely dispossessed their English predecessors, and as they no longer paid tribute to the English crown the initial tribal hidation of the territory was obliterated' (Hart 1968, 55). The land was now shared out in units known as ploughlands (one unit representing the amount of arable land capable of cultivation per annum by an eight oxen ploughteam) which were themselves grouped into a new duodecimal pattern forming the basis of a new assessment for taxation. Hart goes on to suggest that, for many Danelaw shires, 'Domesday Book's ploughland figures preserve a record of the taxation imposed by Danish earls soon after the settlement of 877': that this generalisation applies to Huntingdonshire is indicated by the duodecimal character of its Domesday ploughland assessments (Hart 1968, 55–56). The annals for 917–918 suggest that Danish landowners in smaller districts such as Huntingdon were dispossessed and that the whole of their territory temporarily became the personal possession of the English crown. It appears that 'there is every reason to suppose that the hidage of individual estates within these hundreds remained virtually unchanged from 918 onwards' (Hart 1968, 56, 58). The Botolph Bridge estate received a 5-hide assessment at Domesday, as did other parishes in the Norman Cross double hundred.

Although Hart's thesis is intriguing, it should not obscure the fact that the whole of lowland settlement in the east of England experienced shift, change and growth during these centuries, and that mechanisms and explanations are therefore available that do not require a monocausal association with Danish interference. Nonetheless, a late 9th- to 10th-century hiatus of settlement activity at Botolph Bridge might be explained by depopulation through Danish incursions and, furthermore, changes to local estates and the establishment of the key administrative units might also be a result of the impact of the subsequent Danish administration.

By analogy with experiences elsewhere in lowland eastern England new, planned settlements may have been established at this time due to a variety of factors, including changes in land ownership which perhaps brought new ideas to village planning. The intensive and spectacularly successful landscape analysis of the Whittlewood Project that was recently undertaken across twelve parishes on the Northamptonshire and Buckinghamshire borders offers the best assessment on a local scale of the process of settlement change during these centuries. In addition the authors of this report were able to assess and synthesise a great breadth of recent information from other locations (Jones and Page 2006). The Whittlewood model suggests that Middle Saxon nucleation did occur on a small number of sites across the midlands, but the more common experience was village

formation in the period after AD 850. 'This was accompanied by the laying out of open fields, and occurred at the same time as early villages were being radically re-ordered. Below many were pre-village nuclei from which they grew' (Jones and Page 2006, 104). These processes took place across a great number of counties irrespective of the degree of Danish influence and the general trend in the early stages of medieval village evolution is of outward development from pre-village nuclei in the Late Saxon period, whether or not this is linked to the concurrent abandonment of other small early settlements nearby. The fact that in the small excavated portion of Botolph Bridge there is little new Late Saxon development from the later 9th to later 10th, or even early 11th, century must not be taken to mean that the settlement was uninhabited at this time, but it does seem to be the case that any new activity in the parish was centred elsewhere. By the early 11th century, however, the excavated site experienced a major landscape reorganisation that echoes the experience of many other midland parishes in the preceding century and a half, although happening rather later here than in many other places.

In the 11th century Rannulf, who was in the king's service, was assigned the management of seven manors in Huntingdonshire including Botolph Bridge, as well as other land in seven other counties (see Chapter 2.III). Rannulf was clearly successful and became Sheriff of Huntingdon by 1091, and it is possible that at least some of the changes evident at the site in Period 2 relate to his initiatives.

The hollow way that still runs through the site from south-east to north-west and carries the track down to the ford, later St Botolph's 'bridge', may well have had its origins in the Roman period, but it does not appear to have had any marked effect on the internal layout of Period 1 Middle Saxon remains (Fig. 11), although its presence presumably dictated the settlement's precise position. This was all to change in Period 2.1, when part of a planned settlement, perhaps of 11th-century date, was clearly aligned with the hollow way (Route 1) and articulating from it (Fig. 15). A secondary track was laid out running north-eastwards, perpendicular to the hollow way, and a number of rectangular properties were created fronting onto the new track (Route 2a). Although the real frontage zone was not excavated, this does not seem to have resulted in all of the primary occupation being missed as, in Plots 1 and 2 at least, large and significant buildings were positioned centrally within the properties. In addition the prior existence of Building 1 seems to have been acknowledged in the new scheme design, which was not only ordinal with it, but respected its position. The new arrangement was not, therefore, entirely regular. Plot 1 was much larger than the other contemporary properties, and Plots 1 and 2 were linked. Within the frontage of the former, precisely where in Period 1 other buildings had been positioned, a rectangular and clearly important sub-division (Enclosure 1) was created. Although the evidence for the southern terminus of the hollow way frontage of Plot 1 (Ditch 17) is partial, the position of the end of Ditch 15 indicates that there was an entrance way here.

Plots 1 and 2 clearly represented a large and important domestic unit, in the prime position and within part of the earthwork enclosure that has been interpreted as the later manorial complex. It is therefore highly probable that

Plots 1 and 2 represent part of the Saxon proto-manorial complex, and it is not inconceivable that Building 7 and its enclosure were in fact the 'manor' at this time. Although the remains of Building 7 were rather incomplete (Fig. 16), this was clearly a structure of note by virtue of its position and can be reconstructed as the remnants of an imposing hall that must have measured up to 15m long by 8m wide. Within the adjacent part of Plot 1 lay another building (6a) which was also quite large but about which very little can be said with any accuracy owing to the very fragmentary nature of the surviving remains (Fig. 17). It is only as a result of the preserving effect of the survival of a fragment of the later Building 19 in this same location, that evidence for Building 6a (and its replacements Building 6b and c) in fact survived. It may have had two plan units, and thus may have been strictly two adjoining structures. Whether it was a domestic, storage and/or craft production structure is not known, and the fact that no surfaces survived from these medieval periods means that understanding of function is severely hampered.

Plot 2 is believed to have still contained Building 1, a survival from perhaps two centuries previously, and to the rear of this was located another, larger structure (Building 8), positioned close to the plot's southern boundary (Fig. 15). This building is likely to have been large, and presumably therefore significant, but evidence for its groundplan and method of construction was again very limited. Several large features that were variously described during the excavation as pits and large postholes are shown on Fig. 16, within a 'representative groundplan'. Whether any or all of these truly represent the walls and/or support post for this building is not certain, although evidence for three or four posts on its southern wall and south-western corner is fairly convincing. The fact that no further postholes existed to the north and east can perhaps be explained by suggesting that the surviving postholes were in fact repairs/replacements for a building that was first constructed with shallower postholes, or with stone postpads, now lost along with all surfaces, make-up and superstructure. The presence of an important building here in this phase is conclusively proven, however, by the presence of its hearth, which survived as a clear multi-phase sequence built into the soft fills of an earlier ditch, ending with a stone-built phase of which part survived.

The boundaries to Plots 2 and 3 were both spaced c.26m apart (Fig. 15). This distance might represent three rods, although at this time there was little standardisation of such units and terms. It is not clear how many properties beyond Plot 4 were laid out in this way, nor is it certain that any of the plots from Plot 3 onwards were in fact occupied; this may have been a rather speculative or optimistic layout. If Plot 3 or 4 had a primary structure it would almost certainly have lain nearer the frontage in the unexcavated zone, and it is also possible that there was a further primary domestic building so positioned in Plot 2.

Although truncation has undoubtedly resulted in a great loss of evidence relating to the use of all of the properties, the contrast between the busy landscape of Plots 1 and 2 and the empty spaces of the other tenements is quite stark, and belies either different kinds of usage or, perhaps, the differing fortunes of the tenant families when compared with those of the occupants of Plots 1 and 2. The infilling and recutting of boundaries between these plots is

dated by pottery from two fill sequences which suggests that the original boundaries had been allowed to infill and had been recut by the early 12th century, with this process occurring at least once more before the end of this period at around 1200.

The eastern extent of early settlement along the Oundle Road is unknown: excavation by the NVRC within one of the tofts (at the House Site, Fig. 23) provides extremely tentative evidence for the presence of pre-Conquest occupation in this area, in the form of a hearth or oven of possible early date. Unfortunately not only are these remains fragmentary, but the small scale of this intervention when compared with the entirety of settlement in the parish prevents proper contextualisation.

V. The Transition from Late Saxon to Early Medieval

Reorganisation of the settlement appears to have occurred towards the end of the 12th century and may relate directly to changes in land ownership, resonating with the research objectives noted in Chapter 1 in terms of the processes of village planning and nucleation. The Botolph Bridge manor passed to Hugh de Lizures during the reign of Henry II (1154–1189) and Hugh's daughter then married Robert de Gimeges during the reign of Richard I (1189–1199). The construction of Building 9, the new aisled hall and probable manor house, and creation of Enclosure 2, could date to the tenure of either of these lords.

In the post-Conquest period many villages seem to have been deliberately planned or re-planned with peasant houses laid out along a village street on house plots of uniform or near-uniform size (Faith 1997, 225). At Market Deeping near Peterborough, the abbey's monks built 'a large vill, marking out gardens and cultivated fields and building numerous tenements and cottages' (Hilton 1992, 40–52). In other places the Anglo-Saxon settlement was retained with a new Norman one built alongside or nearby: the new settlement at New Brackley (Northants) built by the new landowner, the Earl of Northampton, was placed several hundred metres from the Old Brackley settlement (Atkins *et al.* 1998–9, fig. 2).

As has already been shown, at Botolph Bridge in Period 2.1 a completely new layout was established on the site of former settlement (Fig. 15). This was followed in the later 12th century by a reordering of the area near the church which included the shifting of the subsidiary track (Route 2) leading off the hollow way, into a new position to the north (Route 2b, Fig. 20). Within the NVRC trench, part of this route survived as a metalled and cambered surface of limestone blocks and gravel, of similar character to the Late Saxon road found at Green Street, Northampton (Chapman 1998–9; 36 and plate 3). The reasons for this shift are not clear. It is possible that the full arrangement of house plots and a track frontage suggested for Period 2.1 did not extend northwards beyond Plot 2 at this time (since Ditch 5 possessed no recuts, its history might be shorter than those inter-plot ditches to the south). The number of plots to the north of the excavated area could have been increased in Period 2.2, with a new, closer frontage and metalled track laid out at that time as part of a new grand design. It may also be the case that this episode saw re-organisation of the fields/land to the east, requiring

that the new, more defined frontage and trackway be brought towards the rest of the existing settlement zone.

These changes were accompanied by a re-organisation of Plot 1 after *c.*1150 to accommodate the creation of a new enclosure (Enclosure 2; Fig. 20). This was created to define and manage the space around a newly constructed building that constituted a two-bayed aisled hall (Building 9; Fig. 21), perhaps serving as the manor house. This building is of a size and construction in keeping with examples from elsewhere; such as those at Goltho in Lincs and Caldecote in Herts (Beresford 1987; 2009). Without excavation of the remainder of Botolph Bridge's supposed manorial enclosure, of which this forms the southern part, we cannot know if this structure is indeed the largest and most prestigious here in the later 12th century, but it is reasonable to interpret it as such. A new structure was also constructed a few metres to the south, adjacent to the hollow way. This latter (Building 10) was evidently of timber construction, but it had a stone floor and set within it were stone-lined pits and hearths (Fig. 22). This building is likely to have been the manorial kitchen; detached because of the risk of fire, but close enough to enable efficient supply of the hall itself. Building 7 was still standing at the start of Period 2.1, even if its domestic function was taken by the new hall. This is confirmed by the fact that the ditch for Enclosure 2 skirted between the new structure and the old, running 'cheek by jowl' with Building 7's side wall and south-west corner (Fig. 20).

Also within Plot 1 a zone to the west became subsumed into a large quarry at this time, the gravel and/or cornbrash perhaps being used in surfacing the trackways. The existence of this type of land-use was clearly at odds with the domestic manorial centre immediately to its east, and it is no surprise that there is evidence for fence-lines separating the two.

In Plot 2, there is little evidence for any new structure, although the long, multi-phase hearth sequence within Building 8 implies that it remained in use (Fig. 20). Whether any occupation was actually initiated towards the frontage of Plots 3 and 4 is doubtful: there is meagre evidence for activity in these properties and the ditch fills here contained very little domestic waste, in contrast to those of the ditches around Plots 1 and 2. It seems likely that the plan to see settlement extend here failed, with activity instead developing elsewhere in the parish, specifically along the Oundle Road, as witnessed by the NVRC House Site where excavation sampled one of the plots laid out along the main road. Dating suggests that activity may have started here during Late Saxon times (Period 2.1), but good evidence for domestic structures and associated activity here dates from the 12th century onwards (Period 2.2, Fig. 23).

Whereas the boundaries of the lesser tenements created at the main site seem to have been uniform, those traced along the Peterborough to Oundle road suggest that the toft widths (and lengths) varied in size, although later activity may have masked the original dimensions (Figs 4–5). The earthwork survey demonstrates that the medieval tofts ran for a distance of over 275m along the road with later activity removing earthworks further to the east of this point (Fig. 4). The house plot examined by NVRC measured *c.*28m wide and lay within the sixth plot or toft recorded to the east of the junction with the hollow way (Route 1). It may well be, therefore, that the Oundle Road properties were the product of more speculative and

'organic' settlement growth, when compared with the single event creation and slighting witnessed in the main excavated area to the north-west.

The house plots and buildings found at the main site represent only a portion of the Late Saxon village since the Domesday Book recorded 15 villeins, as well as the church, priest's house and manor. The archaeological excavations sampled part of the manor and one or two other properties, meaning that a dozen or more domestic units remain to be identified. Nonetheless Botolph Bridge was never a large village. The earthworks along the Oundle Road have been shown from the NVRC trench to have had a post-conquest origin, with occupation in at least some areas not really vibrant until the 12th century. These eight or so units might have replaced the unlocated Late Saxon properties, rather than representing expansion.

VI. Medieval Manors and Village

One of the major contributions of the Botolph Bridge project has been to permit consideration of aspects of lordship and the development of one of its manorial estates, in terms of how the changing fortunes of the manorial holders were reflected in physical changes at the site. To understand the site in that context, the attribution of these particular remains to a specific manorial holding must be deemed a sound association.

Excavation of the western half of the earthwork enclosure adjacent to the church (Areas D/E), that is traditionally associated with the primary manorial centre (Botolph Bridge/Lovet's Manor, see Chapter 2.III), has yielded a complex occupation history despite these remains being severely truncated. The scale of the structures revealed and their clear significance, coupled with their spatial position in relation to the church and road to the river crossing, are a solid basis through which to conclude that part of the settlement's main manor has indeed been investigated. Although it seems probable that the unexcavated part of this enclosure also contained significant remains, and probably at times the primary buildings of the estate (see below), that part of the developmental history that has been revealed does offer new and clear insights and appears to confirm the definition of this as the primary manor site for at least part of its history. Having arrived at that conclusion in relation to the association of these remains with a named manorial holding, their use-history can be measured against the documentary record for that estate.

As noted above, the Botolph Bridge manor had passed to Hugh de Lizures during the reign of Henry II (1154–1189) and Hugh's daughter then married Robert de Gimeges during the reign of Richard I (1189–1199). A generation later the manor passed from Robert's daughter Idonea to Baldwin de Drayton, who was a member of one of the wealthiest families in Northamptonshire. The latter change in ownership is that which could perhaps be linked to changes evident at the excavated site, when to the north of the hollow way in Areas D/E the previous domestic house plots were obliterated and a large, possibly new manorial, enclosure was established, signalling a change in the manor's location or extent (Fig. 25). From pottery dating evidence (Chapter 4.VII) it is clear that this occurred by perhaps the mid-13th century, but the broadly sub-circular shape of the earthworks may imply a

12th-century origin since (sub-) circular moated manors tend to date from around the mid 12th century whereas square or rectangular examples date from the 13th century (Le Patourel 1978, 41; Wilson 1985). The substantial enclosure ditches at Botolph Bridge enclosed a heart-shaped area (c. 120m in diameter), the irregularity in shape to the north being dictated by the position of the church. A high resistance anomaly (thereby probably indicative of stone construction) appears to have been located by geophysical survey, 25m to the north-west of the excavation (Martin 2003, fig. 4) and this might be associated with any period of the medieval manor house. With the large structures within the excavated area now being interpreted as associated with the manor house in the 11th to 12th centuries (perhaps Building 7 or Building 8 earlier on and certainly Building 9 in the later 12th century), then these stone foundations would presumably date to a manor house constructed in the 13th century or later. Such a location of the main manorial complex associated with and adjacent to the village church is the classic positioning; the countless known examples of this arrangement include Goltho and Barton Blount (Beresford 1975, 8–10).

A significant part of the Botolph Bridge manorial enclosure has been excavated, demonstrating that new construction and deposition was largely absent from the area north of the hollow way during the 13th to 14th centuries; new features being confined to an extension of the gravel quarrying, and in the north of the excavation area, a sequence of new drainage ditches and associated 'steeping' pits that might signal agricultural or craft processing activities such as flax retting (Fig. 31). It is unclear how long Building 9 might have remained in use; certainly if a new manor house was constructed to the west then this building would have had a functional change, before it was eventually demolished. Very few pottery sherds of this period were recovered from the structure's backfilled postholes, perhaps suggesting that it did not survive long into the 13th century. South of this the probable kitchen (Building 10) was similarly not maintained throughout the medieval period; it was replaced in the later 13th or 14th century with a building of probably similar size, in approximately the same position, of which only one short section of roughly coursed walling survived (Building 15). This building was positioned to respect the newly aligned cut of the southern boundary ditch, alongside a new ditch that provided an internal subdivision of the manorial enclosure. It is tempting to link these new arrangements with the construction of a new stone-built manor house 50m to the north-east (*i.e.* that identified by geophysics).

It has now been demonstrated that it is likely that the focus of manorial construction post-1200 was in the unexcavated part of the enclosure, to the north-west, although activity elsewhere on the site suggests that the settlement as a whole was experiencing change and development, even if little took place in Area D/E. The quarry pits may indicate a short term attempt to extract gravel (the natural sand and clay being left untouched), perhaps to service building works at the manor or the adjacent church. Nineteenth-century stone quarries were dug only a few hundred metres to the north-east of the site, where stone could easily be obtained from seams directly below the topsoil, and it is possible that these seams were being exploited for building materials in the early

medieval period. A soil layer found within parts of the enclosure may result from cultivation/horticulture and would perhaps underline the less intensive level of activity here. Despite its probable manorial status, the familiar range of domestic refuse was deposited at the site during this phase: the only item of relatively high status is a gilded copper alloy casket mount of a type found at other manorial sites and castles. South of the manorial enclosure, the hollow way (Route 1) was at least partially surfaced with stone during the 13th century. Its ditches continued to be re-dug, but only partially and in Period 3.1 (the 13th century) pollarded trees may have been allowed to grow up on their banks. Later on, once the southern boundary ditch had silted up again, it was partially recut on a slightly different alignment a few metres to the north, as part of a wider revision of the use of space in the manorial enclosure. Adjacent to the south-east corner of the enclosure the adjacent field was also demarcated by a boundary ditch on its southern side, but a 3m-wide gap was left allowing access around the side of the manorial site. Clearly there was some new investment at Botolph Bridge at this time, even if it was not occurring within Area D/E.

The sweeping away during the 13th century (Period 3.1) of the former planned manorial properties and possible formalised tenements in Area D/E that fronted the trackway to the north (Route 2), resulted in the removal of the relevant part of this track (representing a 'street' within the settlement), leaving the remainder of this route still running north-eastwards. Reconstruction of the resultant landscape in Fig. 25 provides little evidence or detail regarding the wider landscape of fields and enclosures outside the excavation areas, other than that represented by the earthwork plan. This shows that a portion of Route 2 surviving below ground was the cause of a pronounced 'hump' in the fields to the north of the enclosure in the 1980s when the plan was surveyed (Fig. 4). Presumably the severing of this routeway within the settlement did not effect its value as a track leading north-eastwards outside the settlement, and it can be surmised that access to it was gained by following the edge of the manorial enclosure, which must also have been provided with gateways to its interior. Access into the manorial enclosure was controlled by ditches and probably also banks, although much of the earthwork plan recorded is a product of later upcast and activity. At its southern end (in Area C and D/E) new ditches ran across the former line of this track.

Immediately outside the manorial enclosure, settlement evolution continued with a well and a group of rubbish pits recorded in Area C in Period 3.1 signalling another focus of domestic activity. It seems likely that the domestic building, the presence of which no doubt explains these features, lay immediately to the east of Area C. The fact that there was a gap between the ditches to the south providing access from the hollow way (Route 1), may also indicate that both this property's entrance and/or general access northwards was maintained here. By Period 3.2, however, the roadside ditches were re-dug on a larger scale closing this gap, with the robbed foundations of a small stone-built building (Building 16) nestling in the corner of this enclosure. The partial nature of the excavated areas means it is not clear where access and routeways northwards ran in this period. Area C provides no evidence for the presence of a trackway

leading around the manorial enclosure at this time and in fact it is exactly where Building 16 lay that a new metalled trackway (Route 6) was laid out in the later medieval period. This route presumably ran around the manorial enclosure to link up with the disarticulated end of former Route 2 that still provided access to land northwards, beyond the settlement. The position of the route northwards in Period 3.2 is, however, not known.

Interpretation of the manorial history suggests that, from the late 12th century onwards and specifically during the seventy years or so during which Botolph Bridge was owned by the Gimeges family, activity was punctuated by the repeated splitting up and selling off of parts of the manorial estate. Botolph Bridge was clearly not a wealthy manor during this period and it was only with the transfer of the holding to the Drayton (de Vere) family in 1259 that any potential for investment could be provided.

It was in Area A, to the south of the hollow way, that most of the new 13th- to 14th-century activity was identified. As shown in Figs 25 and 28, a self-contained farm set within its own group of enclosures appears to have been created sometime during the 13th century (Period 3.1), with buildings constructed in stone. This unit appears to have been quite separate from the occupation to the north of the hollow way; its development followed its own trajectory, with enclosures evolving and changing repeatedly. It possessed distinct refuse disposal areas and the primary house was supported by ancillary buildings. The house originated as a single-celled structure (Building 12a) with at least the foundations built in stone and with a central hearth. A fragment of adjacent walling suggests another building constructed in the same manner across a narrow stone-surfaced yard; this might have been, for example, a detached kitchen range. The house was surrounded by a ditched enclosure, with a stone-built bridge linking it to the newly laid out fields, all enclosed by a system of ditches that were regularly maintained, and that were bisected by clearly demarcated trackways suggesting that stockholding was an important agricultural function. One of the other fields may have been an enclosure utilised for craft activities, as witnessed by a group of features including a building (Building 13) that might have been, for example, a brewhouse or bakehouse, associated with steeping pits and refuse disposal. By the late 13th or 14th century (Period 3.2) the fields had been substantially revised and the main domestic enclosure ditch had been allowed to silt up. This did not, however, signal a decline in occupation and instead a new, possibly larger, stone-built range (Building 12b) was added to the farmhouse on its eastern side, domestic refuse was disposed of closer to the buildings and the trackways removed; in short domestic activity continued apace and agriculture changed and evolved.

The building in Area A has been termed a 'farmhouse' since it was clearly the centre of an estate, rather than a peasant tenement, but it was not a large or imposing building. Bearing in mind the documented breaking up of the Botolph Bridge manor during the first half of the 13th century, this unit may in fact represent one of these sub-manors derived from the selling off of pieces of the estate.

Evidence for the layout of the remainder of the medieval village is largely limited to the earthwork survey and the excavated NVRC House Site. This particular plot on the Oundle Road may have seen a temporary change in

function during the 13th century (Period 3.1, Fig. 30), when the plot does not appear to have housed a domestic building. Instead a circular structure was constructed, although the fact that this was associated with a great deal of pitting containing domestic waste suggests that this was a temporary change to one property, or one part of one property, in an area at the Oundle Road frontage, which otherwise continued as the largest concentration of peasant crofts in the settlement. This could perhaps reflect the relative poverty of Botolph Bridge during the 13th century but may have been atypical of the settlement as a whole; a house was again present on the plot by the 14th century (Period 3.2, Fig. 34). With such a small excavated sample of these earthworks, and hence perhaps the settled area, any general extrapolation can easily prove erroneous. It suffices to suggest that, in a period when it is suspected that the main manor itself was comparatively impoverished, much of the related settlement may also have been lacking in investment and activity. As pieces of the estate were disposed of, the potential for variation in fortunes must have increased. It can be imagined that the new owners of such sub-manors could have invested in their new possessions, as was evidently the case in Area A, and thus it should not be assumed that all settlement in the parish waxed and waned in unison.

Of the twenty-five parishes in the Norman Cross hundred, only Botolph Bridge became amalgamated with another parish (Orton Longueville), apparently as a result of economic decline. The process of decline is evident from at least the early 13th century when King John reduced the service due from Botolph Bridge (Page *et al.* 1936, 195–6). In a later Hundred Roll (Edward I), Botolph Bridge is described as a hamlet of Orton Longueville and the two were combined in 1316 (see Chapter 2.II). In contrast to Botolph Bridge, some of the neighbouring parishes were becoming wealthier. Yaxley, for example, directly to the south (Fig. 6), was granted a licence to become a market in 1201. The decrease in value and significance of Botolph Bridge contrasts with a general increase in wealth and population across the country. The population of England increased by between two and three times in size between 1086 and 1200 and has been estimated at between 1.5 and somewhat more than 2 millions by the time of Domesday (Miller and Hatcher 1995, 393–4). It grew to a total of between 4.5 and 6 millions before the dawn of the Black Death in 1348 and, during the intervening period, many new settlements were established (Wickes 1985, 36).

One explanation for the unexpected decline of Botolph Bridge may lie in the fortunes of its manorial holders. As we have seen, the de Gimeges family gradually sold off portions of the Botolph Bridge manorial estate and, by the middle of the 13th century, there were other manors in the parish (see Chapter 2.III). Similar processes of land fragmentation are particularly evident in the east of England, where a lively land market existed based on cash exchange; this was especially true of the 12th and 13th centuries. Such sales were partly to pay off debtors (particularly between *c.* 1180 and *c.* 1220) and to meet the rising fiscal demands made by the crown upon landlords; this caused growing indebtedness among many of the smaller landlords (Bailey 2002, 13–19). Most manorial estates, particularly in the east, were small to medium sized properties (of less than 500 acres) and many villages housed a number of manors generally associated with a

gentry lordship and a largely free peasantry (Bailey 2002, 6–8). While the king possessed many large manors he was a relatively undemanding lord. By contrast the older ecclesiastical institutions which also held large manors maintained a firm grip over a predominantly servile peasantry. Lay lords, especially the gentry, tended to hold smaller manors and made fewer demands on their peasants (Lewis *et al.* 2001, 156–60).

It appears that the de Gimeges family had neither the money nor the inclination to invest significantly in the Botolph Bridge manor. They purchased land at Stragsden, Bedfordshire in 1233 and this became their main holding (Page 1912, 97). They sold the Botolph Bridge manor to Baldwin de Drayton in 1259 and it was granted to Alice, widow of John Drayton, in 1291 (Chapter 2.IV). The Drayton family was far wealthier than the de Gimeges family and Botolph Bridge was one of many estates they owned. The family possessed five of the Huxloe estates from the late 11th century, following land acquisition at the Norman Conquest, as well as estates forfeited by the Bishop of Countances (see Chapter 2.IV and Table 1). Botolph Bridge was the first of the Drayton family estate expansions since these earlier acquisitions and lay some distance from their other estates. By 1330, the Drayton family had acquired two further estates, both in the Huxloe hundred (Cranford St John and Irthlingborough).

VII. Late Medieval Developments

Although there was generally a national downturn in farming during the 14th century as a result of famine and plague which reduced the population in the country to about half the former figure, it would be wrong to imagine devastated, poverty stricken landlords in the aftermath of 1348 or even 1370. It was the competence or otherwise in the management and administration of estates which determined their fortunes (Beckett 1988, 82). Baldwin de Drayton (the original Baldwin's great-great grandson, Fig. 10) may have been responsible for some alterations to Botolph Bridge, specifically within the manorial enclosure, but also in relation to the wider layout and functioning of the village as a whole, perhaps with the intention of recouping on his investment through improved efficiency. The manor had passed to him from his grandfather — Simon — in 1355. Most of the Drayton family holdings were sold off between 1353 and 1362, with Botolph Bridge and Cranford St John being the only estates retained by the family (see Chapter 2.IV and Table 1). Nationally, manorial holders of the 13th century often retained direct management of their estates, but from the 14th century there was a trend towards manorial leasing which increased in the 15th century: rentier farming was perceived to offer a safer and more predictable source of income than direct farming (Bailey 2002, 108–9).

At Botolph Bridge the excavated manorial enclosure (in Area D/E) experienced a major rebuilding campaign; pottery recovered from foundation deposits does not include any 15th-century wares (particularly no Bourne D type pottery that was available by the 1430s and very common locally) and it seems highly likely that this was a late 14th- or early 15th-century initiative. At least three large stone-built structures were constructed (Fig. 35) and, although Building 20 was not aligned with the others, it seems highly likely that they all represent elements in a major new scheme that radically changed use of space in

the eastern part of the manorial enclosure. This settlement, along with the possible manor to the west can be seen in the background of the reconstruction of the site, as it appeared in the late medieval period (Period 4; Fig. 59).

Building 18, at 14m long and 6.35m wide (Fig. 36) and positioned end-on to the hollow way in the southern part of the site, may simply have replaced Building 15, and before that Building 10. Most of the evidence for the function of this sequence of buildings in preceding phases implies agricultural/foodstuff processing; *i.e.* a possible kitchen. Building 18 was constructed above the backfilled and levelled-off former manorial enclosure ditch sequence, with a trackway or other cobbled surfaces leading to the east and south of the building. At its southern end the deeper courses required to establish stone foundations in the soft underlying deposits survived better than those elsewhere on the site. Also at this end of the building was a stone-lined drain: the fact that no other building on the site possessed such a feature may suggest a specialised function relating to water management, rather than simply having served as a drain within a byre. The building's position end-on to a street is similar to an example of a malthouse or barn at Irthlingborough, although its dimensions are far more in keeping with the adjacent building that was interpreted as a kitchen/bakehouse range (Chapman *et al.* 2003, 81).

In the centre of the Botolph Bridge manorial site Building 19, with an identical alignment and form of construction as Building 18 but slightly wider (*c.* 8m, Fig. 37), seems to represent part of the same episode of redevelopment. As with most other buildings on this site, the remains are frustratingly partial, consisting of a long section of east wall foundations, part of a cross-wall, possibly of two phases, and the very basal stones from a small section of make-up in an earlier ditch fill that supported the west wall. In addition in two places the pebbles from a former floor surface were identified and near its northern end lay a small clay hearth base, suggesting that the building was a least 20m long. The presence of a hearth should not be taken to confirm that this was a domestic structure, but that is clearly one of the options for its interpretation (see Section VIII below). The malthouse at the site at Irthlingborough was developed by Baldwin de Drayton's grandfather in the 14th century and this is superficially of a similar long, narrow shape (with dimensions of 28.5m long and 6.2m wide) (Chapman *et al.* 2003, 81).

Building 20 lay on a different alignment to Buildings 18 and 19, but was of a similar build and was probably another part of this major redevelopment scheme. Its remnants consisted of fragments of cobbled floors and cornbrash wall foundations (Fig. 38). Only its northern end survived to any great extent, with a buttress against its northern wall perhaps indicating that a second storey existed here. The building was joined to a wall that ran northwards over the backfilled remains of former drainage/boundary ditches, but probably following their curving line and therefore maintaining a recognised boundary alignment. Formerly, this wall may have run for a further 30m linking with another stone-built construction that was either a footbridge over a silted up drainage ditch, or perhaps just the relieving arch over these soft deposits, for the walls of another building in this northern position (Building 21, Fig. 35). North of Building 20 and delineated by an attached enclosure wall



Figure 59 Reconstruction of the manorial farm during Period 4 (c.1350 to c.1500)

lay the remains of an extensive cobbled surface, perhaps a courtyard, which may have been delimited on its northern side by Building 21. Whether a farmyard, or perhaps something more prestigious, this large enclosed area appears to have been positioned close to both the manor building and the church.

As has been indicated, the identification of a function for each of these buildings is problematical. All possess slight evidence that might be construed as indicative of a domestic role (burnt features suggesting small hearths, a buttress that might imply a second storey, a drain indicating significant investment in construction). In each case, however, this evidence is far from conclusive, and an equally valid counter-argument can be made for them being barns (Building 19 or 20), byres (Building 18, perhaps Building 20) or kitchens (Building 18, perhaps Building 20). They were almost certainly created at one time and, bearing in mind their location within the main manorial enclosure, it is perhaps most appropriate to suggest that they are each likely to have been designed to serve a different function in the context of the manorial estate. They were probably conceived as a group that was complimentary in function and thereby represent a major revision of the agricultural and functional arrangements here.

The manorial enclosure boundary ditch which had again been allowed to silt up was replaced in Period 4 on its eastern side by a stone-built wall (Figs 35 and 39). This was a substantial construction, if only by virtue of the massive foundations needed to ensure the wall's structural integrity, given that it was set within soft, former ditch fills. This wall appears to have been part of a larger initiative to re-define the route leading northwards within the settlement, by the creation of a metalled and well-defined trackway (Route 6) running around the edge of the enclosure. This track was quite narrow, at perhaps 4m wide, and on its eastern edge was also possibly defined by a new stone wall (Wall 2), although the evidence here is confusing, since the substantial stone construction seen in the NVRC trench may have been part of a further building fronting this track (similar to that lying to the east, Building 22) rather than a continuation of the boundary wall. The creation of Route 6 evidently required, or followed, major changes in this enclosure since it cut through the former site of Building 16 (itself perhaps replaced by Building 22). At the hollow way frontage to the south, both enclosures also had their ditches recut at this time, the ditch around the manorial enclosure linking up with the new wall adjacent to Route 6. South of the

hollow way in Area B, a further stone boundary wall was also constructed.

All of these changes seem to indicate that the manorial authorities responsible for redeveloping the main enclosure were also able to demand or deliver changes to the routeways and to the occupation on the enclosure immediately to the east, and perhaps also to the south. Whether this means that occupation of the eastern enclosure in this, and preceding, periods was in fact an extension of the Drayton's estate, is not certain but it is a possibility. It is not clear, however, from the tiny portion investigated whether this domestic site was 'in-hand' or tenanted, or if it represented the tenements of bonded estate peasants.

South of the hollow way (Route 1), in Area A there were also further late medieval developments of the small focus of occupation that has been interpreted as a separate, minor estate (Figs 35 and 40). The original farmhouse from Period 3.1 (Building 12a) had a central hearth, indicating its function as a hall, and it had already been substantially extended by the addition of a further structure on its south-eastern end (Building 12b). At a later date, the farmhouse was again extended, this time to the south-west (Building 12c), over the top of domestic pitting associated with the earlier phases of occupation. Building 12c was of two stories, with a staircase in the south-western corner (Fig. 40). Little evidence of internal fittings or building material was attributable to this phase. The buildings may have been stone floored, with tile (either ceramic or stone) or thatched roofs, although the relative absence of stone tiles and perhaps unexpectedly low level of ceramic tiles tends to suggest the latter.

The changes at Botolph Bridge echo the alterations made by Baldwin de Drayton's grandfather at Irthlingborough, less than 32km away. Here, archaeological investigations have shown that the manor was rebuilt in stone in the early 14th century; the manor and church were partly excavated in 1965 and a substantial part of the related manorial farm in 2001 (Brown 1966 and 1969; Chapman *et al.* 2003). The manor was tentatively identified as lying next to the church although its farm was uncovered 200m to the west and is similar to that found at Botolph Bridge. It was again built in stone upon an area of former fields and quarry pits and consisted of at least three stone buildings, a dovecote, barn/malthouse and a kitchen, all arranged around a close-fitting courtyard with direct access onto a hollow way (Chapman *et al.* 2003). If Baldwin were associated with this property, however, it would contradict the assertions already made, that the remains in Area A at Botolph Bridge are more likely to represent a minor estate sold off during the early 13th century.

It is probable that for first two periods of development of the farm and farmhouse in Area A, there was no specific intention to create a courtyard farm complex. This was clearly a newly founded centre of what was probably a newly separated small estate, and the arrangement of house, surrounded by enclosure set within its own group of fields and other enclosures shows all the hallmarks of it being of one design. It was but a minor shift of the physical arrangements, rather than a change in ownership, tenurial relations or economic base, to re-arrange the ancillary buildings and boundaries to become inward-facing and develop a courtyard complex. Although not entirely absent before the later 14th century, as the manorial farm

ranged around the courtyard seems to have been a development of the early medieval period, such arrangements were repeated in increasing numbers, particularly from the 14th century. Their increasing popularity in this region by the latter part of that century no doubt provided the template for further development here in Period 4. This nationally popular arrangement continued into the late post-medieval period (Hansell and Hansell 2001, 30). It was an efficient and secure system since all the main buildings were concentrated in a small area. At West Cotton (Northants), the 12th- to 13th-century manor house stood on the eastern side of a courtyard, with a long malthouse/barn to the south, a dovecote, malting oven and a detached kitchen/bakehouse on the western side of the yard (Chapman 2010; Windell *et al.* 1990). By the mid-13th century the manor had been rebuilt further to the east, but with separate domestic and agricultural ranges. The farm buildings still included a barn, malthouse and a detached kitchen/bakehouse.

At North Raunds, Burystead (Northants), a manorial farm was established between 1200 and 1350/1400 (Audouy 2009). The complex included a malting oven, dovecote and a square building (perhaps a stable or byre) built as a row of buildings rather than around a courtyard. The change to the more efficient courtyard style farm is evident at North Raunds at Furnells eastern manor where there was a radical transformation of the whole manorial site towards the end of the 14th century, when two main ranges of buildings flanked an extensive central yard (Audouy 2009). A new manor house was built on the former churchyard, over the levelled foundations of the medieval church, with a circular dovecote standing next to the service wing. A free-standing range, used for baking and brewing stood 30m to the north.

At Botolph Bridge, the dovecote appears to have been built directly in the line of sight of the farmhouse. According to writers of husbandry in the post-medieval period, several broad considerations were important when selecting the best site for a dovecote: security, for example, dictated that the dovecote itself and particularly its entrance door should be within sight of the main house (Hansell and Hansell 2001, 9–10). A conspicuous position free from surrounding trees was thought desirable, not only because the dovecote would be clearly visible to the homing birds but also because the sound of wind in the trees, like other loud or unusual noises, was believed to unsettle them. Shelter from the prevailing wind was another factor in siting the dovecote and may imply that, as at Irthlingborough (Chapman *et al.* 2003 fig. 6), the dovecote at Botolph Bridge would have been protected by a boundary wall. A source of water in the vicinity (such as a pond) from which the birds could drink and in which they could bathe was thought essential — pigeons require an abundant water supply, particularly during their annual moult in the autumn.

At 7.8m internal diameter, the Botolph Bridge dovecote was quite large. Contemporary dovecotes are often smaller, as at Irthlingborough where the structure had a 6m internal diameter (Chapman *et al.* 2003, 86). At Raunds a 13th- to 14-century example was c.9m in diameter, but it was replaced by a smaller dovecote with an external diameter of 5.8m, probably during the 15th century (Audouy 2009). The example at Garway in Herefordshire, built in 1326, had an internal diameter of 5.2m and 1.2m thick walls, meaning an external diameter

of 7.6m (Hansell and Hansell 2001, 12). Dovecotes usually have a centre post supporting a rotating ladder, the 'potence', which gave access to the doveholes set into the upper walls. An example was uncovered within the medieval dovecote excavated at Irthlingborough (Chapman *et al.* 2003, 87). At Botolph Bridge, slightly off-centre towards the eastern side of the dovecote was a small rectangular area of limestones set on edge, which may have been the foundations for the potence.

Once the dovecote was constructed and the birds purchased, further costs were negligible since the birds foraged far and wide in the countryside and needed supplementary feeding only when snow was on the ground (Hansell and Hansell 2001, 7). Doves or pigeons would have been used not only as meat but also to provide feathers for pillows and other household furnishings. The dung from dovecotes was considered very valuable agriculturally and more potent than other farmyard varieties 'one load is worth ten loads of other dung' (Hansell and Hansell 2001). Most British manors invested in a dovecote. In the 17th century, a visitor commented that 'no kingdom in the world has so many dovehouses' (Hansell and Hansell 2001, 10). In 1655, Hartlib estimated that there were 26,000 dovecotes in England but this figure has been seen as an over-estimate (Brunskill 1999, 190). Despite their evident presence at the Botolph Bridge farm, the general lack of bird bones at the site may be explained by the fact that most of the dovecote demolition layers were machined off and what remained was sampled rather than fully excavated; dead birds would in any case probably have been removed from the building and any food waste would be anticipated in refuse deposits elsewhere on the site. By contrast at Irthlingborough, 59 bird bones were found concentrated in contexts associated with the dovecote (Deighton 2003, 98).

As well as barns, farmsteads often incorporated minor 'industrial' buildings and various kilns: in barley growing districts, malting kilns are sometimes found (Brunskill 2000, 151). On the western side of the main farmyard in Area A at Botolph Bridge lay a possible bakehouse or brewhouse (Building 13b) which may have been L-shaped in plan (if Buildings 13b and c operated as a single unit). Quernstones were found inside the building, while a sample taken from an internal hearth or oven produced wheat and barley, together with a little rye and free-threshing wheat chaff. Further evidence for grain processing in the vicinity came from the pond adjacent to the building. A similar L-shaped detached bakehouse and kitchen complex dating to the 13th century was found in a backplot at Brackley, Northants. Here, the building contained at least three rooms comprising a bakehouse, a storeroom with a malting oven at one end and an external store (Atkins *et al.* 1998/9). An environmental sample from the oven produced the same seed types as those found at Botolph Bridge — free-threshing wheat grains, rye and barley (Atkins *et al.* 1998/9, 22). At the deserted medieval village at West Cotton in Northamptonshire, four 14th-century malthouses were identified (Chapman 2010).

Every manor would have at least one barn for the temporary storage and conversion of the cereal crop — one or more barns were required on every farmstead (Brunskill 2000, 149). The absence of a building large enough to represent a barn in Area A at Botolph Bridge

suggests that such a building may have lain beyond the limit of excavation.

Although two different estates may have been involved, the rebuilding in stone on each area of the site, and the evidence for wholesale reworking of many common boundaries along the trackways, imply the transformation of the entire village/hamlet into a stone-built settlement in the late medieval period. The local church may also have been rebuilt at this time. When Orton Longueville's church was rebuilt at the end of the 17th century it reused stone from All Saint's Church at Botolph Bridge: examination of the relevant stonework indicates that the latter church may have been altered during the 14th century.

VIII. Understanding Medieval Rural Building Plans

Introduction

Addressing the current lack of plans of rural medieval buildings and farmsteads is a stated regional research objective (Wade 2000, 24). The range of buildings recorded in all parts of the settlement at Botolph Bridge includes timber and stone structures of varying date and function, offering the opportunity to compare and contrast some of them with similar sites: unfortunately, however, many of the buildings were not well preserved, particularly as a result of later robbing and through the effects of the levelling that took place on the site in the last few weeks before the excavations took place. The result of this is that the contribution to this research objective is rather less than it might otherwise have been.

Posthole Structures

The earliest building (Building 1, Period 1, Fig. 12) was relatively complete and as stated previously it conformed to a recognised type, as a post-built Anglo-Saxon hall or house, of two-square and door width, plan, with opposed entrances between wider set, possibly double postholes on the centre of its long sides. Double posts at the doorways were perhaps only seen in one building out of eight at Carlton Colville (Lucy *et al.* 2009), which is typical of excavated sites in the east, although a greater number were recorded at Catholme (Losco-Bradley and Kinsley 2002). At Carlton Colville the typical building of this type had an internal floor area of between 35sq m and 50sq m, and Building 1 exceeds this at 52sq m. Its size compares well with some structures at Chalton, other than the largest examples (Addyman and Leigh 1973) but it is smaller than the 'halls' at special sites such as Brandon (Carr *et al.* 1988). What marks Building 1 out is the presence of additional roof supports that might be explained as secondary roof timber props needed later in the building's long functional life. Possible parallels for this include building 41 at Carlton Colville (Lucy *et al.* 2009). Prior to any revisions of this type, the superstructure of Building 1 might have included tie-beams between upright posts, since all postholes on the western part of the structure seem to have been paired. If this were the case, such an arrangement might be classified as 'primitive timber framing' (Chapelot and Fossier 1985, 252). Similar arrangements were discussed for Carlton Colville (Lucy *et al.* 2009) and can also be seen in building plans from, for example, Chalton (Addyman and Leigh 1973) and Cowdery's Down (Millett 1983).

As illustrated in Fig. 21, Building 9 was an aisled structure and of a type seen on excavated sites known, or deemed, to be of manorial status such as Goltho in Lincolnshire (Beresford 1987), Mellor in Lancashire (Noble and Thompson 2007) and Caldecote in Herts (Beresford 2009). This building form relies on the capacity to use a range of constructional techniques that started emerging in western Europe during the 10th to 11th centuries, but which did not coalesce into true timber framing until the 12th century (Chapelot and Fossier 1985). As discussed by Walker (1999), the evidence from the dating of timbers from standing buildings in England seems to confirm that the earliest aisled halls, being the earliest fully timber-framed structures, date from the second half of the 12th century. This is in accord with findings from the London waterfronts, where true timber framing with pegged, tightly cut mortise-and-tenon joints, emerged around 1180 (Walker 1999, 4). The date-range of *c.* 1150–1200 assigned to Period 2.2 at Botolph Bridge on the basis of its pottery assemblage, is therefore entirely in accord with an understanding based on structural development. The dimensions of Building 9 suggest a longer southern bay of *c.* 6.2m (between centre of postholes), and a shorter northern bay at 5.2m, the frames being *c.* 7.6m wide between uprights. Taking into account the proximity of the ditch of Enclosure 2 (Fig. 20), this would give a two-bayed building of external dimensions *c.* 12 long by 11m wide including aisles. Walker notes that all of the standing buildings of this date and type ‘were associated with rooms extending beyond at least one end’ (Walker 1999, 4), but Building 9 has little evidence for such an arrangement. Two postholes beyond its southern end might conceivably represent such an additional room, but there is little space at its northern end for something similar due to the presence of enclosure ditches and the need to provide access between Plots 1 and 2.

At Caldecote the evidence for two 13th-century manor houses, a kitchen and other buildings included pairs of massive postholes and in the later structures clear evidence for the wall lines, thereby providing full wall to wall dimensions (Beresford 2009). At Goltho a long tradition of single aisled halls deriving from a continental model was described, with two structures and one rebuild characterising the proto-manorial site of the 10th to 11th centuries, with the sequence of buildings running through into the 12th century, when two successive single-aisled halls sat within the bailey of the earth and timber castle (Beresford 1987). Building 9 at Botolph Bridge therefore clearly sits within a tradition of aisled timber buildings that existed in the east of England from the Late Saxon period onwards. It had two aisles and has been tentatively reconstructed with the wall plates lying around 2m from the centre point of each posthole. As the site at Botolph Bridge was for the most part heavily truncated, there is no direct evidence to suggest how the walls of any of the posthole-plan structures were constructed, however, information from other sites of the period would imply that the alternatives included wooden stave-built walls or, perhaps in this location not far from abundant limestone resources, possibly dwarf walls of stone with wattle and daub above.

Many of the other early posthole structures at Botolph Bridge were too incomplete for their form to warrant discussion. Building 7 (Fig. 16) provides an example of a structure for which the (partial) foundation plan indicates

a bayed form. Since the ground plan of Building 7 has been reconstructed from very limited evidence, the fact that its construction date is earlier than the later 12th century, when full timber framing is believed to have been introduced in England, should not result in reappraisal of established dating. Instead it is necessary to note that a structure including widely-spaced uprights appears to have been present here prior to 1150, perhaps being constructed in the 11th century. Associated features suggest that it was not an aisled building, and if so then the surviving uprights mark the wall-lines. These foundations might signify the use of some new fabrication techniques, but not the full suite required for true timber framing, as discussed by Chapelot and Fossier (1985, 252). Interrupted sill-beams of around 3m length and earthfast upright posts joined in pairs with tie-beams might explain the partial remains observed. Whatever its form there was clearly a substantial structure here at this time, and from its position and size Building 7 may well have been the primary dwelling on the site during Period 2.1.

A circular timber structure found at the NVRC House Site (Building 14, Period 3.1, Fig. 30) has proved difficult to interpret. Although stone-built roundhouses persist into the medieval period in some upland parts of the west of Britain, lowland examples are entirely unknown. These remains may therefore be representative of a stock enclosure or corral, rather than a habitation. The only common circular buildings of this period are stone-built circular dovecotes, which are known in this region from the 13th century onwards and at Botolph Bridge in Period 4 (15th century).

Two fairly complete plans of rectangular medieval domestic buildings with earthfast post foundations were recorded in the NVRC House Site (Buildings 11 and 17, in Periods 2.2 and 3.2 respectively). Building 11, dating to the later 12th century, was constructed using many small, probably rounded, upright earthfast posts, with the irregular alignment of these features implying that the walls might have been built using wattle panels. This technique was used in the 11th to 12th century at, for example, Winetavern Street, Dublin (O’Riordain 1971, 82) but in this case there is no evidence for the sill beam also used, which would have lain much higher in the soil profile. The remains of Building 17, although superficially similar to those from Dublin, do in fact seem to represent more regular alignments of postholes, rather like the much earlier Saxon hall (Building 1). Building 17 was of earthfast post construction and, like Building 1, its walls may have been constructed from split logs, wooden planks, wattle and daub, cob/clay lump or more than one of these in combination. The earlier structure (Building 11) had a groundplan of 11.75m x 5.75m, giving an internal surface area of around 59sq m. Building 17 was 11.4m x 4.9m, with an internal surface area of around 48sq m. As has already been indicated, this is very comparable with the commonest size of the Anglo-Saxon halls (or houses). It is almost identical to the dimensions of domestic buildings of the 11th to 12th century excavated at Swavesey in Cambridgeshire which were constructed with very similar foundations of many small earthfast timber posts (personal observation).

Post-in-Slot and Beamslot Structures

Buildings 3 and 4 (Period 1.1, Fig. 13) were fragmentary, but evidently of post-in-trench construction. In many

places it has been suggested that such buildings appear to pre-date *c.* 1100, for instance at Chalton, Hampshire some houses appear with this foundation type in the 7th century (Addyman and Leigh 1973). There were, however, evidently regional and/or rural/urban variations: in Norwich, for example, this constructional type (known to have been in use before the Conquest) may have continued in use until the early 13th century (Atkin and Evans 2002, 240). Elsewhere in this region foundations of this type are known at West Cotton, Northants, where the seven excavated timber buildings constructed between the mid 10th century and earlier 12th century were all constructed using this method, whereas later buildings were posthole or post-pit built structures (Chapman 2010). The foundations of Building 3 at Botolph Bridge do, however, clearly show small diameter upright posts within a trench but in a staggered array, which is probably indicative of construction using wattle walling. Other than the fragments that constitute the phases of Building 6 in Periods 2.1–2.2, no further examples of post-in-trench and/or evidence from sill beams was identified at Botolph Bridge. It is possible, however, that during Phases 2.1 to 2.2 buildings were indeed constructed in Area D/E using foundations of this type, but their shallow nature has meant that they have not survived subsequent truncation. Building 8 may be the best indicator of this problem; the well-dated hearth clearly reflects the presence of an important building here, but the possible postholes at only one end are not entirely satisfactory as partial foundations. They may in fact represent repairs to a building that was otherwise founded on small, shallow posts set in shallow trenches, all of which were lost to truncation.

Buildings with Stone Foundations

There is good evidence from the 13th century (Period 3.1) onwards at Botolph Bridge for the presence of buildings with stone-built foundations, if not stone-built dwarf walls or walls: these were all constructed from fragments of the local limestone, usually roughly faced for external surfaces, but within the foundations and wall cores often just composed of rubble fragments. The clearest sequence of such buildings was found in the southern part of the site (Area A), which appears to have been an individual holding of some substance that continued to develop from the 13th to the late 14th centuries (Period 3.1, through Periods 3.2 and 4). North of the hollow way truncation means that evidence is again rather patchy. It includes the vestigial remains of a Saxo-Norman stone building in Area C (Period 3.2, Building 16, Fig. 26), and later a fragment of a substantial late medieval building (Building 22, Fig. 39) slightly to the north in Period 4.

On the northern side of the hollow way in Area D/E was a sequence of three successive buildings of similar size, shape and position spanning Period 3.2 to Period 4 (sequentially, Buildings 10, 15 and 18). The evidence for the walls of these buildings consisted of a variety of postholes, a fragment of a roughly-coursed stone foundation, and later less roughly-set fragments of walling, some with facing surviving. Within the space delimited by these walls were several cut features, including a stone-lined fire-pit, an oven of partial stone construction and fragments of a variety of stone surfaces made from river cobbles and limestone fragments. As a result of the presence of larger assemblages of earlier pottery, the internal stone-built features have largely been

associated with the posthole foundations that are interpreted as representing the first building here (Building 10, Fig. 22). This interpretation must remain a suggestion only; in fact it may be that Building 10 should include the single surviving fragment of stone foundation that represents Building 15 (Fig. 32) and some of the postholes may post-date others and be associated with the stone buildings. The true detail of this building sequence will never be known, but it is clear that both timber components and stone-built elements were present here in the Saxo-Norman period (Period 2.2), and following that a building persisted here for several centuries. Eventually Building 18, with wholly stone-built foundations and possibly timber framing above dwarf walls or at roof level above fully stone-built walls, was constructed as a replacement in the later 14th or 15th century (Period 4, Fig. 36). Elsewhere north of the hollow way, the only evidence for the putative manor house itself after the medieval period (Period 3) comes from the geophysical survey, which indicates an H-shaped ground plan 40m to the north-west, but little more can be said on the basis of such limited evidence.

The sequence of stone buildings found in Area A starts with what appears to have been a simple single-celled hall with central hearth in the 13th century (Building 12a, Period 3.1, Fig. 28) with external dimensions of 13m x 8.6m. This was subsequently added to, with a probably larger extension to the south-east in the 14th century (Building 12b, Period 3.2, Fig. 33), and a third, narrower, structure (Building 12c, Fig. 40) but certainly with an upper storey, added on to the north-western corner in the late medieval period (Period 4). During the earlier phases, another building or range lay to the north-east, perhaps a kitchen or service building, and a timber building (perhaps a brew/bakehouse) was probably present across a yard to the west. This was replaced by a stone building in Period 4, by which time a large circular stone dovecote had also been constructed. Thus by Period 4 (post-1350) the remains of 'the farm' buildings within Area A appear to have consisted of a very complete representation of this independent holding, with multi-roomed hall, ?brew/bakehouse and dovecote arranged around an enclosed courtyard. As discussed above, this grouping is virtually identical in plan to those found at Irthlingborough and the Raunds Furnells eastern or western manor, which are again in the classic fashion of the later medieval farm and farmyard, with dedicated buildings for housing, storage, processing and other specialised functions. At Botolph Bridge, Building 12a had a central hearth, indicating this was a hall of some quality, and it had already been substantially extended. Open halls were originally associated with open hearths: in higher status buildings these would normally have been in the centre of the room rather than at one side as in vernacular buildings (Brunskill 2000, 119 fig. a and b). Building 12a might have had a gallery and upstairs chambers, or these may have been positioned in the adjacent wing to the south.

At Raunds Furnells the western manor was reconstructed in stone after 1200 and, although it formed a larger complex, it is surprising to note that the main hall was entirely comparable in size to Building 12a at Botolph Bridge, with external dimensions of 11m x 9m (Audouy and Chapman 2009, fig. 5.36), the building only seeming larger owing to the presence of its full plan, with service rooms to the north-west and several additional wings and

ranges. Although the interpretation of the first phase of the farm at Botolph Bridge is of a simple single-celled unit, its eventual evolution starts to attain a size and complexity similar to that of either the western or eastern manor at Raunds Furnells (Audouy and Chapman 2009, figs 5.36 and 5.41). The Furnells manorial buildings were all of limestone construction very similar to that at Botolph Bridge. There are clear parallels between the evolution of structural techniques evident in the wider village at Botolph Bridge, and developments at the Raunds sites. At Furnells West, Late Saxon timber buildings with beamslot and posthole foundations were replaced by an aisled timber hall of 12th-century date, which was itself replaced by a (lime)stone-built manor a century later.

Building Materials

The building materials, fixtures and fittings recovered from the site give an indication of the character of the various phases of buildings. The most common types of relevant metalwork within the assemblage are fastenings and fittings including door furniture, locking mechanisms, staples and nails. The door furniture and fittings include studs, hinge pivots, padlocks and keys. Only a small assemblage of medieval tiles and bricks was recovered, along with seven stone roof tiles: the character of local post-medieval buildings is suggested by the surviving Botolph Arms public house, a timber-framed and jettied building of 17th-century origin with a stone tiled roof. This building may, in fact, have become the local farm centre once the excavated buildings were abandoned.

The evidence from the excavated buildings points to use of roundwood (wattle and daub) and un-squared timber in the earlier periods, with some stone-built elements to buildings by possibly the later 12th century (Period 2.2, Building 10), and certainly by the 13th century when in Area A stone foundations definitely appear. Locally available limestone was used for rubble foundations and wall cores, whilst roughly-faced blocks of similar material (possibly very local, or perhaps moved downstream from Barnack) were used on the walls of buildings above ground level. The presence of both stone and ceramic roof tiles in contexts from the 13th century (Period 3.1) onwards suggests that at least some buildings utilised these more expensive commodities, whereas for earlier structures and for lesser buildings in later periods reed thatch was probably the roofing material most often used.

IX. Daily Life, Environment and Economy

One of the project's stated research objectives was to investigate the environment and economy of Peterborough and its hinterland. A recent study of the medieval fenland notes that Peterborough is one of several urban centres upstream of true fen deposits that can still be considered a 'Fenland Town' (Spoerry 2007, 85). It formed a major medieval port and population centre — it was well-connected to riverine and marine routes to the east, with close links to major road networks to the west (Spoerry 2007, fig. 5.4). Peterborough's markets were easily accessible by both road and river, with outward links to other settlements and road networks. The city lies c.3km from Botolph Bridge and was probably its main market, although a local market is known to have existed

at nearby Yaxley, around 6km to the south, from the early 13th century.

At the time of Domesday Book the parish of Botolph Bridge had access to 60 acres of meadow and 12 acres of woodland pasture, although the latter appears to have been distant pannage located north of the River Nene in Northamptonshire. This domination of arable, with additional wood pasture was common for Huntingdonshire parishes at Domesday (Thorn and Thorn 2001). The parish's economy was evidently based predominantly on arable farming, as is the case with the county as a whole, and villages may have been producing crops for urban markets. At the excavated site, there is evidence for enclosures that might represent fields during Period 1, but the re-organisation witnessed in Period 2 changed this landscape to one of domestic properties, albeit including large open spaces that may still have been cultivated. Plant macrofossils recovered from the Late Saxon and Saxo-Norman deposits as a whole include both woodland and grassland species, while crop remains include various types of wheat (especially bread wheat), as well as lesser quantities of barley, rye and oats, along with field bean, lentil and pea. Similar cereals were also the main crops at nearby West Cotton and Higham Ferrers implying a similar agricultural regime in surrounding villages — at least in east Northamptonshire and parts of Huntingdonshire (Campbell 2010; Moffett 2007). In an urban context, plant remains found at The Still, Peterborough were similarly dominated by wheat along with barley, rye, oats, field bean and peas (Schlee 1998, 109–112).

Pastoral farming was also important to the village economy, the diet being supplemented by hunting, wildfowling and fishing. The possible droveways found by the excavations may have taken livestock towards the river and marsh. The small quantity of excavated animal bones attributed to Period 3 came largely from the northern part of the site, in the vicinity of remnant buildings. The assemblage is dominated by cattle, with lesser proportions of sheep/goat, pig and horse. The sheep/goat mandibles show a wide range of ages, unlike later periods which were predominantly adult or elderly beasts. Late Saxon and Saxo-Norman deposits (Period 2) also yielded a range of other small mammals (including polecat/ferret), reptiles and amphibians typical of the site's rural setting. Of note amongst the bird assemblage are buzzard, marsh harrier and sparrowhawk or other raptor: these are typical species of fen and marsh environments. Fish remains are dominated by herring and eel, while the few oyster and mussel shells hint at the consumption of shellfish that was to increase in subsequent phases.

Local pottery production is evident during the Early to Middle Saxon period (some being residual material) and again from the 12th century onwards. In the intervening period, Stamford seems to have supplied the need for cheap, utilitarian vessels, a high proportion of which appear to have been used for cooking. Regional imports include St Neots type ware. The products of the Stamford industry were probably transported to Botolph Bridge in the 11th and 12th centuries, via the Great North road, with perhaps a short downstream journey on the River Nene.

Few pieces of metalwork were recovered from the early phases and there were no Late Saxon or Saxo-Norman coins. There is virtually nothing to indicate the presence of craft at the site at this time, although four lead

spindle whorls of Late Saxon to medieval date indicate spinning, presumably utilising locally produced wool.

The layout of medieval settlements indicates their economy and related production: 'the nucleated village and its extensive field system provides evidence for the primacy of grain growing over pastoral activities, while the greens and the centre of some villages and the crofts behind houses tell us something about the management of stock. Some settlements had access to large areas of open pasture in uplands and marshes, often reached by a wide driveway' (Lewis *et al.* 2001, 7). Botolph Bridge was clearly a planned and at least partially nucleated village in the earliest periods, although the Oundle Road frontage indicates the growth of a second centre from perhaps the 12th century onwards. Later on there was splitting into multiple holdings, and there is evidence for one of these independent units in Area A. Here during the 13th to 14th centuries, land in the excavated area was either placed under cultivation, or used to manage stock, through the laying out of small fields and trackways (Period 3.1), later overlain substantially by a single enclosure (Period 3.2). Some of these features may have been bounded by hedges. At least some of the cattle bones recovered came from animals utilised for traction. Plant remains from this part of the site may indicate that the field boundary ditches supported wetland plants, either reflecting the local poorly drained clays or indicating that wetland resources were exploited. Again, grassy habitats and woodland scrub evidently lay nearby. The crop remains show a general continuation in the use of earlier species found at the site, a similar situation to those found at nearby rural sites such as West Cotton and Higham Ferrers and at urban sites such as The Still, Peterborough (Campbell 2010; Moffett 2007; Schlee 1998). The owners of this farm chose to lay out their own fields and enclosures in the 13th century, implying that at least here arable farming was not the only or major source of income. These changes may not have been echoed within the main manor's lands at this same time.

Thirteenth-century documents indicate that open-field farming had become the universal practice in Huntingdonshire by this date (Wickes 1985, 37). The demesne arable often lay in contiguous, consolidated and enclosed parcels in central areas of East Anglia, where enclosures were not uncommonly interspersed with open fields (Bailey 2002, 4). At Botolph Bridge, the earthwork survey recorded strip farming (in the form of ridge and furrow), between the manor site and the tofts stretched out along the Oundle to Peterborough Road, apparently accessed by a 'back lane' and trackways (Fig. 4). Further west, on the other side of the major hollow way, the earthwork survey recorded larger fields, interspersed with tracks.

The clearest indication of trade and exchange at this period comes from the ceramic assemblage, although there is nothing to indicate the manorial status of part of the excavated site. The key type of pottery in the period c.1150–c.1350 is a group of variable Shelly ware fabrics, classified in the past where found in Northamptonshire as Lyveden/Stanian type and more recently grouped, described and defined as Shelly Ware 1 at The Still, Peterborough (Spoerry 1998). While recent thin section analysis supports the suggestion that these types include Rockingham Forest products from Lyveden and around, it indicates that they also probably include pottery made

locally in the Soke of Peterborough and south Lincolnshire. By this period, the earlier dominance of Stamford products had entirely ceased, although the Lincolnshire component in the Botolph Bridge glazed ware assemblage was maintained through Bourne products. In addition the presence of Lincoln fabrics and material from Toynton show a wider contribution from the county. Other fabrics, mostly small quantities of glazed pottery, derived from Buckinghamshire, Essex and Norfolk. Pottery made in the Bourne area had to be transported across two watersheds (relating to the Rivers Glen and Welland) if it were to be moved overland to Botolph Bridge and the possible means by which this was achieved are noted by Spoerry in Chapter 4.VII.

Despite its known manorial status, common types of refuse were deposited within the manorial enclosure during this phase: the only item of relatively high status is a gilded copper alloy casket mount of a type found at other manorial sites and castles. There was no evidence for craft activity within the 13th-century enclosure and only very small quantities of metalworking waste were recovered. The few other finds include a barrel padlock of the type used as a limb restraint (for both animals and humans) and a door key of 13th- to 14th-century origin.

Small assemblages of animal bone were recovered from Period 3, although they include partial skeletons of cattle, sheep/goat, pig, horse and dog. Remains of several medium-sized dogs were also found, including one animal that was approximately 45cm high at the shoulder and another that was much larger (Baxter, Chapter 5.I). This mastiff-type dog was almost certainly a guard dog. The range of small mammals and amphibians is similar to those of the preceding phase, supplemented by rabbit. This, together with the presence of other wild species such as red deer, fox and various birds, may reflect the hunting known to have taken place.

Edible molluscs were evidently becoming an increasing component of the economy. This mirrors findings at other sites, such as West Fen Road, Ely where a peak of mollusc consumption occurred during the 12th and 14th centuries perhaps reflecting changes in diet associated with improved access to marine resources (Mortimer *et al.* 2005). A high proportion of the relatively small fish bone assemblage recovered from the Botolph Bridge site came from contexts assigned to Period 3, including eel, herring, cyprinid, pike and perch, typical of rural sites in the region. Such fish may derive from the fishery recorded in 1276 at Botolph Bridge (Page *et al.* 1974, 197); in 1278 an inquisition recorded that the fishing was worth 2s a year (CIPM 29 Jan, 6 Edward I).

Despite the major redevelopment of buildings within the manorial enclosure during the late medieval to early post-medieval periods, relatively few finds were recovered from deposits assigned to Periods 4 or 5. The general lack of pits, postholes and ditches associated with this phase means that relatively little rubbish was recovered. The stone floors of the buildings themselves appear to have been swept clean, with domestic remains being largely disposed of elsewhere. As in the preceding phase, there were no items indicating a raised level of status. A dagger quillon and chape, both dating to the 13th to 14th centuries were found unstratified. The few other items of metalwork are standard items and include horseshoes, knives, brooches, a copper-alloy chain and pins. An arrowhead of bodkin form is of a type introduced

in response to advances in armour, although similar examples have been found from a wide range of sites which are not always military (Jessop 1997, 3). A single coin of Alexander III of Scotland was probably lost in the 14th century, while the pattern of coin loss during the 15th to mid 16th century may suggest an increase in commercial activity at this time.

A small group of items recovered from the site may relate to religious activity of the 14th century, although some can simply be attributed more generally to the medieval period. They consist of an *ampulla*, a possible pax or pilgrim souvenir, two other possible pilgrim souvenirs and a clapper bell. These were found unstratified across the different excavation areas (including the NVRC House Site). A fragment of painted glass attributable to the 14th century and a fragment of 15th-century glazed floor tile may derive from a church or chapel.

Of the limited assemblage of metalworking waste recovered from deposits assigned to Period 4, most came from features associated with the farmhouse in Area A. The evidence is insufficient to suggest that metalworking was conducted within a particular building, although it was perhaps a minor activity at the site at this time.

The publication of excavations at The Still, Peterborough included maps of those centres and routeways deemed important in the supply of pottery to the town over the period from *c.* 1000 to *c.* 1600 (Spoerry and Hinman 1998, figs 17–19) and can be taken as an indication of the trade routes and industries relating to Botolph Bridge. Amongst the pottery assemblage from the late medieval farm, the dominance of Bourne D ware in the 15th century is clear and it may have prevented some other industries from achieving a foothold in ceramic supply at Botolph Bridge. There are, however, vessels from Grimston and Lincoln. The contribution from the Lyveden industry declined from its earlier medieval high and Cambridgeshire products are notable by their absence (Spoerry, Chapter 4.VII). The assemblage is comparable to others recorded in the vicinity and offers few surprises, reflecting a domestic assemblage from an agricultural community. After the mid 14th century there is a notable drop in the number of jars, mirroring national trends whereby growing wealth in a lower population triggered greater affordability and usage of metal for cooking vessels, and a corresponding switch towards more varied ceramic vessel types (Dyer 1982). The occupants of the late medieval farm at Botolph Bridge appear to have utilised more pottery vessels for the carrying and dispensing of water and ale than their counterparts of the previous three or four centuries, whilst at the same time they used fewer ceramic 'cookpots'.

The faunal assemblage from Period 4 is extremely small, comprising low numbers of the standard range of domesticates, small mammals and frogs as in the preceding phases, although with the notable addition of great crested newt from one of the ponds. Again, the cattle and sheep/goat bones show signs of both primary and secondary butchery. A partial sheep skeleton was found in the drain associated with Building 18, while horse bones were also found in deposits associated with this building. Other horse bones of this phase came from the area close to the farmhouse, including the radius of a neonatal foal. The dog remains suggest the continued presence of mastiffs at the site, still presumably for use as guard dogs.

A 'free warren' was obtained by Simon Drayton at Botolph Bridge in 1327: such 'free warren' was a legal franchise granted by the crown which bestowed upon the holder the monopolistic right to kill small game within a defined local territory (Page *et al.* 1974, 197). There were, however, no remains of wild mammals found in this phase at the excavated site. Bird remains are scarce, although the diet was evidently supplemented by the doves/pigeons kept in the dovecote. Fish were supplemented by shellfish (oyster and mussel) and analysis of the excavated remains has permitted consideration of contemporary resources and provision from both marine and freshwater sources (Chapter 5.II and III).

The few quernstones recovered were concentrated in Buildings 13b (a possible brew/bakehouse) and Building 18 (a possible kitchen). All were sooted and heat-affected, perhaps suggesting secondary use as hearth stones. The single sample examined from deposits attributed to this phase came from a ditch in the eastern part of the main site (Area C). This yielded wheat grains (both bread wheat and macaroni/rivet wheat), hulled barley, rye and oats, accompanied by a small range of weed seeds of types normally associated with crop cultivation. Other habitats represented are woodland/scrub, wetland and grassland. A small group of six whetstones and three rubbing stones was recovered. These proved to have a wide variety of geological origins, including a pebble probably from glacial deposits in this region, and the remainder in shale, sandstones, granite and schists from a variety of locations in northern and western Britain.

As might be anticipated from the character of the settlement, pollen samples taken from Period 4 fills of the pond adjacent to the farmhouse in the southern part of the site (Pond 3) suggest a relatively treeless area, with limited evidence for the presence of pine, oak and hazel in the vicinity. The pond had evidently been contaminated by human or pig sewage, on the basis of the parasite ovum present.

Amongst the finds assemblage from the abandonment phase (Period 5), the finds recovered from the pit cut into the former farmhouse in Area A include a group of five knives perhaps suggesting kitchen clearance, the earliest of which dates to the mid 16th century or later. The few dress items recovered from the pit may all have been residual, since they are of forms which originated in the 13th or 14th centuries, continuing in use into the post-medieval period (they consist of a dress pin, buckle and strap end). Relatively few later post-medieval finds were recovered. The clay pipes comprise a single bowl and six stems (not closely dated, but not pre-18th century) and their scarcity, together with other finds common on 17th century and later sites (such as lace tags) may indicate the abandonment of the farm in the late 16th or early 17th century, confirming the documentary evidence.

Despite the abandonment of the farm, the infills of pits and ditches provide some indication that domestic activity continued nearby. Although small in scale, the largest quantity of animal bone came from this phase, with a notable increase in the proportion of sheep/goat to cattle and a relative increase in the number of pigs. The increase in sheep/goat may be indicative of a shift towards an economy based on wool production. Many other manors were abandoning direct cultivation at this time, shifting to sheep farming and reducing labour services and thereby making the farming conditions cheaper and less labour

intensive (Beckett 1988, 82). Documentary evidence of the second half of the 17th century indicates the presence of both pastoral and arable farming nearby, with substantial grazing areas (for cattle and horses, with geese being kept in grazing area) which were occasionally illegally used. A relatively high number of horse bones was found.

A recent overview has compared and contrasted the material culture of urban and rural sites during the medieval period (Egan 2007). While agricultural tools would have been required in aspects of urban living, they might be expected to be more common in rural contexts: no tools relating to agriculture or horticulture were found at Botolph Bridge, although a single net weight of possible 15th-century date was recovered. Two crotal bells would have been used either on horse harness or livestock. Horse equipment is equally common on urban and rural sites, as is the case at Botolph Bridge where horseshoes and horseshoe nails and a few other items such as spur fittings were found, along with a gilded horse harness pendant. In general, however, decorative fittings relating to horses were notably absent from the utilitarian assemblage.

One of the few crafts attested at the Botolph Bridge site relates to textile processing and working. It has been suggested that decorated lead spindle whorls are more likely to occur in rural assemblages (Egan 2007, 201), although the four examples recovered from Botolph Bridge are plain. Two thimbles attest to sewing at the site, with thrifty repair being suggested by the insertion of one inside the other when the first had worn through.

Rural lighting may have been largely addressed through the use of rush lights, since lamps and candleholders are relatively rare on rural sites (Egan 2007, 203): a single candleholder of simple medieval form was found at Botolph Bridge. Other than pottery, household equipment is sparse from the site, consisting of a possible casket mount, upholstery tacks and possible metal vessel rims. Fifteen knives of medieval to post-medieval date were recovered and may have been used in a range of food preparation or craft activity. Only one is of particular note, its handle being decorated with figures (possibly saints) and other motifs. Although examples with makers' marks are known from other rural sites, none were found at Botolph Bridge. At Goltho, knife blades found across the site had been made using different methods, some with makers' marks, and may have come from various workshops in the nearest town, with the local smithy perhaps dealing with repairs and shoeing of horses rather than the production of implements (Egan 2007, 203). By comparison, amongst the group of 118 knives and blade fragments from mid 15th- to early 16th-century fills of a well at Norwich Castle, 12 had maker's marks or other symbols, some of them duplicates and some with parallels in London (Shepherd Popescu 2009, 691–4): this late medieval practice of marking products links to systems of quality maintenance, perhaps inspired by guilds, and may have been largely an urban phenomenon (Egan 2007, 203).

Dress and personal adornment are represented in the medieval and post-medieval periods at Botolph Bridge by a brooch, dress fasteners, buckles and associated strap mounts. These are generally unremarkable, with nothing to indicate particular status. Many of the items have parallels in urban centres such as London, Norwich and

Winchester, although this is partly a result of the quantity and origin of published material available for comparison.

Most of the finds recovered from the Botolph Bridge site appear to have been of local manufacture, or were regional imports. There is very little evidence for trade in continental items, the limited objects including German stonewares and possibly some of the lava querns (probably from the Rhineland). Building materials were local, or brought a short distance down the River Nene from quarries a few miles away. Pottery was brought mostly from kiln sites in Northamptonshire and South Lincolnshire, or from unknown and more local sites. Overall, this is entirely in keeping with ceramic procurement and use as known from other sites in the Soke of Peterborough in the medieval period (*e.g.* Sperry 1998).

X. Decline and Abandonment

Nationally there was a period of agricultural depression between *c.*1380 and *c.*1530 and particularly between the 1440s and 1480s. While it remained possible for enterprising farmers to make a living from agriculture, in general rent levels fell, tenants were hard to find and profit margins in agriculture dwindled (Bailey 2002, 108–9). By the middle of the 15th century, the diversity of the Drayton family holdings is demonstrated by the fact that it had six manorial holdings in four counties (Gloucestershire, Huntingdonshire, Northamptonshire and Oxfordshire; see Table 1) and was leasing out at least some of its estates. The South Newington (Oxfordshire) estate, for example, was leased out by Ann Drayton, wife of John Drayton, to Richard Hall for life (Lobel and Crossley eds 1969, 147–8).

From the late 15th century, under the Lovet family, Botolph Bridge declined rapidly in size. The excavated evidence confirms that both the courtyard farm buildings and those within the eastern part of the main manorial enclosure had probably all fallen from use by the end of the 16th century, evidently before the decline of the main manor itself. Documentary evidence suggests that the manor may have been abandoned around 1600, since a late 17th-century source refers to the ancient house as having been converted into a woad (?wood) (Chapter 1.IV), although use of the church itself seems to have limped on into the 17th century. The main hollow way leading to the church and the ford across the River Nene had disappeared by the time of the 1808 map (Fig. 8).

Building stone and other materials appear to have been extensively robbed from the site, with robber trenches removing many of the former walls. The few fragments of pottery found within these trenches and associated demolition layers point to a 15th- or 16th-century date for this robbing, while the absence of clay pipes also tends to suggest there was little activity here from the 17th century or later. The courtyard farm buildings in Area A may have been the last structures to have been abandoned, perhaps during the 16th century. To the north of the hollow way the almost total absence of datable finds from after the 15th century might indicate earlier abandonment. In Area A, once the farmhouse building had been robbed, it was cut into by a quarry pit which contained a primary domestic deposit of mid/late 16th- to early 17th-century finds, some of which may have derived from the remnants of the buildings (see above). The 17th-century court rolls

indicate that ditches within the parish were scoured, suggesting continued maintenance (Chapter 2.V). At the Botolph Bridge site, a ditch aligned east to west in Area C equates with one shown on the 1808 Earl of Aboyne's Estate map (Fig. 8) which shows the site as part of a large field. When this field was constructed is uncertain, although it may have followed the abandonment of the manor.

At the abandonment of the manorial farmhouse, administration of the farmland may have been centred elsewhere. This seems to have occurred to some extent at other sites: after 1500 the engrossment of manorial units became an increasingly common practice and the functional independence and integrity of individual manors declined, with a shift towards the centralisation and exploitation of landed estates, run by a professional administration (Bailey 2002, 17 and 111).

Documentary evidence demonstrates that Botolph Bridge survived as a named village/hamlet into the 17th century, although the evidence from the excavations suggests that occupation was all elsewhere by this time. The church and manor continued in use into the 17th century, although it is likely that the size of the settlement was greatly reduced. Jeffrey's Map of 1766 shows that the village was all but abandoned with the former roadways gone and the Peterborough to Oundle Road rerouted away to the south (Fig. 7). At the Bataille manor at Irthlingborough a similar abandonment of the manor farm, manor and church occurred (Chapman *et al.* 2003). The manorial farm was sold in 1353 to John Pyel, citizen and mercer of London who also owned many other landholdings in Northamptonshire (Page 1930). Excavations confirmed that the farm had been abandoned

by the end of the 14th century and by 1428 the manorial church had just eight parishioners: both the manor and church were abandoned to 'utter ruination' by the 17th century (Chapman *et al.* 2003).

XI. Conclusions

In conclusion, the archaeological work at Botolph Bridge has permitted a detailed examination of the varying fortunes of this previously little known rural settlement and has to some extent defined its regional character and culture through examination of settlement forms, building techniques and to a lesser extent its farming methods. This has been supplemented by examination of local vernacular architecture, in its landscape context. The data permit wider examination of aspects such as medieval settlement diversity, patterns of settlement and land use, including periods of transition such as that from medieval to post-medieval traditions.

It has been noted that 'the physical layout of the settlement can give us insights into social relationships — between the peasant houses and the superior residence of the lord of the manor' (Lewis *et al.* 2001, 7). At Botolph Bridge, the opportunity to make comparisons and contrasts between the manorial enclosure, adjacent farm or sub-manor and one of the village houses was hampered by factors including levels of preservation. Despite these limitations, it has proved possible to provide links between the archaeological and documentary evidence, allowing the alterations to the site to be attributed to wider patterns of rural settlement and to named individuals.

Appendix 1. Characterisation of Anglo-Saxon and Medieval Pottery

by Alan Vince

I. Introduction

A selection of Anglo-Saxon and medieval pottery sherds from the excavation were submitted for characterisation using thin section and chemical analysis (see Table App.1.2). The pottery was chosen to represent certain of the common wares used at the site but is not a representative selection of the entire collection (Stamford wares and Lyveden/Stanton glazed wares, for example, were not submitted). The Botolph Bridge site lies on Oxford Clay with an outcrop of Kellaways Sand occurring nearby. The River Nene lies to the north with three terraces on the valley sides and alluvium in the valley bottom. Boulder clay does not outcrop close to the site (or at least not in large enough expanses to warrant mapping).

Thin sections were produced of each sample by Steve Caldwell, University of Manchester. The sections were stained using Dickson's method (Dickson 1965) which distinguishes between ferroan calcite (stained blue) and non-ferroan calcite (stained pink) and between calcites and dolomite (unstained). The sections were given catalogue numbers within the Alan Vince Archaeological Consultancy (AVAC) reference collection.

Chemical analysis was carried out on each sample using a subsample prepared by Peter Hill. A fragment of the sample was broken off and the surfaces and edges of each sample were mechanically removed. The remaining core was then crushed to a fine powder and submitted to Royal Holloway College, London, where Inductively-Coupled Plasma Spectroscopic (ICPS) analysis was carried out under the supervision of Dr J.N. Walsh. The ICPS analysis determined the frequency of a group of major elements, measured as percent oxides (Table App.1.3) and a group of minor elements, measured as parts per million (Table App.1.4). In addition to the measured elements, the frequency of silica was estimated by subtracting the total measured oxide count from 100%. The data were then normalised to aluminium to minimise the dilution effect brought about by the variable quartz sand and shell fractions present.

II. Middle Saxon Wares

Five samples of Early to Middle Saxon wares were submitted. All five have different inclusion suites, with two including abundant acid igneous rock fragments and one containing basic igneous rock inclusions, but their chemical composition shows that the granite-tempered sherds are closer in composition to the other Botolph Bridge Anglo-Saxon samples than to Early to Middle Saxon granite-tempered wares from the Midlands and northern England, for example. The chemical analysis therefore suggests that these five samples were produced in the Peterborough area and that tempering material which might have been obtained outside the locality was deliberately added.

Petrological Descriptions

V3327

The following inclusion types were noted in thin section:

- Angular quartz and coarse-grained sandstone. Sparse angular grains of quartz up to 1.0mm across in which one or more straight faces are present. These indicate that the grains are overgrown. No sign of an original grain boundary is present. Similar grains occur in the Carboniferous Millstone Grit. One fragment of coarse-grained sandstone was present, but this had a dark brown amorphous cement rather than the light coloured kaolinitic cement which is often found in Millstone Grit.
- Fine-grained sandstone. Angular fragments of sandstone up to 1.5mm across. The sandstone consists of well-sorted interlocking grains of monocristalline unstrained quartz *c.*0.2mm across. The grain boundaries are marked by sparse brown inclusions/cement.
- Angular quartz. Abundant well-sorted subangular quartz grains *c.*0.2mm across. These are probably derived from the fine-grained sandstone.
- Well-rounded quartz. Sparse well-rounded grains *c.*0.2mm to 0.5mm across. Some of these have a high sphericity and are probably 'millet seed' grains of Permo-Triassic origin.
- Chert. Sparse well-rounded grains of similar size and outline to the rounded quartz.

The groundmass consists of optically anisotropic baked clay minerals with sparse angular quartz and muscovite less than 0.1mm across. There are thin brown laminae which are darker in crossed polars than plane polarised light and these are presumably phosphatic. It is not possible to determine whether they were present as thin laminae in the parent clay or are post-burial infilling of open laminae.

V3348

The following inclusion types were noted in thin section:

- Rounded quartz. Sparse well-rounded grains similar to those in V3327 but including one *c.*2.0mm across.
- Angular quartz. Moderate fragments similar to those in V3327 but without the clear separation into two size classes.
- Dark brown clay/iron/clay relicts. Sparse large rounded fragments up to 2.0mm across with sparse silt-sized quartz inclusions. Some of these have a similar colour and texture to the groundmass.
- Fine-grained sandstone. Sparse angular fragments as in V3327.

The groundmass is similar to that of V3327 but in this section some of the laminae are open, some have a brown-stained phosphate filling and others have a vivianite filling thus making it evident that these are post-burial concretions.

V3349

The following inclusion types were noted in thin section:

- Angular quartz. Abundant well-sorted grains *c.*0.2mm across similar to those in V3327.

- Mudstone/clay relicts. Moderate rounded fragments with clear bedding planes, composed mostly of optically anisotropic clay minerals with rare quartz less than 0.1mm across.
- Rounded quartz. Sparse well-rounded grains similar to those in V3327.
- Rounded voids. Sparse rounded voids up to 1.0mm across.
- Flint. A single rounded brown-stained grain (could be Carboniferous chert but has a single spherical microfossil and is of finer texture than most Carboniferous chert).
- Acid igneous rock. A single rounded grain composed of altered feldspar and quartz. 0.3mm across.

The groundmass is similar to that in V3327. Some laminae are present, of which some are open and some filled with a light brown stained phosphatic deposit.

V3350

The following inclusion types were noted in thin section:

- Acid igneous rock fragments. Moderate angular fragments up to 1.5mm across of a rock composed of zoned feldspars (varying in inclusions and alteration), microcline feldspar and quartz.
- Rounded voids. One void, 0.8mm across, probable cross-section of a shell.
- Mudstone/clay relicts. Sparse pellets as in V3349.
- Fine-grained sandstone. Sparse fragments composed of well-sorted angular quartz grains c.0.2mm across and sparse muscovite up to 0.3mm long with a dark brown clay/iron cement.
- Muscovite. Sparse laths up to 0.3mm long.
- Angular quartz. Sparse well-sorted grains c.0.2mm across.

V3351

The following inclusion types were noted in thin section:

- Fine-grained sandstone. Moderate angular fragments as in V3327.
- Angular quartz. Abundant well-sorted fragments as in V3327.
- Acid igneous rock fragments. Sparse angular fragments as in V3350.
- Flint. A single angular fragment of light brown flint 1.5mm across.
- Basic igneous rock. Moderate angular fragments consisting of phenocrysts of a mineral with a light green colour in plane polarised light in a groundmass of feldspar laths and euhedral magnetite.
- Organics. Elongated voids surrounded by a darkened halo.

The groundmass is similar to that of V3327.

Discussion of Petrology

The five sections all have a similar groundmass and in three cases fragments of the probable parent clay survive as clay relicts. These indicate the use of bedded mudstone with a small quartz silt component.

The inclusions in each case are a mixture of sand-sized grains which include what is probably Mountsorrel granodiorite, from the Charnwood Forest (V3350 and V3351). This rock outcrops about 75km to the west-north-west of Botolph Bridge and is found in glacial till deposits in eastern England, indicating that ice travelled across the Peterborough area and could therefore have deposited material encountered en route. Material within these sections includes not only Mountsorrel granodiorite but also possibly Millstone Grit from the Pennines, and Permo-Triassic sand (rounded quartz and chert). The origin of the fine-grained sandstone is

unknown, nor is it certain that the micaceous rock found in V3350 is from the same source as that found in the other samples. The youngest strata represented in the inclusion suite is the chalk, represented by one angular fragment and one rounded fragment. Chalk does not outcrop in the Mountsorrel area today, nor is it present in glacial deposits in that area. However, isolated flint pebbles occur in the glacial deposits of the fen edge, originating either in Yorkshire and travelling south down what later became the Trent valley or originating in the Lincolnshire Wolds. However, if the flint was from that area one might also expect polished lower Cretaceous quartz grains.

No rocks of definite Jurassic origin are present in these sections, although sandstones with similar characteristics to the fine-grained sandstone found in these sections does occur in the Middle Jurassic. The lack of limestone might be due to the pots having been decalcified after burial (since one of the samples contains voids which were probably occupied by a limestone). Furthermore, the parent clay itself may have been decalcified.

Most of the inclusions found in these sections could therefore have been present in glacial till deposited in the lower Nene valley and originating mainly to the north-north-west. However, the fragments of basic igneous rock noted in V3351 are unusual and although volcanic rocks do occur in the pre-Cambrian strata of north-east Lincolnshire (Hains and Horton 1969), they have not previously been noted in thin sections of 'granitic' Anglo-Saxon pottery from central England (Williams and Vince 1997). The fragments all appear to have a similar petrology whereas one might expect a wider range of lithologies if they were glacially transported. Another possibility is that the fragments were deliberately crushed, either coming from a single erratic or perhaps a quernstone or other artefact. However, the size range and shape of the inclusions is similar to that of the other inclusions in the sample whereas crushed rock temper tends to be both more angular and to have a coarser texture (some of these basic rock fragments in V3351 are less than 0.2mm across).

Chemical Analysis

(Fig. App.1.1)

The five samples all have a similar chemical composition. Figure App.1.1 shows a plot of the two main factors found in a factor analysis of the Botolph Bridge samples together with data from analyses of 'granitic' Anglo-Saxon vessels from central and northern England. The five Botolph Bridge samples plot in the same part of the graph as the late Botolph Bridge samples rather than with the other Anglo-Saxon samples.

The sample with abundant acid igneous rock contains the highest aluminium content (probably as a result of the high feldspar content) and this probably explains why the sample also has the lowest iron, copper, nickel, scandium, zirconium, cobalt, lead and rare earth element values, all of which in these samples are likely to be present in the clay fraction. The only other element which is higher in this sample than the remaining four is sodium, also probably present in the feldspars. The sample with the basic igneous rock inclusions has higher magnesium, calcium, titanium, manganese, strontium and zirconium values than the remainder.

The chemical composition of these samples is therefore consistent with all having been made from

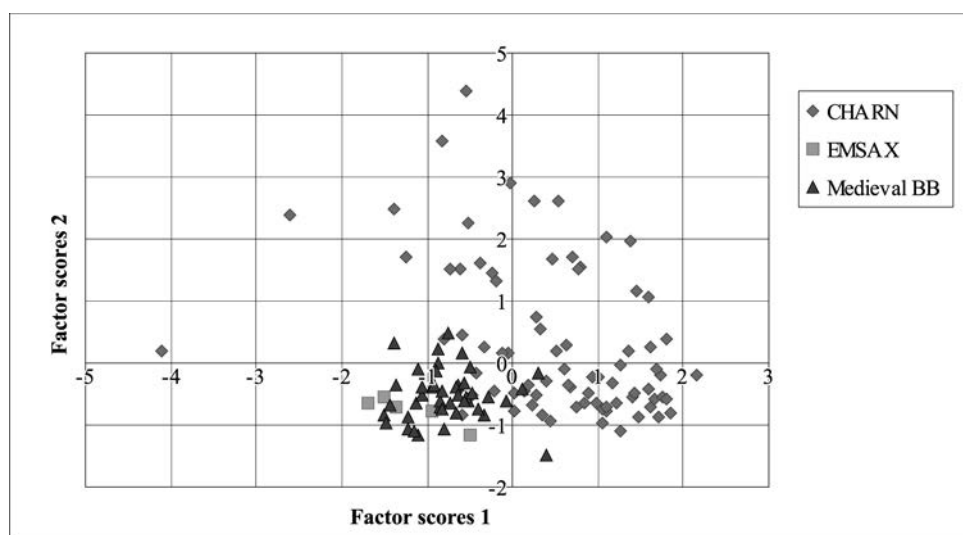


Figure App.1.1 Factor 1 and 2 scores for Botolph Bridge (BB) pottery, showing Early Saxon versus medieval fabrics when compared with those from Charnwood Forest (CHARN)

similar raw materials. Differences between the samples can in two cases be explained as being due to the chemical composition of the inclusions and the normalisation of the data to aluminium.

III. Shell-tempered Wares

A total of 21 samples of shell-tempered wares were submitted for analysis. These were classified by Spoerry into his St Neots type (NEOT), Shelly ware (SHW), Shelly ware 2 (SHW2) and Shelly Lyveden/Stanion ware (SHW-LV) groups. On examination by the current author at x20 magnification and in thin section, they were placed into three broad groups: St Neots type ware; Developed St Neots type ware and Other Shelly wares.

Petrological Descriptions

St Neots type ware

The following inclusion types were noted in thin section:

- Bivalve shell. Abundant fragments of varying structure, including shells with nacreous structure and those with two or more bands parallel to the surface (some varying in composition, with a thick non-ferroan layer and thinner ferroan calcite layers). The fragments range up to 0.5mm long.
- Echinoid shell. Rounded fragments up to 0.5mm across, mainly of ferroan calcite but including some non-ferroan calcite with dark brown infilling of pores. Several of these are surrounded by amorphous ferroan calcite cement.
- Punctate brachiopod shell. Sparse to moderate rounded fragments up to 0.5mm long, mainly of non-ferroan calcite with ferroan calcite infilling of pores.
- Echinoid spines. Sparse fragments, mostly not complete cross-sections, up to 0.3mm across, composed of ferroan calcite.
- Ammonite shell. Rare fragments of non-ferroan calcite shell up to 0.5mm across were identified as ammonite because of their oval cross section.
- Ferroan calcite. Sparse to moderate rounded fragments of ferroan calcite up to 0.5mm across, mostly without clear crystal structure. Such fragments are more common than shell in the fraction of inclusions less than 0.3mm across.
- Wood. Sparse rounded fragments up to 0.5mm across.

- Subangular quartz. Sparse subangular fragments of monocrystalline quartz up to 0.3mm across.
- Fine-grained sandstone. Rare rounded fragments of fine-grained sandstone up to 0.3mm across, composed of interlocking quartz grains up to 0.2mm across.
- Rounded quartz. Rare well-rounded fragments up to 0.3mm across.

The groundmass consists of optically anisotropic baked clay minerals with abundant, mostly rounded, dark brown to opaque inclusions, less than 0.1mm across. Quartz and muscovite silt are absent, as is calcareous material.

Developed St Neots type ware

The three thin sections of Developed St Neots type ware vessels contain the same range of inclusions as the St Neots type ware, with the exception that no wood was noted. However, the inclusions are consistently coarser, ranging in many cases up to 1.0mm across and in rare cases up to 2.0mm across. Some of the ferroan calcite fragments enclose fossil fragments (mainly but not exclusively punctate brachiopod shell) and a complete cross section of a possible ammonite is present, with ferroan calcite filling the body cavity.

Other Shell-tempered ware

Thirteen thin sections fell into this group, most of which have the same characteristics in thin section:

- Bivalve shell. Moderate to abundant fragments, mostly of nacreous structure, up to 1.5mm long. Several of these shell fragments have ferroan calcite adhering to them, in some cases filling areas where the shell laminae fan out (as on modern oyster shell).
- Ferroan calcite. Moderate fragments up to 1.5mm across, often with some bivalve shell inclusions.
- Marl fragments. Sparse fragments up to 1.5mm across containing a mixture of clay minerals and ferroan calcite crystals.
- Mudstone/clay relicts. Sparse fragments of bedded mudstone up to 1.5mm across, often varying in colour from the groundmass (both lighter brown and darker brown) but having a similar texture.
- Angular quartz. Sparse angular quartz, varying from c.0.1mm to 0.3mm across.
- Rounded quartz. Sparse rounded quartz mainly c.0.3mm across.

- Fine-grained sandstone. A single sample contained rare rounded fragments of fine-grained sandstone *c.*0.3mm across.
- Flint. A single fragment of flint was noted, 0.5mm across.

The groundmass consists of optically anisotropic baked clay minerals, sparse to moderate dark brown/opaque grains and abundant silt-sized ferroan calcite inclusions. Two sections (V3359, V3363) have the same range of inclusions but in addition contain abundant euhedral voids *c.*0.3 to 1.0mm across. One section (V3361) contains a similar range of inclusions to the handmade shell-tempered ware but with the addition of moderate rounded quartz, some of which is well-rounded and has a dark brown cement adhering to embayments and in thin veins. This same section has moderate angular quartz of coarse silt grade in the groundmass.

Discussion of Petrology

There is a clear difference between the calcareous inclusions found in St Neots type ware and Developed St Neots type ware on the one hand, and the other shell-tempered wares on the other. Both groups were clearly derived from limestones, fragments of which can be seen in thin section. However, there is a much wider range of fossil types present in the first group than the second, which is almost completely composed of large oyster-like shells in a marly calcareous groundmass. The presence of marl fragments within the second group, and the presence of ferroan calcite in the groundmass, suggests that both the clay and shell fragments may have originated in the same deposit, a mudstone with shell and limestone bands. Unlike the first group, there is no evidence of rounding of the calcareous inclusions and this is consistent with the suggested origin.

It is likely that the fabric subgroups noted in the other shelly ware group are not due to the presence of vessels from different sources but to variations in the character of the parent clay within a single exposure.

Until detailed comparison can be made between these different groups of shell-tempered ware and samples of wasters or clay from known sources it is impossible to pinpoint the source of the raw materials. However, the second group (other shell-tempered wares) is similar in thin section to shell-tempered wares from central Lincolnshire where the source of clay and shell appears to be the Great Oolite formation of the Middle Jurassic. Locally, the Blisworth Limestone or possibly a shelly facies of the Blisworth Clay is a possible source. Shelly limestones are not a feature of the Upper Jurassic strata of the Peterborough area, however. Most of the remaining inclusions in these samples are probably accidental (or in one case, V3361, perhaps deliberate) tempering with local cover sand. With the exception of V3361 the range of inclusions present in the same is too limited to allow a source to be determined. V3361, however, is probably tempered with a sand derived from the western side of the Lincolnshire Wolds. Such material is found in fluvio-glacial deposits on the dip slope of the Jurassic limestone escarpment in Lincolnshire and on islands of boulder clay and sands within the fens. However, it is probably not present further to the west and this may therefore provide a western limit to the potential source of these samples.

The St Neots type ware and Developed St Neots ware fabric is similar to that used at Olney Hyde and Harrold in

Bedfordshire, where exposures of Oxford Clay with naturally present shell sand were utilised. A single thin section of a waster from Harrold Middle School has an identical fabric to the Botolph Bridge Developed St Neots ware. Given the size of the fossil fragments, however, it is impossible to identify the species present and similar fauna occur in the Lower Jurassic and the Middle Jurassic. It is possible, therefore, that these two wares were produced from clays and shell-sands deposited in different conditions but in the same area. Brachiopods are mentioned in the BGS regional geology as a characteristic of the Blisworth Limestone, especially the *sharpi* bed which occurs at the base of the formation (Hains and Horton 1969, 86).

Some of the samples were identified by Spoerry as being Lyveden/Stanion products. The Lyveden DMV lies in a valley cutting through glacial till with Oxford Clay (mapped in this area with the Kellaways Clay and Kellaways Sand) exposed on the upper sides, separated by the Cornbrash from the Blisworth Clay whilst Blisworth Limestone (in which oolitic facies are sometimes present) occurs nearby, further down the valley. The shell inclusions in Lyveden shelly ware might therefore be weathered Cornbrash or a shelly facies of the Blisworth Limestone. Alternatively, thin beds of marl with shell are recorded in the Blisworth Clay (Hains and Horton 1969, 86-7) and shell occurs in the Oxford Clay. Some of the recorded species from these strata have nacreous shell, as in the main Other Shelly ware fabric, whilst others include brachiopods (*e.g.* the Cornbrash). Stanion is situated in a geologically similar area although Upper Jurassic strata (Oxford Clay, Kellaways Sand and Clay) are more restricted in their outcrop.

Chemical Analysis

(Figs App.1.2–5)

The petrological analysis revealed five fabrics, which can be placed into three fabric groups. These partially correspond to the visual ware groups (Table App.1.1).

The estimated silica content for the samples shows a similar range for each fabric group, except for Fabric C, which is higher. This is consistent with the presence of visible quartz silt/fine sand and rounded quartz sand in thin section (Fig. App.1.2).

Because there are variations in the quantity of shell remaining in the sections as a result of leaching and possibly alteration during firing (in the case of the wheelthrown shelly wares), calcium and strontium were omitted from the factor analyses which were carried out on this data. However, the ratio of calcium to strontium appears to vary significantly between groups (Fig. App.1.3). A plot of the normalised calcium and strontium values shows that the strontium values are higher, relative to calcium, in Fabric E, the St Neots type ware. The reason for this is unknown, but it probably indicates a different source for this fabric and the remainder, all of which have similar calcium to strontium ratios.

Factor analysis of the dataset (excluding calcium and strontium) revealed three significant factors. A plot of the first two factors (Fig. App.1.4) shows that Fabrics C, B and E can be distinguished from Fabrics A and D by their F2 scores. Several elements contribute to Factor 2 weightings with no particularly strong positive or negative contributions. Neither Factors 1 nor 3 separate any of the five fabric groups.

<i>Petro-Fabric</i>	<i>Distinguishing Characteristics</i>	<i>St Neots type</i>	<i>Developed St Neots type</i>	<i>Other Shell-tempered</i>
A	Bivalve shell and ferroan calcite matrix, mudstone			V3326–42, V3362, V3364–5
B	As (A) with euhedral voids			V3359, V3363
C	As (A) with rounded quartz sand and subangular quartz silt			V3361
D	Fine echinoid shell and spines, brachiopod shell	V3324, V3343–6		
E	Coarse echinoid shell and spines, brachiopod shell		V3335–6, V3358	

Table App.1.1. Visual identification versus petrological analysis for the main fabric groups

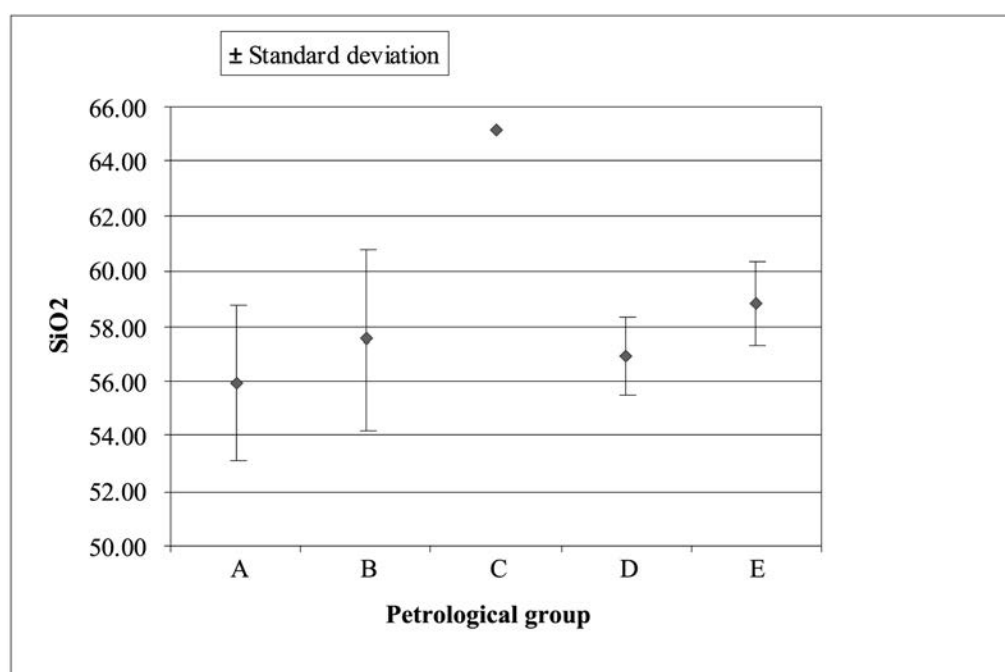


Figure App.1.2 Estimated silica content by fabric group

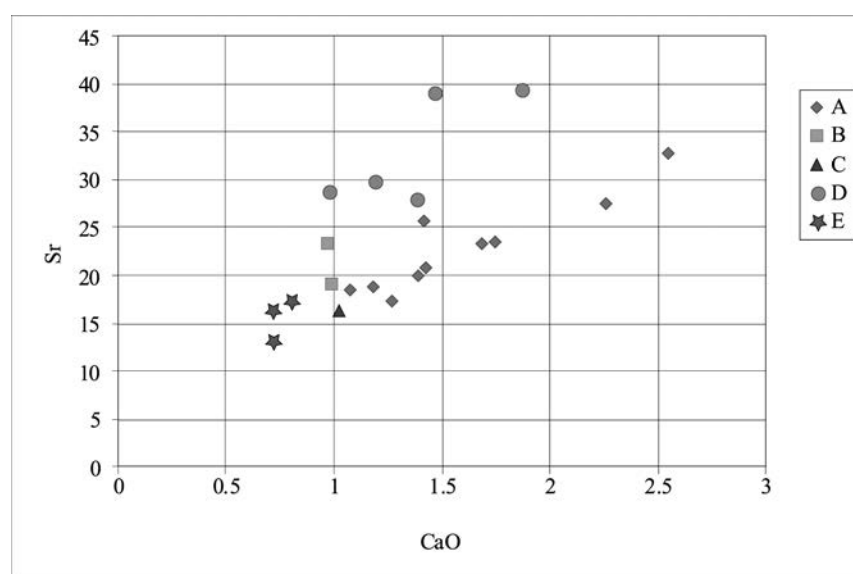


Figure App.1.3 Ratio of calcium to strontium by fabric group

The Botolph Bridge data was then compared with that from shell-tempered ware from two sites in the south-east Midlands: a waster heap at Harrold (Fabric F) and sherds from a consumer site near Leighton Buzzard (Fabric G). Both of these groups have a similar calcium to strontium ratio to the majority of the Botolph Bridge samples. Factor analysis revealed three significant factors and a plot of the first two (Fig. App.1.5) reveals three clusters: Fabrics A and D are distinguished by high F1 scores. The Harrold and Leighton Buzzard samples are distinguished by negative F12 scores and relatively low F2 scores compared with the third group, which consists of Fabrics B, C and E.

These results show that there are chemical differences between several of the fabric groups, but fail to find any

difference between Fabrics A and D. This is perhaps support for the suggestion that these two petrological fabrics are the result of lithological variations within a single outcrop of clay/limestone. They also show that the St Neots type and Developed St Neots type ware are from different sources and that the Harrold/Olney Hyde area of the south-east Midlands is not their source. Samples of the shell-tempered ware produced at St Neots, Lyveden and Stanion are required before the source of these wares can be investigated further although given the presence of Cretaceous rocks and minerals in small quantities in the thin sections a Lyveden/Stanion origin is perhaps less likely than a fen edge/fen island source.

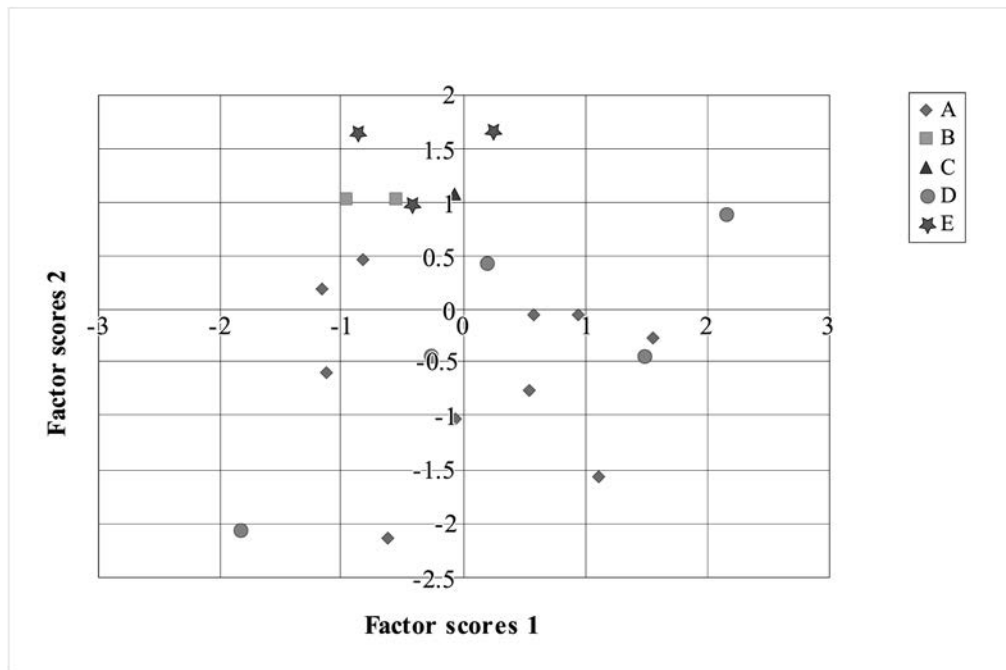


Figure App.1.4 Factor analysis by fabric group

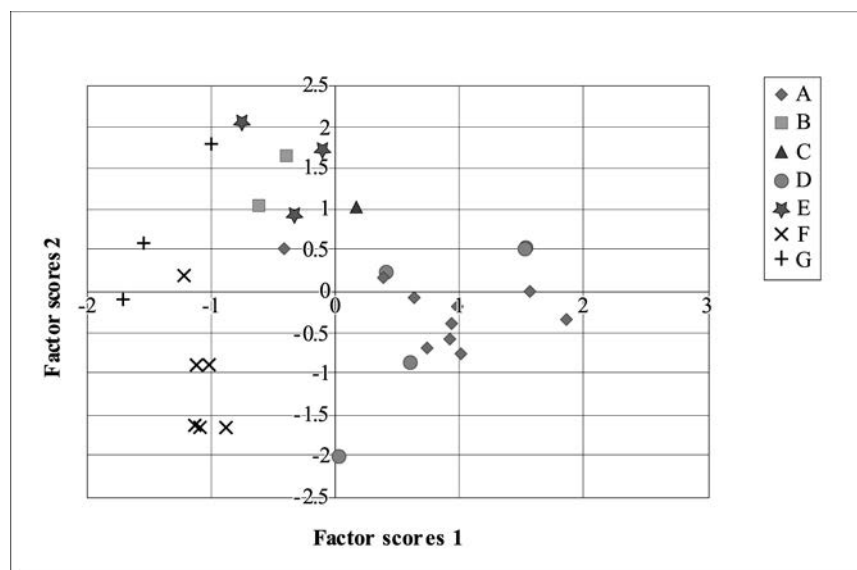


Figure App.1.5 Factor analysis comparing scores for Botolph Bridge (Fabrics A–E) against those for Harrold (Fabric F) and Leighton Buzzard (Fabric G)

IV. Bourne/Baston-type ware

Medieval Bourne ware, which is indistinguishable from the pottery produced at the neighbouring village of Baston, has been reported from the Peterborough area (Spoerry 1998) but this attribution has not previously been tested. A series of samples of Bourne-type glazed ware and roof tile with a similar fabric were submitted for characterisation.

Petrological Analysis

A sample of Bourne and Baston waste pottery tile has been thin-sectioned for comparison with Medieval Ely products (Vince 2004). This study found that there were four distinct fabric groups present, varying mainly in the proportion of quartzose to calcareous inclusions present in their sand fraction and in the nature of the quartzose sand (which consists of a fine-grained, well-sorted angular sand, probably derived from a Jurassic sand or sandstone, and a coarse, well-rounded sand, which includes chert fragments and is probably of Triassic origin). The calcareous fraction included probably oolites and fragments of a limestone containing thin-walled non-ferroan bivalve shell in a ferroan calcite groundmass. These fabric groups were coded A to D, but these should not be confused with the visual fabric classification of Bourne wares, in which Fabrics A to C are medieval fabrics tempered with mixed quartz/calcareous sand whilst Bourne D is an untempered ware of late medieval and early post-medieval date (Vince 2006).

- Petro-Fabric A
Abundant very fine sand (*i.e.* up to 0.2mm across) and little calcareous material
- Petro-Fabric B
Moderate rounded sand and little calcareous material
- Petro-Fabric C
Abundant very fine sand and abundant calcareous material
- Petro-Fabric D
Moderate rounded sand and abundant calcareous material

By contrast with Medieval Ely ware, Bourne/Baston ware does not include any inclusions of Cretaceous origin although the visual appearance of the two wares is otherwise similar. In thin section, most of the Bourne-type samples, which includes glazed pottery vessels and ridge tiles, are indistinguishable from those from Bourne and Baston and this suggests that they are likely to be products of that industry. However, the tile contains very little calcareous material (corresponding to the Bourne/Baston fabrics A and B) whereas the pottery samples occur in all four petro-fabrics.

One sample (V3333) is clearly different. It appears to be a fragment of a Lyveden/Stanton ware ridge tile (or conceivably a colander). It has an oolitic moulding sand and is pierced with several narrow round-sectioned nail holes with run right through the tile. Quartz over *c.* 0.1mm across is almost absent and the groundmass contains fine quartz and muscovite, mainly less than 0.05mm across, and is quite different from the Bourne/Baston wares.

Another sample (V3352) contains moderate calcareous sand together with a quartz sand, typical of Bourne/Baston wares, but the calcareous sand consists mostly of oolites and shell fragments, with some loosely cemented oolitic limestone. No ferroan calcite cement is present, either in the limestone fragments or as loose fragments. The oolites and shells mainly have opaque angular inclusions in their original outer layers, suggesting that they were deposited in conditions which encouraged the deposition of iron pyrites. The Ketton limestone, which outcrops in the Stamford area, has similar characteristics and this sample may come from that area of South Lincolnshire. However the form, a dish, is typical of the Lyveden/Stanton industry.

Chemical Analysis

(Fig. App.1.6)

Factor analysis of the Botolph Bridge, Bourne and Baston samples revealed four factors, none of which clearly separated the Botolph Bridge and comparative material, although they did show differences in composition of the tiles and pottery samples. To investigate these further, only those elements which had produced strong weightings in

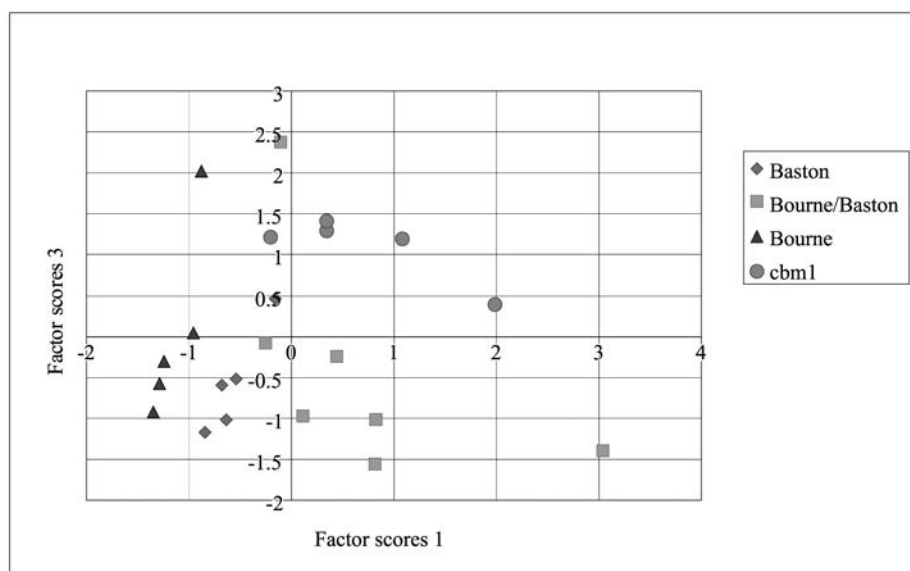


Figure App.1.6 Factor analysis for Bourne/Baston type ware, showing comparisons with Baston, (BOU) and Bourne

the first analysis were selected (sodium, barium, chromium, copper, lithium, nickel, scandium, vanadium and cobalt). Factor analysis was then carried out again using this restricted element set. This revealed three factors and bi-plots show that there are differences between the Botolph Bridge and comparative samples and between the pottery and tiles.

In particular, the sodium levels found in the Bourne and Baston samples tend to be higher than at Botolph Bridge; manganese levels are lower. Barium levels tend to be higher in the tile than in the remaining samples, and scandium and cobalt levels tend to be higher at Botolph Bridge. Figure App.1.6 shows these relations most clearly, indicating that Factor 1 scores separate the Bourne/Baston samples from the Botolph Bridge ones and that Factor 3 scores separate most of the Botolph Bridge pottery from the tile. The exception (V3325) is a large pancheon whose fabric places it clearly in the Bourne-type group. The significance of these differences is unclear, since it is likely that the pottery and tile differences are partly due to impurities in the quartz sand (e.g. barytes is probably present in the quartz sand). One would not expect sodium levels to be affected by burial, since most of the sodium is probably present in feldspar fragments although it is possible that variations in the brine content of groundwater have led to the deposition of sodium salts.

The Botolph Bridge Bourne-type chemical data was then compared with samples of Medieval Ely Ware, from Ely itself and from Peterborough and Botolph Bridge, together with the Bourne and Baston waste samples. Factor analysis of this data revealed three factors. The results demonstrate that the Medieval Ely ware from Ely can be distinguished from the remainder and that five of the Peterborough area Medieval Ely ware samples clearly were Ely products. The sixth (from The Still, Peterborough, sample 1) is also quite clearly a Bourne or Baston product. One of the Ely samples plots with the Botolph Bridge Bourne/Baston samples (from Ely, Lisle Lane, sample 9). Some of the Botolph Bridge Bourne-type ware samples plot with the Bourne/Baston ware but six have chemical compositions which are mid-way between the Bourne/Baston and Ely clusters, and the Botolph

Bridge samples all have a higher mean F1 score than the Bourne and Baston samples.

This analysis therefore adds weight to the possibility that there is at least one other source of Bourne/Baston-type ware, supplying the Peterborough area (and with at least one product at Ely).

V. Floor Tile

(Fig. App.1.7)

A single sample of floor tile was submitted for characterisation. The tile has a variegated yellow fabric typical of ceramics produced from highly calcareous marl. The thin section reveals lenses of light-coloured isotropic groundmass with few inclusions and lenses with a darker colour, but still with a calcareous groundmass, and with abundant quartz silt, less than 0.05mm across. The darker groundmass contains moderate rounded quartz grains, up to 0.5mm across. These include some definite well-rounded, highly spherical grains of Triassic origin and some of probable lower Cretaceous origin, some of which have a dark cement coating. Sparse opaque grains with abundant quartz silt inclusions, up to 0.1mm across, up to 1.0mm across and heat-altered calcareous grains up to 1.0mm across are also present.

The floor tile sample has a high calcium oxide content (11.5%), consistent with the appearance in thin section, although very little of that calcium can be in the form of carbonate. The normalised chemical data were compared with a range of calcareous clay samples from eastern England (Fig. App.1.7). These consist of a recent Cambridge Yellow brick; samples of whiteware from a post-medieval production site at Broad Street, Ely, where bichrome ware was produced. These samples include the whiteware vessels (ELY BICHROME), a redware saggar (ELY SAGGAR) and red-firing silty clay which may have been used to make the saggar and other redware products (ELY CLAY); samples of Kimmeridge marl from Ely (ELY YELLOW CLAY) and a series of samples of calcareous ceramic building material from Hull, some of which were made from mixed red-firing and yellow-firing clays and others made solely from yellow-firing clays

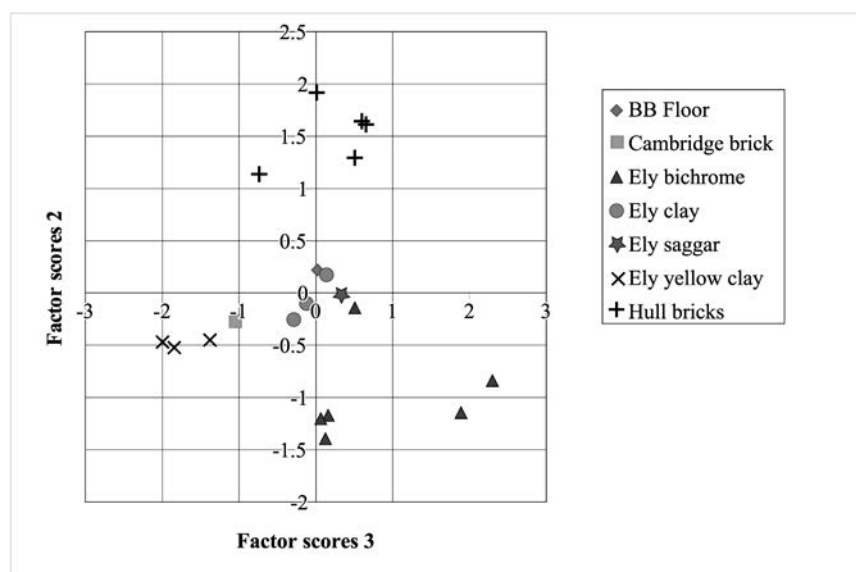


Figure App.1.7 Factor analysis comparing scores for Botolph Bridge (Fabrics A–E) against those for Harrold (Fabric F) and Leighton Buzzard (Fabric G)

(HULL BRICKS). The results of factor analysis indicate that the Botolph Bridge floor tile is most similar to the samples of clay from Broad Street, Ely, to the saggar made from that clay and one of the bichrome ware samples. These results could imply that the floor tile was produced at Ely, and the thin section evidence includes nothing to disprove this, but is perhaps more likely to simply indicate that the tile was produced from an Upper Jurassic marl mixed with fenland silt, a combination of raw materials which occurs at numerous localities along the fen edge, including Ramsey, where a kiln producing such tiles was found. A group of ceramic building material fabrics at Ramsey have similar characteristics to these yellow-firing clays and building material (Ramsey Abbey Group 3, fabrics E, DW and G;) but have not been analysed using ICPS. A sample of clay from Ramsey Abbey was not comparable to this yellow fabric and when included in a factor analysis has the effect of bringing all the other samples closer together.

VI. Conclusions

Thin section and chemical analysis of a range of wares from Botolph Bridge has in most cases revealed the likely geological source of the clay and inclusions. However, because of the widespread outcrop of these raw materials in the east Midlands it has not been possible to tie any

particular fabric to a specific production site. Indeed, in the cases where a possible identification was postulated, with Bourne and Baston for example, or Harrold, there are differences in the chemical composition which argue against the identification.

Perhaps the most significant result is that the samples of Early to Middle Saxon vessels, which all contain differing suites of inclusions, appear from their chemical composition to be made using a single clay source which has similar chemical characteristics to the medieval samples.

The one group which appears to be clearly isolated as a non-local ware is St Neots type ware, which differs both in petrology and chemical composition from the other shelly wares. A difference in the calcium to strontium ratio found in these St Neots type ware samples and other shelly wares could be a useful distinguishing characteristic, since it may be possible to determine the ratio even in instances of heavy leaching.

It is clear from this study that there is potential for localising the source of the sampled pottery with much greater precision, but that this will require a programme of sampling of material of known origin and a study of the sources of raw materials used at those sites. In particular the source of the materials used in the Lyveden/Stanion ware vessels requires further study, together with a chemical study of the oolitic sand tempered wares from the same sites.

Thin Sect. No.	Site Code	Context	Class	Spoerry Code	Vince Code	Form	Description
V3324	ORLBB00	1059	Pottery	NEOT	NEOT	Int rim dish/bowl	
V3325	BB87H	853	Pottery	BONB	BOUA	Panc	Wheel turned
V3326	ORLBB00	826	Pottery	E-M SAXON ORG CHAFF	PSHW		
V3327	ORLBB00	568	Pottery	MSIM	EMSAX		
V3328	ORLBB00	691	Cbm	BONT	BOUA	Flat/ridge	
V3329	ORLBB00	805	Cbm	BONT	BOUA	Ridge	
V3330	ORLBB00	597	Pottery	BONB	BOUA	Jug	Wheel turned
V3331	ORLBB00	597	Pottery	BONB	BOUA	Jug	Wheel turned; plain glaze
V3332	ORLBB00	715	Pottery	BONB	BOUA	Jug	Wheel turned
V3333	ORLBB00	854	Pottery	BONB	STANLY	Ridge?	Oolite sand on base
V3334	ORLBB00	905	Pottery	BONB	BOUA	Jug	Wheel turned; strap; plain glaze
V3335	ORLBB00	543	Pottery	SHW-LV	DEV NEOT	Jug	Strap handle; unglazed; stabbed
V3336	ORLBB00	631	Pottery	SHW-LV	DEV NEOT	Jar	Wheel turned
V3337	ORLBB00	986	Pottery	SHW-LV	PSHW	Bowl	Wheel turned; applied thumbed strip on rim interior; loop handle
V3338	ORLBB00	1065	Pottery	SHW-LV	PSHW	Bowl	Hand made
V3339	ORLBB00	1242	Pottery	SHW	PSHW	Jar	Wheel turned
V3340	ORLBB00	631	Pottery	SHW2	PSHW	Jar	Wheel turned
V3341	ORLBB00	1100	Pottery	SHW2	PSHW	-	Wheel turned; jug/jar?; plain applied clay around neck
V3342	ORLBB00	1242	Pottery	SHW2	PSHW	Dish	Hand made
V3343	ORLBB00	870	Pottery	NEOT	NEOT	Jar	
V3344	ORLBB00	1059	Pottery	NEOT	NEOT	Int rim dish/bowl	
V3345	ORLBB00	1066	Pottery	NEOT	NEOT	Int rim dish/bowl	
V3346	ORLBB00	1066	Pottery	NEOT	NEOT	Jar	
V3347	ORLBB99	103	Cbm	TILE	MTIL	Floor	Dark grey glaze; moulding sand; diagonal stacking scar
V3348	ORLBB99	369	Pottery	MSI	EMSAX		
V3349	ORLBB99	82	Pottery	MSI+SAND	EMSAX		
V3350	ORLBB99	232	Pottery	MSIM	EMSAX		
V3351	ORLBB99	345	Pottery	MSIM	EMSAX		
V3352	ORLBB99	244	Pottery	BASTON	SLOQ	Dish	Wheel turned
V3353	ORLBB99	49	Cbm	BONT	BOUA	Ridge	Plain glaze
V3354	ORLBB99	61	Cbm	BONT	BOUA	Flat	
V3355	ORLBB99	78	Pottery	BONB	BOUA	Panc	Wheel turned; plain internal glaze
V3356	ORLBB99	208	Pottery	BONB	BOUA	Jug	Oval handle; slashed unglazed
V3357	ORLBB99	316	Pottery	BONB?	BOUA	Jug	Narrow thumbed sagging base
V3358	ORLBB99	229	Pottery	SHW-LV	DEV NEOT	Jug	Wheel turned
V3359	ORLBB99	232	Pottery	SHW-LV	PSHW	Dish	Wheel turned
V3360	ORLBB99	232	Pottery	SHW-LV	BOUA	Panc	Hand made?; strap; triangular rim
V3361	ORLBB99	233	Pottery	SHW-LV	PSHW	Jar	Hand made?
V3362	ORLBB99	25	Pottery	SHW	PSHW	Jar	Hand made
V3363	ORLBB99	177	Pottery	SHW	PSHW	Lamp?	Wheel turned; open pedestal base
V3364	ORLBB99	171	Pottery	SHW2	PSHW	Dish	Wheel turned?
V3365	ORLBB99	171	Pottery	SHW2	PSHW	Jar	Hand made?

Table App. 1.2 Results of thin section analysis, by sherd

<i>Thin Sect. No.</i>	<i>Al2O3</i>	<i>Fe2O3</i>	<i>MgO</i>	<i>CaO</i>	<i>Na2O</i>	<i>K2O</i>	<i>TiO2</i>	<i>P2O5</i>	<i>MnO</i>
V3324	16.52	4.95	0.9	16.28	0.4	2.1	0.59	1.97	0.054
V3325	16.43	4.97	0.61	5.82	0.29	1.62	0.77	1.62	0.025
V3326	14.37	6.56	0.98	15.41	0.27	2	0.58	1.76	0.125
V3327	12.49	3.78	0.47	1.34	0.2	1.82	0.66	0.79	0.041
V3328	16.95	6.23	1.07	3.22	0.31	2.9	0.77	0.4	0.046
V3329	15.73	5.46	1.04	0.79	0.31	2.52	0.67	0.15	0.02
V3330	17.76	6.78	0.92	1.82	0.25	2.38	0.91	0.23	0.025
V3331	18.42	5.8	0.86	0.78	0.31	2.24	1.01	0.13	0.028
V3332	17.2	6.76	0.93	1.93	0.24	2.3	0.88	0.2	0.027
V3333	22.12	7.65	1.35	6.42	0.22	2.98	0.97	0.35	0.023
V3334	14.83	3.82	0.53	1.58	0.27	1.66	0.65	1.97	0.014
V3335	15.96	7.06	0.94	11.54	0.25	2.42	0.67	0.61	0.041
V3336	16.72	7.24	0.95	13.46	0.22	1.81	0.86	0.44	0.045
V3337	12.84	6.37	1.11	16.29	0.18	2.04	0.47	0.65	0.066
V3338	13.15	4.66	0.83	23.07	0.36	1.84	0.63	0.74	0.12
V3339	10.24	5.09	1.01	23.09	0.18	1.69	0.38	0.29	0.06
V3340	14.93	5.95	0.81	21.31	0.22	1.83	0.71	0.45	0.067
V3341	15.18	5.44	0.99	21.47	0.76	3.28	0.75	0.43	0.091
V3342	12.72	5.61	1.01	17.65	0.23	1.81	0.46	1.03	0.108
V3343	14.23	5.3	0.9	19.78	0.26	2.06	0.56	0.65	0.053
V3344	12.02	7.11	1.09	17.69	0.19	1.87	0.51	1.52	0.094
V3345	11.02	8.64	1.26	20.64	0.19	1.83	0.45	0.55	0.065
V3346	14.01	5.79	1.01	16.67	0.39	2.12	0.54	0.62	0.064
V3347	13.65	5.71	1.63	11.62	0.37	2.78	0.62	0.22	0.059
V3348	14.31	5.64	0.64	1.46	0.21	1.89	0.74	0.9	0.027
V3349	13.68	6.59	0.64	1.32	0.19	1.83	0.66	0.84	0.028
V3350	18.02	4.98	0.72	1.25	0.8	2.55	0.91	0.41	0.048
V3351	13.4	4.75	0.75	1.56	0.59	1.67	0.73	0.82	0.067
V3352	14.69	6.8	1.1	7.3	0.31	2.34	0.63	0.87	0.068
V3353	12.77	3.97	0.59	1.7	0.26	1.76	0.67	0.16	0.049
V3354	17.42	6.19	1.16	4.12	0.31	2.87	0.82	0.37	0.036
V3355	16.61	4.21	0.77	4.69	0.27	1.85	0.88	0.61	0.033
V3356	14.52	6.76	1.09	3.56	0.26	2.29	0.66	0.28	0.029
V3357	17.15	6.12	1.18	2.42	0.26	2.59	0.82	0.25	0.032
V3358	16.55	7.55	1.18	12.01	0.36	2.51	0.67	1.47	0.046
V3359	14.63	6.01	0.89	14.54	0.2	1.98	0.7	1.13	0.073
V3360	16.88	5.56	1.15	3.47	0.28	2.7	0.78	0.3	0.032
V3361	12.46	4.92	0.85	12.79	0.24	2.3	0.58	0.63	0.057
V3362	13.32	9.28	1.2	15.77	0.2	2.36	0.52	0.72	0.102
V3363	17.12	6.13	1.1	16.69	0.31	2.21	0.8	0.43	0.054
V3364	10.17	5.89	1.02	25.87	0.16	1.74	0.36	1.32	0.11
V3365	13.08	6.46	1.15	22.02	0.2	2.15	0.48	0.31	0.063

Table App.1.3 ICPS analysis showing the frequency of a group of major elements, measured as percent oxides

Thin Sect. No.	Ba	Cr	Cu	Li	Ni	Sc	Sr	Y	Zr*	La	Ce	Nd	Sm	Eu	Dy	Yb	Pb	Zn	Co
V3324	602	75	33	27	39	14	471	92	88	38	71	42	9	2	6	3	28	83	16
V3325	635	98	29	25	31	16	228	114	21	43	77	44	7	1	4	2	76	84	12
V3326	441	76	91	19	53	14	265	98	35	68	150	72	17	3	9	4	23	94	13
V3327	368	74	21	15	24	13	103	100	15	30	54	31	5	1	3	2	33	46	11
V3328	407	125	29	50	59	16	154	114	23	45	80	46	8	1	4	2	43	118	15
V3329	386	105	24	55	46	15	101	105	20	44	77	44	8	1	3	2	52	91	13
V3330	303	112	25	37	33	16	107	147	15	43	76	43	7	1	3	2	123	81	18
V3331	364	112	24	37	31	17	132	142	15	51	95	51	7	1	3	2	257	70	17
V3332	289	113	26	36	32	17	104	152	14	43	72	43	6	1	3	2	184	80	17
V3333	384	124	29	155	52	21	199	113	23	65	83	51	9	2	4	2	190	102	16
V3334	402	86	24	24	35	14	238	105	19	39	71	39	7	1	3	2	2,607	81	14
V3335	342	99	25	39	51	16	211	109	27	75	48	49	9	2	4	2	126	109	12
V3336	324	104	26	39	31	15	289	161	24	101	95	54	9	2	4	3	76	87	14
V3337	409	73	30	13	57	13	222	90	64	122	267	128	30	5	15	5	64	88	17
V3338	351	75	24	16	29	11	310	97	16	31	53	33	5	1	4	2	27	91	10
V3339	185	60	26	9	47	11	281	76	52	82	167	87	19	3	11	4	21	61	12
V3340	283	84	27	24	40	14	310	107	18	36	62	37	5	1	4	2	17	71	12
V3341	349	82	22	25	35	13	388	102	18	77	58	38	5	1	4	2	25	72	13
V3342	299	69	34	16	52	13	255	86	40	90	190	94	22	4	10	4	15	73	14
V3343	269	81	29	25	62	14	397	115	33	82	166	83	16	3	7	3	19	97	25
V3344	478	66	27	23	56	13	468	95	39	76	169	79	19	3	9	4	19	124	24
V3345	263	63	24	27	59	11	434	90	33	55	125	58	14	2	7	4	18	84	22
V3346	368	71	26	31	52	13	418	92	30	57	114	60	13	2	7	3	24	92	20
V3347	287	93	34	58	51	13	251	129	24	37	70	38	7	1	4	2	535	104	15
V3348	232	94	22	27	27	15	81	120	17	32	57	32	5	1	3	2	50	71	14
V3349	251	84	23	22	44	14	97	107	25	36	65	37	6	1	3	2	49	87	22
V3350	355	104	26	30	24	17	110	142	16	88	63	39	5	1	3	2	27	71	12
V3351	380	78	21	24	26	13	135	105	15	83	60	36	4	1	3	2	31	63	13
V3352	460	100	23	56	50	15	137	116	27	54	80	40	7	1	5	2	27	104	18
V3353	323	78	19	26	21	11	115	94	11	53	52	30	4	1	2	1	761	58	14
V3354	369	140	33	56	60	18	151	121	27	43	77	44	7	1	4	2	56	124	16
V3355	366	107	26	32	26	17	228	129	20	88	69	41	6	1	3	2	160	80	14
V3356	300	97	21	53	34	14	126	141	16	75	67	34	5	1	3	2	40	99	14
V3357	269	105	41	31	48	19	122	142	56	87	302	127	37	6	15	5	135	75	21
V3358	336	113	39	49	64	18	268	118	36	66	90	48	9	2	5	3	20	138	14
V3359	321	93	28	27	35	15	276	119	18	80	71	40	6	1	4	2	20	71	13
V3360	327	131	28	55	60	17	160	111	22	51	63	40	6	1	3	2	31	114	14
V3361	252	78	27	27	40	12	202	88	18	62	59	30	5	1	3	2	28	75	16
V3362	335	76	33	13	76	14	251	93	81	95	183	97	20	4	12	5	17	94	25
V3363	297	101	25	35	38	17	398	132	17	83	42	73	6	1	3	2	32	80	13
V3364	374	59	32	9	43	10	333	74	33	76	60	63	13	2	7	2	18	118	12
V3365	184	74	29	14	64	12	305	90	62	89	177	94	19	3	11	4	96	88	22

Table App.1.4 ICPS analysis of a group of minor elements, measured as parts per million

Appendix 2. Catalogue of Coins and Tokens

by Martin Allen and Adrian Popescu

Includes two illustrated items (see Chapter 4.II) and items post-dating 1650, when the site was abandoned (these are detailed in the archive). Those noted below as deriving from context 531 were recovered

unstratified by metal detecting during the excavations of 1999 and 2000. Some items have Small Find (SF) numbers, while some have Inventory Numbers (IN); others have both.

SF/IN	Context	Description
SF 2 (IN 4197)	u/s	Hadrian (117-138), copper-alloy <i>as</i> , illegible type. Heavy wear; corroded. 5.84g
IN 13615	u/s	Faustina I deified (after 141), copper-alloy struck imitation of <i>sestertius</i> , 3rd century? 30g, 32mm. See Plate XVIIIA
SF 2 (IN 13679)	u/s	Illegible empress, 3rd century, silver-alloy <i>denarius</i> or <i>antoninianus</i> , illegible type, probably struck at Rome. Heavily corroded. 1.21g
IN 13613	u/s	Claudius II (268-270) deified, copper-alloy radiate, copy as Cunetio 2873, after 270. 1.78g; 16mm
IN 13629	u/s	Claudius II (268-270) deified, copper-alloy radiate, copy as Cunetio 2875, after 270. 1.63g; 17mm
IN 15911	u/s	Tetricus I (271-274), copper-alloy radiate, copy as Cunetio 3021:2-3, after 271. 2.19g; 18mm. See Plate XVIIIB
IN 13630	u/s	Tetricus II (271-274), copper-alloy radiate, copy of Laetitia 1 type, after 271. 1.01g; 14mm
SF 52 (IN 3066)	531	Tetricus II (271-274), copper-alloy radiate, copy of Pax type, after 271. 1.73g; 15mm
IN 13624	u/s	Copper-alloy radiate, crude copy of illegible type, c.270-286? 0.58g; 9mm
IN 13568	u/s	Urbs Roma, copper-alloy <i>nummus</i> , RIC 214.524 or 215.529, Trier, 330-331. 1.97g
IN 13626	u/s	Urbs Roma, copper-alloy, copy of RIC 138.242, Lyons, <i>officina</i> P, 330-331. 0.74g; 12mm
SF 25 (IN 4332)	u/s	Constantine I (306-337), copper-alloy, copy of RIC 214.518, Trier, <i>officina</i> S, 330-331. Corroded. 1.92g; 15mm
SF 8 (IN 4240)	u/s	Constantius II (324-361), copper-alloy, copy of RIC 218.559, Trier, <i>officina</i> S, 333-334. Corroded. 2.16g; 16mm
IN 13614	u/s	Constantine II (317-340), copper-alloy, copy of RIC 140.271, Lyons, <i>officina</i> S, 335. 1.66g
SF 3 (IN 4201)	u/s	Constans (333-350), copper-alloy, copy of RIC 223.593, Trier, <i>officina</i> P, 335-337. Corroded. 1.30g; 16mm
IN 13627	u/s	Constantine II (317-340), copper-alloy, copy of GLORIA EXERCITVS (2 standards) type, after 330. 1.09g; 14mm
IN 13625	u/s	House of Constantine, copper-alloy, copy of GLORIA EXERCITVS (2 standards) type, after 330. 0.95g; 13mm
SF 74 (IN 4420)	531	Constans (333-350) or Constantius II (324-361), copper-alloy, copy of two Victories type, 347-348. Heavily corroded. 0.77g; 12mm
IN 13628	u/s	Constantius II (324-361), copper-alloy, copy of FEL TEMP REPARATIO (FH 3) type, after 348. 0.80g; 12mm
IN 13631	u/s	Constantius II (324-361), copper-alloy, copy of FEL TEMP REPARATIO (FH 3 or 4) type, after 348. 0.42g; 8mm
SF 35 (IN 4342)	u/s	Valentinian I (364-375) or Valens (364-378), copper-alloy AE 3, rev. SECVRITAS REIPVBLICAE, 364-378. Corroded. 1.03g
SF 75 (IN 4421)	531	House of Valentinian, copper-alloy AE 3, rev. SECVRITAS REIPVBLICAE, 364-378. Heavily corroded. 1.25g
SF 4	u/s	Scotland, Alexander III (1249-1286), silver sterling, second coinage, c.1280-early 1290s? Chipped; heavily corroded. 0.51g
SF 54	531	Edward I (1272-1307) or Edward II (1307-1327), silver penny, uncertain mint, classes 3-10, 1280-c.1310. Clipped, cracked and slightly bent. 0.86g
SF 55	531	Richard II (1377-1399), silver penny, York archiepiscopal mint, local dies. Two fragments; heavily corroded. 0.64g
SF 67	531	Richard III (1483-1485), silver halfpenny, London mint, initial mark Sun and Rose. Chipped and bent. 0.35g
SF 60	531	Henry VII (1485-1509), silver halfgroat, York archiepiscopal mint, Archbishop Thomas Savage (1501-1507), type 2/4. Chipped and cracked. 0.99g
SF 80	531	England, silver penny, 1279-1489. Bent and cracked. 0.62g
IN 13571	u/s	Copper-alloy jeton, Tournai, obv. four lis in field, rev. triple-stranded cross fleuretty in tressure, annulet and two pellets in each exterior angle of tressure, <i>cf.</i> Mitchiner 1988, no. 635, 15th century. Corroded. 6.30g
SF 59 (IN 3075)	531	Copper-alloy jeton, Tournai, thick 'piefort', obv. arms of France modern, rev. triple-stranded cross fleuretty with letter A in each angle, in tressure of four arcs with letter A and two annulets in each exterior angle, <i>cf.</i> Mitchiner 1988, nos 707-11, 15th century. 9.72g
SF 12	531	Copper-alloy jeton, Nuremberg, anonymous Rose/Orb type, c.1550s-1580s. Heavily corroded. 1.10g
IN 13572	u/s	Copper-alloy jeton, Nuremberg, Hans Krauwinkel II (fl. 1586-1635), Rose/Orb type, <i>cf.</i> Mitchiner 1988, no. 1533. 1.33g
SF 70	531	Copper-alloy jeton, Nuremberg, Hans Krauwinkel II (fl. 1586-1635), Rose/Orb type, <i>cf.</i> Mitchiner 1988, no. 1539. 0.93g
SF 56	531	Copper-alloy jeton, Nuremberg, Hans Krauwinkel II (fl. 1586-1635), Rose/Orb type, rev. inscription illegible. Chipped; heavily corroded. 0.59g

Appendix 3. Tables of Plant Macrofossils and Other Remains

by Alan Clapham

Abbreviations used in the tables:

cot = cotyledon(s); f = fragment(s); hil = hilum(s); im = immature; k = kernal(s); nc = non-cereal; r = rachis

Sample No.	156	156	211
Feature type	Pit 4	Pit 4	Ditch 22
Original flot vol (ml)	30	-	152
Percentage sorted	50	Results	25
Cereals			
<i>Triticum dicoccum</i> spikelet fork			
<i>Triticum</i> tetraploid free-threshing rachis fragments	3		30
<i>Triticum spelta</i> glume bases			
<i>Triticum aestivum</i> rachis fragments	49		449
<i>Triticum</i> 6n free-threshing rachis fragments - short			1
<i>Triticum</i> sp. free-threshing grain	320	248	308
<i>Triticum</i> sp. free-threshing tail grain	47	26	35
<i>Triticum</i> sp. glume bases			
<i>Triticum/Hordeum</i> sp. basal rachis fragments	3		14
<i>Hordeum vulgare</i> hulled grain	15	15	8+4f
<i>Hordeum vulgare</i> hulled tail grain	3	1	1
<i>Hordeum vulgare</i> rachis fragments	1		9
<i>Secale cereale</i> grain	17	14	15
<i>Secale cereale</i> tail grain	1	1	
<i>Secale cereale</i> rachis fragments	3		50
<i>Avena</i> sp. Grain	7	6	14 + 23f
<i>Avena</i> sp. awn fragments			3
Cerealia indet fragments	5	102	
Cereal embryos	1		9
Cereal sprouts			1
Culm nodes	1	1	31
Culm internodes		1	4
Other crops			
<i>Vicia faba</i> ssp. <i>minor</i>	4+1cot+1f		
<i>Pisum sativum</i>		1cot+7f	
<i>Vicia sativa</i> (cultivated)	5cot+1f	1	
<i>Linum usitatissimum</i> seeds	1	1	
cf <i>Linum usitatissimum</i> capsule fragments	8		17
Weeds			
<i>Nuphar lutea</i>	1		
<i>Ranunculus acris/repens/bulbosus</i>			1
<i>Chenopodium album</i>	3	4	2+1f
<i>Agrostemma githago</i>		1	
<i>Silene</i> sp.		1	
<i>Rumex acetosella</i>			1
<i>Rumex</i> sp.	8	8	2
<i>Sinapis arvensis</i> pod fragments			4
<i>Raphanus raphanistrum</i> pods			1+4f
<i>Vicia</i> sp./ <i>Lathyrus</i> sp.	9+11cot+1f	1+4cot	2+1cot+7f
<i>Trifolium</i> sp.		1	
Legume pod fragments	8		17
Legume indet. cotyledon			8f
<i>Lythrum salicaria</i>			
<i>Lithospermum arvense</i> 'nutlet attachment plates'	1		5
<i>Plantago major</i>			1
<i>Plantago lanceolata</i>			3
<i>Odontites vernuus</i>	7	5	22
<i>Galium aparine</i>	1f		2f
<i>Cirsium</i> sp.		1	1 k +1f

Sample No.	156	156	211
Feature type	Pit 4	Pit 4	Ditch 22
Original flot vol (ml)	30	-	152
Percentage sorted	50	Results	25
<i>Centaurea cyanus</i>	1k+1f	1k+1f	2+2 k, +8f
<i>Lapsana communis</i>			1
<i>Anthemis cotula</i>	6	10	148 +1f receptacle
<i>Tripleurospermum inodorum</i>	1	1	5
<i>Carex flacca</i> type		1	
<i>Carex nigra</i> type			1
<i>Lolium temulentum</i>		3	11
<i>Bromus</i> sp.	7	7+7f	1
Small-fruited Poaceae		1	8
<i>Sparganium</i> sp.			1
Thorn	2		
Bud		2	
Chaff	60 (10.6%)	2 (0.4%)	591 (45.5%)
Grain	415 (85.2%)	413 (85.2%)	408 (31.4%)
Large Legumes	12 (2.1%)	9 (1.85%)	0
Weeds	66 (11.7%)	58 (11.95%)	274 (21%)
Other	12 (2.1%)	3 (0.6%)	27 (2.07%)
Total	565	485	1300

Table App.3.1. Plant macrofossils and other remains from Period 1

Sample No.	79	58	193	194	96	97
Feature type	Ditch 1	Pit 1	Ditch 3	Ditch 3	Ditch 8	Ditch 8
Original flot vol (ml)	20	10	70	30	50	7
Percentage sorted	100	100	12.5	100	100	12.5
Cereals						
<i>Triticum dicoccum</i> spikelet fork					1	
<i>Triticum</i> tetraploid free-threshing rachis fragments						1
<i>Triticum spelta</i> glume bases			1	3		
<i>Triticum aestivum</i> rachis fragments	4		28	24	5	26
<i>Triticum</i> 6n free-threshing rachis fragments - short						1
<i>Triticum sp.</i> free-threshing grain	78	50	54	63	41	234
<i>Triticum sp.</i> free-threshing tail grain	2	7	3	6		14
<i>Triticum sp.</i> glume bases				6		1
<i>Triticum/Hordeum sp.</i> basal rachis fragments			1			
<i>Hordeum vulgare</i> hulled grain	12	8	40	12	10	14
<i>Hordeum vulgare</i> hulled tail grain	1			4	2	
<i>Hordeum vulgare</i> rachis fragments			3	1		
<i>Secale cereale</i> grain	4		3	5	5	19
<i>Secale cereale</i> rachis fragments			4	4	2	1
<i>Avena sp.</i> Grain	7	10+1f	38+1f	10+1f	17	9
<i>Avena sp.</i> awn fragments				1	2	
Cerealia indet fragments	5	62	8	4	4	23
Cereal embryos		2	2	3		2
Cereal sprouts				4	1	
Culm nodes			1	1	1	1
Culm internodes		3				
Other crops						
<i>Lens culinaris</i>		1				
<i>Vicia faba</i> ssp. minor			1(v. im)+4 cot f			
<i>Pisum sativum</i>	1+2 cot f	1cot	3+9 cot +f			
<i>Vicia sativa</i> (cultivated)	1			3+12 cot+8f	+4 cot	1+2 cot+1f
<i>Linum usitatissimum</i> seeds			1	1		
cf <i>Linum usitatissimum</i> capsule fragments			3	14	2	7
Weeds						
<i>Ranunculus acris/repens/bulbosus</i>	1		1	1		
<i>Urtica doica</i>			1		1 (min)	
<i>Urtica urens</i>					1	
<i>Corylus avellana</i>			1f	4f		1f
<i>Chenopodium polyspermum</i>						1
<i>Chenopodium album</i>			27	13	12	1+1f
<i>Stellaria media</i>				1		
<i>Scleranthus annuus</i>			1			
<i>Agrostemma githago</i>	1+1f		4	3f	1	1
<i>Silene sp.</i>			1			
<i>Fallopia convolvulus</i>			2	2+2f		
<i>Rumex acetosella</i>			2		2	1
<i>Rumex sp.</i>		1	4	3	4	6
<i>Brassica sp.</i>				1		1
<i>Sinapis arvensis</i>			1			
<i>Raphanus raphanistrum</i> pods				1f		
<i>Vicia cf hirsuta</i>			1			
<i>Vicia sp./Lathyrus sp.</i>	1 cot f	1f	10+14 cot+7f	3+22cot	4+3 cot f	3+5 cot
<i>Medicago lupulina</i>			1+1f		7	
<i>Trifolium sp.</i>		2	2			1
Legume pod fragments			3	14	3	7
<i>Lythrum salicaria</i>			1			
<i>Torilis sp.</i>					1	
<i>Apiaceae</i> indet.			2			
<i>Solanum nigrum</i>				1		
<i>Hyoscyamus niger</i>		1				
<i>Lithospermum arvense</i> 'nutlet attachment plates'		1				
<i>Prunella vulgaris</i>			1			
<i>Mentha arvensis</i>			1	2		
<i>Plantago major</i>				1		

Sample No.	79	58	193	194	96	97
Feature type	Ditch 1	Pit 1	Ditch 3	Ditch 3	Ditch 8	Ditch 8
Original flot vol (ml)	20	10	70	30	50	7
Percentage sorted	100	100	12.5	100	100	12.5
<i>Plantago lanceolata</i>			2	1	1	
<i>Odontites vernuus</i>			1	9	4	
cf <i>Sherardia arvensis</i>						1
<i>Galium aparine</i>	1		3+3f	2+7f	2	
<i>Cirsium</i> sp.						3 k
<i>Centaurea cyanus</i>		1f	1+3 k	5+2f	6+6f	
<i>Lapsana communis</i>				1		
<i>Anthemis cotula</i>	7	3f	48+7f	72	59	31
<i>Tripleurospermum inodorum</i>			7	8	10	
<i>Eleocharis palustris</i>			1			
<i>Carex flacca</i> type			3+1f	3		
<i>Carex</i> sp. (lenticular)					2	1
<i>Festuca</i> sp.						3
<i>Chrysanthemum segetum</i>	1					
<i>Lolium temulentum</i>		3	2	1	1	
<i>Bromus</i> sp.	3		4+2f	3+5f	4	7
Small-fruited Poaceae	3		3	4	10+4 (larger)	6
<i>Sparganium</i> sp.				1		
Bud			1			
Unknown	1					
Woody stems		2				
Chaff	4 (2.9%)	3 (1.87%)	38 (9.5%)	40 (10.3%)	11 (4.5%)	31 (7%)
Grain	109 (79.6%)	138 (85.7%)	147 (36.9%)	105 (27.1%)	79 (32%)	313 (71.3%)
Large Legumes	4 (2.9%)	2 (1.24%)	22 (5.5%)	23 (5.9%)	5 (2%)	4 (0.9%)
Weeds	19 (13.9%)	13 (8.07%)	184 (46.2%)	198 (51.2%)	148 (60.2%)	82 (18.7%)
Other	1 (0.7%)	5 (3.1%)	7 (1.75%)	21 (5.4%)	3 (1.2%)	9 (2.05%)
Total	137	161	398	387	246	439

Table App.3.2. Plant macrofossils and other remains from Period 2.1

Sample No.	18	69	74	76	78	49	50	59	23	24	24	229	67	36
Feature type	Ditch 26	Ditch 27	Ditch 27	Ditch 27	Ditch 27	Ditch 29	Ditch 30	Ditch 48	Ditch 68	Ditch 68	Ditch 68	Pit 27	Pit 40	Pit 42
Original flot vol (ml)	50	40	15	50	25	-	75	50	40	140	-	30	30	60
Percentage sorted	50	100	50	100	100	12.5	100	100	50	25	50	50	100	25
				(1st flot)	(2nd flot)	(1st flot)	(2nd flot)	(1st flot)	(2nd flot)	(2nd flot)				
Cereals														
<i>Triticum</i> tetraploid free-threshing rachis fragments	1		4	4	4	4	4	5	3	1	5			
<i>Triticum aestivum</i> rachis fragments		1	4	3	3	38	23	2	8	22	23	3	4	1
<i>Triticum</i> sp. 6n free-threshing rachis fragments - short							2		1					
<i>Triticum</i> sp. free-threshing grain	160	99	119	18	264	141	150+1 sprouted	155	175	82	68	30	81	109+1 sprouted
<i>Triticum</i> sp. free-threshing tail grain	13		20	1	1		9	8	8	2	1			2
<i>Triticum/Hordeum</i> sp. basal rachis fragments														
<i>Hordeum vulgare</i> hulled grain	43	45	23	7	50	35	22	47	61	8	11	9+2f	27	31
<i>Hordeum vulgare</i> hulled tail grain	2		5	4	4	1	4	5	2	1	2	3	1	
<i>Hordeum vulgare</i> hulled grain - sprouted					2		1				1			
<i>Hordeum vulgare</i> rachis fragments	1						1			1	1			
<i>Hordeum distichum</i> rachis fragments (2-row)							1				1			
<i>Secale cereale</i> grain		10	5	5	27	17	5	113	12	1	17	4	3	11
<i>Secale cereale</i> tail grain					1						1			
<i>Secale cereale</i> rachis fragments						1	6	2	1	2	1	9		
<i>Avena</i> sp. Grain	3	24+2f	11	3	6	16	38	10	27	30+1f	13	15+7f	6	19+5f
<i>Avena</i> sp. awn fragments							1							
<i>Avena</i> cf. <i>strigosa</i> floret base												1		
Cerealia indet fragments	3	7	18	3	3	12	12	14	6	2	5	3	14	17
Cereal embryos			1				1	2	1	2	1		2	
Cereal sprouts							1			1				
Culm nodes		3	1+1(nc)			4	6		2	4	3	3	1(nc)	1(nc)
Culm bases	2(nc)													
Other crops														
<i>Vicia faba</i> ssp. <i>minor</i>	1 cot		2+2cot+9f					1f	1f			1+23f cot		
<i>Pisum sativum</i>	1		5f			1+1cot+2f		1+3f	24cot+4f+1hil		1hil		6 cot	
<i>Vicia sativa</i> (cultivated)	1f cot	4+3cot+5f	1		1		1 cot	1	1+1cot+1f	3	5+6cot+11f	3+4 cot+7f		4+8 cot+3f
<i>Linum usitatissimum</i> seeds			1				1							
cf <i>Linum usitatissimum</i> capsule fragments														1
Weeds														
<i>Ranunculus acris/repens/bulbosus</i>	1				3								2	1f
<i>Urtica urens</i>														
<i>Corylus avellana</i>		6f				1f		1f	1f		1f			3f
<i>Chenopodium polyspermum</i>						2								

Sample No.	18	69	74	76	78	49	50	59	23	23	24	24	229	67	36
Feature type	Ditch 26	Ditch 27	Ditch 27	Ditch 27	Ditch 27	Ditch 29	Ditch 30	Ditch 48	Ditch 68	Ditch 68	Ditch 68	Ditch 68	Pit 27	Pit 40	Pit 42
Original flot vol (ml)	50	40	15	50	25	-	75	50	40	-	140	-	30	30	60
Percentage sorted	50	100	50	100	100	12.5	100	100	50	100	25	50	50	100	25
<i>Chenopodium album</i>			1	1	1	12+2f	4	6+1f	3+1f	1f	3	1	1	2	1
<i>Atriplex</i> sp.						1	1	4			4		10		
<i>Spergula arvensis</i>						1									
<i>Lychnis flos-cuculi</i>	1					1		16+1f			1f	1	1		1
<i>Agrostemma githago</i>						1		45+1f							
<i>Silene</i> sp.						1									
<i>Persicaria maculosa</i>						1		9	1				1		
<i>Polygonum aviculare</i>						1		2			1		1+1f		
<i>Fallopia convolvulus</i>						2						4	1		
<i>Rumex acetosella</i>						4		1			1		3	1	2
<i>Rumex</i> sp.	1	5	6	1	7	1	7	1	5	7	1				
<i>Malva</i> sp.						1	4	1				2			
<i>Brassica nigra</i>													1f (testa)		
<i>Brassica</i> sp.			1				7								
<i>Sinapis arvensis</i> pod fragments						2+1f		1							
<i>Raphanus raphanistrum</i> pods									1						
<i>Raphanus raphanistrum</i> seeds									1						
<i>Anagallis arvensis</i>									1	3					
<i>Vicia cf cracca</i>									4						
<i>Vicia cf hirsuta</i>						1		10+1f		12+2+1cot+	2+3f	4+6cot+8f	2+8 cot+3f	3+1 cot	6+7 cot
<i>Vicia</i> sp./ <i>Lathyrus</i> sp.	10	6+3 cot	8+4 cot	2+2 cot	4+2 cot	8	4+1 cot	10+1f	5+16cot	7f					
<i>Medicago lupulina</i>						1			1		1				
<i>Trifolium</i> sp.		2			1						1	1			1
Legume indet cot												1f			
Legume pod fragments												1			1
<i>Linum catharticum</i>									1						
<i>Chaerophyllum temulentum</i>									1						
<i>Scandex pecten-veneris</i>															
cf <i>Pimpinella saxifraga</i>															
<i>Conium maculatum</i>					2			2							
<i>Hyoscyamus niger</i>		1													
<i>Lithospermum arvense</i>						2f									
<i>Lithospermum arvense</i> 'nutlet attachment plates'															
<i>Prunella vulgaris</i>								1							
<i>Mentha arvensis</i>		1	1												
<i>Plantago major</i>			1												
<i>Plantago lanceolata</i>															
<i>Odonites vernuus</i>	1				2	3	9	1	3	1+2f	1f		3f	1	3f
<i>Gallium aparine</i>						1+7f		1+1f	1						
<i>Sambucus nigra</i>			2					2	2		1				

Sample No.	18	69	74	76	78	49	50	59	23	24	24	229	67	36
Feature type	Ditch 26	Ditch 40	Ditch 27	Ditch 27	Ditch 27	Ditch 29	Ditch 30	Ditch 48	Ditch 68	Ditch 68	Ditch 68	Pit 27	Pit 40	Pit 42
Original flot vol (ml)	50	100	15	50	25	-	75	50	40	140	-	30	30	60
Percentage sorted	50	100	50	100	100	12.5	100	100	50	25	50	50	100	25
	(1st flot)	(2nd flot)	(1st flot)	(2nd flot)	(1st flot)	(2nd flot)	(1st flot)	(2nd flot)	(1st flot)	(2nd flot)	(2nd flot)	(1st flot)	(2nd flot)	(2nd flot)
<i>Valerianella dentata</i>			2											
<i>Cirsium</i> sp.					1f	5+1f	5+3f	8+2f	1k+2f	1+2f		2		1
<i>Centaurea cyanus</i>						2f						1		
<i>Lapsana communis</i>												10		
<i>Anthemis cotula</i>		5+1f	2	16	11	50	27	28	14	2	1	4	4	11
<i>Chrysanthemum segetum</i>														
<i>Tripleurospermum inodorum</i>							1		1			1		1
Asteraceae indet.														
<i>Eleocharis palustris</i>							1			1	1f			
<i>Schoenoplectus lacustris</i>			1											
<i>Cladium mariscus</i>	2	2	5+1 (im)	2	2	1	1f	6	3	5	1	2		
<i>Carex hirta</i> type		1f			1									
<i>Carex flacca</i> type					1									
<i>Carex nigra</i> type														
<i>Carex</i> sp. (trigonous)														
<i>Carex</i> sp. (lenticular)														
<i>Lolium temulentum</i>	2+1f	2			5	9+1rf	1	9	6	10	1	3+1rf	2	3
<i>Lolium</i> sp.							7							
<i>Poa</i> sp.														
<i>Agrostis</i> sp.														
<i>Bromus</i> sp.									2	3				
<i>Anisantha sterilis</i>			1	3	1		4		3+1f	2+1f	1+1f	7		
Small-fruited Poaceae										1+2f				
<i>Sparganium</i> sp.		2		1	3	6	4	3			2	3	3	1
Parachyma														
Unknown	1								1f	1f (dung)	1			1
Woody stems										1	2			
Thorn											1			
Bud														
Rootlets														
Chaff	0	5	6	3	3	47	43	4	16	29	62	7	4	1
	(0%)	(2.04%)	(2.3%)	(4.2%)	(0.7%)	(11.75%)	(11.39%)	(0.77%)	(4.1%)	(6.88%)	(24.9%)	(4.16%)	(2.4%)	(0.37%)
Grain	224	187	201	38	358	221	242	344	285	285	118	69	132	195
	(91%)	(76.3%)	(75.8%)	(53.5%)	(87.5%)	(55.1%)	(63.7%)	(66.4%)	(73.6%)	(67.7%)	(47.4%)	(41.1%)	(79.5%)	(73.6%)
Large Legumes	1	(0.4%)	14	0	1	4	1	6	3	33	23	38	6	15
	(7.3%)	(15.5%)	(14%)	(42.25%)	(11.5%)	(32.1%)	(23.9%)	(31.3%)	(20.9%)	(16.62%)	(10.81%)	(32.1%)	(13.8%)	(18.9%)
Weeds	18	38	37	30	47	129	91	162	81	70	40	54	23	50
	(7.3%)	(15.5%)	(14%)	(42.25%)	(11.5%)	(32.1%)	(23.9%)	(31.3%)	(20.9%)	(16.62%)	(10.81%)	(32.1%)	(13.8%)	(18.9%)
Other	3	(1.2%)	2	0	0	0	3	2	2	4	6	0	1	4
	(1.2%)	(0.4%)	(0.75%)	(0.0%)	(0.0%)	(0.0%)	(0.79%)	(0.39%)	(0.51%)	(0.95%)	(2.4%)	(0.0%)	(0.6%)	(1.5%)
Total	236	245	265	71	409	401	380	518	387	421	333	168	166	265

Table App.3.3. Plant macrofossils and other remains from Period 3.1

Sample No.	54	145	145	167	167	231	225	46
Feature type	Ditch 41	Ditch 42	Ditch 42	Ditch 42	Ditch 42	Ditch 42	Ditch 42	Pit 45
Original flot vol (ml)	50	125	-	40	-	300	450	300
Percentage sorted	100	25 (1st flot)	12.5 (2nd flot)	25 (1st flot)	100 (2nd flot)	25	100	12.5
Cereals								
<i>Triticum</i> tetraploid free-threshing rachis fragments	3	14	10		1	7		
<i>Triticum aestivum</i> rachis fragments	4	172	167	17	96	1052	1	1
<i>Triticum</i> sp. 6n free-threshing rachis fragments - short			2			20		
<i>Triticum</i> sp. free-threshing grain	90	228	184	111	85	355	11	31
<i>Triticum</i> sp. free-threshing tail grain	1	20	2		3	3		4
<i>Triticum</i> sp. glumed grain	9							
<i>Triticum</i> sp. silicified glume tips						27		
<i>Triticum</i> sp. silicified awn fragments						74		
<i>Triticum/Hordeum</i> sp. basal rachis fragments		6	1			20		
<i>Hordeum vulgare</i> hulled grain	28	12	5	10	14	6	3	29
<i>Hordeum vulgare</i> hulled tail grain	3				1		2	
<i>Hordeum vulgare</i> rachis fragments		2		1				1
<i>Hordeum distichum</i> rachis fragments (2-row)						9		
<i>Secale cereale</i> grain	6	15+1f	11	4	12	9		4
<i>Secale cereale</i> tail grain								1
<i>Secale cereale</i> rachis fragments	1	10	13	2	5	19		1
<i>Avena</i> sp. Grain	14	10+2f	7+1f	1	1f	13		4
<i>Avena</i> sp. awn fragments						1		
<i>Avena</i> cf <i>strigosa</i> floret base						1		
Cerealia indet fragments	1	7		3	2	11	1	1
Cereal embryos	3			1		2		1
Cereal sprouts						2		
Culm nodes		3	3	1		40		1
Culm bases						1		2
Other crops								
<i>Vicia faba</i> ssp. <i>minor</i>		1f						
<i>Pisum sativum</i>		1+1cot+1f		1 cot		5+20f+2 hils		
<i>Vicia sativa</i> (cultivated)	1+3cot	1+1cot	1+5f		1+2cot		4+1f (cot)	1f
<i>Linum usitatissimum</i> seeds cf <i>Linum usitatissimum</i> capsule fragments		15	4		1	18	3	
<i>Ficus carica</i>								3(min)
Weeds								
<i>Ranunculus acris/repens/bulbosus</i>								3(min)
<i>Ranunculus ficaria</i> tuber						1		
<i>Corylus avellana</i>	1f			2f	2f		1f	
<i>Chenopodium polyspermum</i>			1					
<i>Chenopodium album</i>			1			4+1f		1 (min)
Chenopodiaceae indet.	2							
<i>Agrostemma githago</i> cf <i>Silene vulgaris</i>		1f	1		1	1f	1	
<i>Silene</i> sp.				1				
<i>Rumex acetosella</i>			2		1			
<i>Rumex</i> sp.	2	6		2	2	3		1+ 1 (min)
<i>Brassica</i> sp.	1							2(min)
<i>Sinapis arvensis</i> pod fragments						1		
<i>Raphanus raphanistrum</i> pods			2f					
<i>Raphanus raphanistrum</i> seeds				1				1(min)
<i>Prunus avium</i>						1+1f		
<i>Malus</i> sp.								2f (min)
<i>Vicia</i> sp./ <i>Lathyrus</i> sp.	6+3 cot	4+3f	4+6cot	3 cot	3+5f	3+5f		2 (min)
<i>Medicago lupulina</i>	1							
<i>Trifolium</i> sp.	1							
Legume pod fragments		15	4			18		
<i>Conium maculatum</i>	1							
<i>Apiaceae</i> indet.			1f			1		

Sample No.	54	145	145	167	167	231	225	46
Feature type	Ditch 41	Ditch 42	Ditch 42	Ditch 42	Ditch 42	Ditch 42	Ditch 42	Pit 45
Original flot vol (ml)	50	125	-	40	-	300	450	300
Percentage sorted	100	25 (1st flot)	12.5 (2nd flot)	25 (1st flot)	100 (2nd flot)	25	100	12.5
<i>Hyoscyamus niger</i>	1					1		
<i>Menyanthes trifoliata</i>						2f		
<i>Lithospermum arvense</i>						5+10f		1+1f (min)
<i>Lithospermum arvense</i> 'nutlet attachment plates'				1	2	11		
<i>Myosotis</i> sp.								1(min)
<i>Plantago major</i>	2							
<i>Odontites vernuus</i>	2	6		1+1f		3		
<i>Galium aparine</i>						1		
<i>Cirsium</i> sp.	2							
<i>Centaurea cyanus</i>	1	4+5f	1+1f			1+4f		
<i>Anthemis cotula</i>	12	43+1f	11	7	6	67+3 receptacles	7	1
<i>Chrysanthemum segetum</i>								
<i>Tripleurospermum inodorum</i>	1	2	1	2		2		1
<i>Eleocharis palustris</i>						1+2f		
<i>Cladium mariscus</i>							1	
<i>Carex hirta</i> type						1		
<i>Carex flacca</i> type	2							
<i>Lolium temulentum</i>			3	3	1	4+2rachis f	2	1
<i>Lolium</i> sp.		6						
<i>Agrostis</i> sp.		2						1(min)
<i>Bromus</i> sp.		1		2		4f	2f	
Small-fruited Poaceae						3	1	
Unknown								1f(min)
Mineralised agglomeration								2f
Bud			1		1			
Arthropod remains (mineralised)				2				
Chaff	8 (3.8%)	207 (33%)	196 (43%)	21 (11.6%)	102 (41.1%)	1270 (67.44%)	1 (2.9%)	6 (5.6%)
Grain	152 (73%)	295 (47.4%)	210 (46%)	129 (71.2%)	118 (47.5%)	397 (21.08%)	17 (50%)	74 (69.1%)
Large Legumes	4 (1.9%)	6 (1%)	6 (1.3%)	1 (0.55%)	3 (1.2%)	27 (1.4%)	5 (14.7%)	1 (0.9%)
Weeds	41 (20%)	99 (16%)	39 (8.5%)	27 (14.9%)	23 (9.27%)	167 (8.8%)	8 (23.5%)	19 (17.7%)
Other	3 (1.4%)	15 (2.4%)	5 (1%)	3 (1.66%)	2 (0.8%)	22 (1.1%)	3 (8.8%)	7 (6.5%)
Total	208	622	456	181	248	1883	34	107

Table App.3.4. Plant macrofossils and other remains from Period 3.2

Sample No.	71
Feature type	Ditch 51
Original flot vol (ml)	100
Percentage sorted	50
Cereals	
<i>Triticum</i> tetraploid free-threshing rachis fragments	1
<i>Triticum aestivum</i> rachis fragments	1
<i>Triticum</i> sp. free-threshing grain	335
<i>Triticum</i> sp. free-threshing tail grain	37
<i>Hordeum vulgare</i> hulled grain	116+1f
<i>Hordeum vulgare</i> hulled tail grain	10
<i>Hordeum vulgare</i> rachis fragments	1
<i>Secale cereale</i> grain	10
<i>Secale cereale</i> tail grain	1
<i>Avena</i> sp. Grain	81+17f
Cerealia indet fragments	1000+
Cereal embryos	3
Culm nodes	4
Weeds	
<i>Corylus avellana</i>	1f
<i>Chenopodium album</i>	2+1f
<i>Stellaria holostea</i>	1
<i>Vicia</i> sp./ <i>Lathyrus</i> sp.	1f
<i>Trifolium</i> sp.	2
Legume indet cot	6f
<i>Centaurea cyanus</i>	1+1f
<i>Lapsana communis</i>	3
<i>Cladium mariscus</i>	4
<i>Carex hirta</i> type	1
<i>Carex flacca</i> type	3
<i>Lolium temulentum</i>	12
<i>Bromus</i> sp.	2
Small-fruited Poaceae	4
Chaff	7 (1%)
Grain	608 (92.7%)
Large Legumes	0 (0%)
Weeds	38 (5.8%)
Other	3 (0.48%)
Total	656

Table App.3.5. Plant macrofossils and other remains from Period 4

Sample No.	34
Feature type	Pit 70
Original flot vol (ml)	650
Percentage sorted	12.5
Cereals	
<i>Triticum</i> sp. free-threshing grain	7
<i>Triticum</i> sp. glumed grain	1
<i>Hordeum vulgare</i> hulled grain	9+2f
<i>Hordeum vulgare</i> hulled tail grain	2
<i>Hordeum vulgare</i> rachis fragments	1
<i>Avena</i> sp. Grain	5+1f
Cerealia indet fragments	2
Cereal embryos	1
Culm nodes	1+18 (nc)
Other crops	
<i>Vicia sativa</i> (cultivated)	1+5f
Weeds	
<i>Chenopodium album</i>	5
<i>Rumex acetosella</i>	4
<i>Rumex</i> sp.	46+5f
<i>Brassica</i> sp.	2
<i>Sinapis arvensis</i>	4
<i>Sinapis arvensis</i> pod fragments	2
<i>Vicia</i> cf <i>hirsuta</i>	2
<i>Vicia</i> sp./ <i>Lathyrus</i> sp.	5+2 cot
<i>Medicago lupulina</i>	2
<i>Trifolium</i> sp.	9
<i>Lithospermum arvense</i>	1
<i>Anthemis cotula</i>	2+1f
<i>Chrysanthemum segetum</i>	1
<i>Arrhenatherum elatius</i> var. <i>bulbosum</i> tubers	1
Small-fruited Poaceae	8
Parenchyma	1f
Unknown	7
Woody stems	10
Thorn	1
Chaff	2 (1.13%)
Grain	29 (16.47%)
Large Legumes	6 (3.4%)
Weeds	102 (58%)
Other	37 (21%)
Total	176

Table App.3.6. Plant macrofossils and other remains from Period 5

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Index

Page numbers in *italics* denote illustrations.

Aboyne, Earl of, estate map 12, 13, 14, 146
agriculture 142, 143, 144–5; *see also* animal bones; plant remains
All Saints church
 burial 19
 decline and abandonment 145, 146
 documentary evidence 14, 16, 20
 grave marker 14
 as settlement foci 130
 stone from 106, 139
Alwalton (Hunts) 11, 12, 130
ampulla 86, 87, 144
animal bones
 assemblage 108, 109–10
 discussion 116, 142, 143, 144–5
 discussion by species 108
 birds 115–16, 115
 cat 115
 cattle 108, 116
 dog 112, 113, 113, 114, 116
 horse 112, 116
 pig 111–12, 116
 reptiles and amphibians 116
 sheep/goat 108–11, 116
 wild mammals 115
 methods 108
 see also fish bones
antler 115
arrowheads
 flint 73, 128
 iron 82, 143–4

bakehouse/brewhouse
 discussion 135, 139, 141, 144
 excavation evidence 51, 58, 66, 67–8, 67
barns 137, 139
Barton Blount (Derbys) 134
Basset, Ralph 17
bath-house, Roman 4, 5
bead, glass 88, 129
beamslots
 period 1 23, 140–1
 period 2.1 28, 29
 period 3.1 44
 period 3.2 54
‘the Beastings’ 14
bells 81, 86, 87, 144, 145
Berkeley, Frances 19
Berkeley, Henry 19
binding fragment 75
Birmingham, Floodgate Street, animal bones 112, 113
Blackwell, Elizabeth 20
Blisworth–Peterborough railway 14
Botolph, St 11, 128
Botolph Arms 99, 103, 106, 142
Botolph Bridge
 archaeological background 3–4, 5–7, 5, 6, 7
 archaeological interventions 6, 7–9, 7, 8
 church *see* All Saints church
 discussion
 daily life, environment and economy 142–5
 prehistoric–Roman 128
 Roman–Saxon 128–9
 Middle Saxon 129–30
 Late Saxon 130–2
 Late Saxon–Early medieval 132–3
 medieval 133–6
 late medieval 136–9, 137
 decline and abandonment 145–6
 see also building plans
 environmental and economic evidence *see* animal bones; fish bones;
 marine mollusca; phosphate analysis; plant remains; pollen analysis
 excavation evidence

prehistoric–Roman 21
 period 1 (Middle–Late Saxon) 21–6, 22
 period 2 26–7; period 2.1 (c.1000–c.1150) 27–35, 29; period
 2.2 (c.1150–c.1200) 36–42, 37
 period 3 42; period 3.1 (c.1200–c.1250) 42–52, 43; period 3.2
 (c.1250–c.1350) 52–6, 53
 period 4 (late medieval) 57–70, 58
 period 5 (post-medieval) 70–2, 71
 finds *see* building materials; coins and jetons; flint; glass; metalwork;
 pottery; slag; stone objects
 geology and topography 2–5
 historical and documentary background
 cartographic and related evidence 12–15, 13, 15
 churches 20
 local families 16, 17–19
 manorial court rolls 19–20
 manors 15–17
 origins 11–12
 sources 11
 location *xiii*, 1, 1
 project background 1–2
 research objectives 9–10
 site phasing 9
Botolph Bridge Farm 14, 15
boundary walls 58, 64–7, 65, 137, 138
Boyebey, Hugh de 16
bracelets, Roman 83, 84, 85, 128
Brackley (Northants) 139
Brandon (Suffolk) 130, 139
brewhouse *see* bakehouse/brewhouse
bricks
 Roman 106
 medieval 106, 142
bridges
 discussion 135
 excavation evidence 49, 49, 50, 55, 63, 70
Brigstock (Northants) 17, 18
Brittany, counts of 17
brooches
 Roman 83, 84, 128
 Anglo-Saxon 83, 129
 medieval–post-medieval 83, 143, 145
Buckland, Frank 120
buckles 81, 83–4, 85, 88, 88, 144, 145
Building 1
 discussion 129, 130, 131, 132, 139
 excavation evidence 21, 22, 26, 29, 30, 34
Building 2a 23, 24, 129–30
Building 2b 23, 24
Building 3 23–4, 24, 129, 130, 140–1
Building 4 24, 24, 129, 130, 140–1
Building 5 22, 24, 129
Building 6a 28–30, 29, 30, 31, 132, 141
Building 6b 31, 37, 38–9
Building 6c 31, 44
Building 6d 31, 53, 54
Building 7
 discussion 132, 133, 140
 excavation evidence 29, 30, 34, 37, 39
Building 8
 discussion 132, 133, 141
 excavation evidence 29, 30, 34–5, 35, 37, 40–1
Building 9
 discussion 132, 133, 134, 140
 excavation evidence
 period 2.2 37, 38, 38
 period 3.1 43, 44
 period 3.2 53, 54
Building 10
 discussion 133, 134, 141, 142
 excavation evidence 37, 39, 40
 fish bones 116, 117
Building 11 41–2, 41, 42, 140
Building 12a

- discussion 135, 138, 141–2
- excavation evidence
 - period 3.1 43, 48, 48, 49
 - period 3.2 53, 55, 55
- Building 12b
 - discussion 135, 138, 141
 - excavation evidence 48, 53, 55, 55
- Building 12c
 - discussion 138, 141
 - excavation evidence 58, 66, 67, 72
- Building 13a 43, 49, 51, 135
- Building 13b
 - discussion 135, 139, 141, 144
 - excavation evidence 58, 66, 67–8, 67
- Building 13c 58, 66, 68, 139
- Building 14 51, 52, 135, 140
- Building 15 53, 54, 54, 134, 141
- Building 16 45, 53, 54, 134–5, 141
- Building 17 56, 56, 69, 70, 135, 140
- Building 18
 - discussion 136, 137, 141, 144
 - excavation evidence 57, 58, 59
- Building 19 57–61, 58, 60, 136, 137
- Building 20 58, 61–3, 61, 136, 137
- Building 21 58, 62, 63, 136, 137
- Building 22 33, 58, 64, 65, 137, 141
- Building 23 58, 68, 68, 138–9
- building materials 106, 107, 142, 145
- building plans 130
 - post-in-slot and beamslot structures 140–1
 - posthole structures 139–40
 - with stone foundations 141–2
- bullet, lead 82
- burials
 - Iron Age–Roman 3, 5, 128
 - Anglo-Saxon 3, 6, 129, 130
 - see also* cemeteries
- Butcher family 19
- butchery 108, 111, 144
- buttons 83, 84, 85
- byres 136, 137

- Caldecote (Herts) 133, 140
- candleholder 70, 75–6, 145
- Carlton Colville (Suffolk) 139
- casket mount 75, 76, 76, 134, 143, 145
- Castor (Cambs) 128, 129
- Catholme (Staffs) 139
- cemeteries
 - Roman 3, 5, 128
 - Anglo-Saxon 3, 6–7, 129, 130
 - see also* burials
- chain link 83, 143
- Chalton (Hants) 139, 141
- clay pipes 71, 72, 144
- coins and jetons 73–4, 73, 128, 144, 159
- collars 88
- Cottenham (Cambs) 130
- Coutances, Bishop of 17
- Cowdery's Down (Hants) 139
- Cranford, Anne 19
- Cranford, Robert de 19
- Cranford St John (Northants) 17, 18, 19, 136
- crop processing evidence 121, 139
- cuirass hinge 81, 82, 82
- cultivation layer 54

- dagger chape 82, 82, 83, 143
- Danish raids 130, 131
- Darcy, Sir Ralf 18
- dating evidence
 - period 1 21
 - period 2 26–7
 - period 3 42
 - period 4 57
 - period 5 70
- daub 106
- Deen family 17
- Deen's Manor *see* Paynel's/Deen's Manor
- ditches
 - period 1 22, 25–6, 25
 - period 2.1 27–8, 28, 29, 32, 33, 34, 35
 - period 2.2 33, 36–7, 37, 39, 40, 40, 41, 41
 - period 3.1
 - discussion 134, 135
 - excavation evidence 33, 42–4, 43, 45, 46, 47–8, 49, 50–1, 51, 52
 - period 3.2
 - discussion 134
 - excavation evidence 33, 45, 46, 52, 53, 55, 55, 56, 56
 - period 4 33, 58, 63, 64, 66, 70, 137
 - period 5 72
- dog burials 44, 66, 68, 70
- Domesday Book 11, 12, 15, 131, 133, 142
- Dorsington (Glos) 17, 19
- dovecotes
 - discussion 138–9, 141
 - documentary evidence 20
 - excavation evidence 52, 58, 68, 68, 72
- drains
 - period 3.1 44
 - period 4 57, 59, 66, 68, 136, 137
- Drayton family 16, 17, 18–19, 135, 136, 145
 - Alice 18, 136
 - Anne 19, 145
 - Baldwin 16, 17, 18, 133, 136
 - Baldwin (son of John) 18–19, 136, 138
 - Catherine 18
 - Henry 18
 - Idonea 16, 17
 - John 17, 18, 19, 136
 - Margaret 18
 - Richard 19
 - Simon 17, 18, 136, 144
 - William 19, 20
- dress fasteners 83, 145
- dress pins 72, 83, 84, 85, 143, 144
- Dublin (Ireland) 140
- Durobrivae* 2, 128

- Eadred 11, 130
- Edmund 130
- Edward the Confessor 11, 15
- Edward IV 19
- Ely (Cambs) 118, 120, 143
- enclosures
 - period 1 25, 142
 - period 2.1 29, 30, 34, 131, 142
 - period 2.2 36–8, 37, 39, 132, 133, 142
 - period 3.1 42–7, 43, 47, 48, 49–51, 135
 - period 3.2 53, 55–6, 55, 135, 143
- Ermine Street 3, 130

- Farcet (Hunts) 131
- farm
 - discussion 135, 138–9, 141–2
 - excavation evidence
 - period 3.1 43, 48–51
 - period 3.2 52, 53
 - period 4 58, 66, 67–70
 - period 5 71, 72
- fence lines
 - period 2.2 41, 41, 133
 - period 3.2 56, 56
 - period 4 70
- field system, Roman 5
- fields
 - discussion 134, 135, 143
 - excavation evidence
 - period 3.1 43, 48, 49, 50–1
 - period 3.2 53, 55–6, 55
- fired clay 106
- fish bones
 - assemblage 116, 117
 - compared 118
 - discussion 118, 142, 143, 144
 - methodology 116
 - relative importance of taxa 116–17
 - source of fish 117–18
- fishery 18, 118, 143
- fishing weight 81, 81, 145

- flax 125, 126, 134
 Fletton (Cams) 130, 131
 Fletton Loop line 14
 flint 21, 73, 128
 Flixborough (Lincs) 130
 floor tile 106, 144, 154–5, 154
 ford 12, 14, 128, 131, 145
 Frytheric 11
- Garway (Herefs) 138–9
 Geddington (Northants) 18
 Gimeges family 16, 17, 20, 135, 136
 Idonea 16, 17, 133
 Ralph de 16, 17
 Robert de 16, 18, 132, 133
 Robert de II 16, 17
 Sybil 16
 William de 16
 glass 88–9, 89
 Goltho (Lincs) 116, 133, 134, 140, 145
 Goodfellow, Thomas 19
 Goodyer, Widow 20
 Gordon Arms 14
 grave marker 14, 14
 Great Addington (Northants) 17
 Great Yarmouth (Norfolk) 117, 118
 Green, Henry 17, 18–19
 Green Street (Northants) 132
 gun rest 82, 82, 83
- Haddon (Cams) 5
 Hall, Richard 145
 handles 77, 78, 79, 128, 145
 harness pendant 79, 80, 81, 128, 145
 hearths
 period 1 21
 period 2.1 34–5, 35, 132
 period 2.2 39, 40, 40, 133
 period 3.1 48, 49, 135, 141
 period 4 57, 60, 61, 106, 136, 137, 139, 141
 see also ovens
 Hemmingford Grey (Hunts) 17
 Henry I 17
 Henry II 16
 Higham Ferrers (Northants) 126–7, 142, 143
 hinge pivot 72, 74, 142
 hollow way
 discussion 131, 134, 145
 excavation evidence
 period 2.1 27, 29
 period 2.2 36, 37
 period 3.1 43, 47
 period 3.2 53, 55
 period 4 58, 64
 horseshoe nails 79, 80, 145
 horseshoes 79–80, 143, 145
 hundreds 11, 130
 Hunstanton (Norfolk) 120
 hunting 116, 142, 143
 Huntingdon (Hunts) 118, 131
 Huntly, Lord 2, 6
 Huxloe hundred 136
 hypocaust 128
- iron ore 2, 14
 ironworking 88
 Irthlingborough (Northants), manor 17, 18, 141, 146
 dovecote 138, 139
 malthouse 136
 roof tiles 106
 Islip (Oxon) 17, 18
- Jeffrey, Thomas, map by 12, 13, 14, 146
 jetons *see* coins and jetons
 John 12, 135
 John the Parson 18
 Joyce, Robert 20
- keys 44, 74–5, 75, 142
 King, Simon 20
 King's Lynn (Norfolk) 117
 Kingston, Mary 20
 kitchen
 discussion 133, 134, 137, 141, 144
 excavation evidence 37, 39, 40
 fish bones 116, 117
 Knights of St John of Jerusalem 20
 Knights Templar 16, 20
 knives 77–9, 78, 143, 144, 145
- Ladson, Samuel 20
 lead came 72, 74
 lead working evidence 35, 76
 Lewing, Solomon 20
 Lild, Thomas, Bishop of Ely 18
 limekiln 14
 Lizures, Hugh de 16, 132, 133
 long-house 61
 Longthorpe
 cemetery, Saxon 129
 church 11, 128
 court roll 12
 fort, Roman 6, 128, 129
lorica segmentata 81, 82, 82
 Lovet family 145
 Ann 17
 Jane 19
 Thomas IV 19
 Thomas (younger) 19
 Lovet's Manor 15–16, 133
 Lowick (Northants) 17, 18
- manors
 discussion 131–2, 132, 133–9, 137, 145–6
 documentary background 11, 12, 14, 15–17
 marine mollusca
 assemblage 118
 discussion 119–20, 142, 143, 144
 species 118
 cockle 119
 mussel 119
 oyster 118–19
 winkle 119
 Market Deeping (Lincs) 132
 Martin, George 15
 Matilda 17
 Maudeville, William de, Earl of Essex and Albermarle 17, 18
 Maxey (Cams) 102, 118
 Mellor (Lincs) 140
 Menigl, William de 12
 metalwork 74–88, 75, 76, 77, 78, 80, 81, 82, 85, 87
 metalworking, evidence for 88, 144
 Molesworth (Hunts) 17, 18
 mollusca *see* marine mollusca
- nails 74, 142; *see also* horsehoe nails
 Nene, River 2, 6, 12, 14, 119–20; *see also* fishery; ford
 New Brackley (Northants) 132
 Norman Cross hundred 11, 12, 12, 130, 135
 North Raunds (Northants) 138
 Northampton (Northants) 17
 Northampton, earl of 132
 Norton Creek (Norfolk) 120
 Norwich (Norfolk) 118, 141, 145
- offcuts, lead 35, 76
 Old Brackley (Northants) 132
 Orton Hall Farm 5, 7
 Orton Longueville 11–12, 14, 17, 19, 20, 130, 135
 Orton Waterville 11, 12, 17, 19, 130
 ovens
 period 2.2 39, 40, 41–2, 42
 period 4 66, 67–8, 67, 139
 see also hearths
 Overton Longueville, John de 18
- padlocks 74, 75, 75, 142, 143
 parishes 11–12, 12, 130
 paths
 period 3.1 49, 49

- period 3.2 55
- period 4 58, 66, 70
- period 5 71
- Pax 86, 87
- Payne, William 17
- Paynel family 17
- Paynel's/Deen's Manor 16–17
- pendant loops 84
- Peterborough (Cams)
 - Abbey 12, 15, 16, 17, 130
 - animal bones 111, 111
 - fish bones 118
 - marine mollusca 120
 - market 142
 - plant remains 127, 142, 143
 - pottery 102, 143
 - trade 144
- Peterborough Development Corporation 15
- Peterborough Gordon Golf Club 14–15
- phosphate analysis 121
- Pierpoint family 17, 19
- pig burial 112
- pilgrim souvenirs 86, 87, 144
- pins *see* dress pins
- pits
 - period 1 21, 22, 24, 24, 25
 - period 2.1 29, 30, 30, 34, 35, 132
 - period 2.2 39, 40, 133
 - period 3.1
 - discussion 134, 135
 - excavation evidence 43, 45, 47, 49, 50, 51, 51, 52
 - period 3.2 52, 53, 55–6, 55, 134
 - period 4 66, 68, 69, 70
 - period 5 71, 71, 72
- plant remains
 - discussion 126–7, 142, 143, 144
 - cereals 124–5
 - flax 125
 - pulses and legumes 125
 - wild species 125–6
- methods 122
- results 122
 - period 1 122, 160–1
 - period 2.1 122–3, 162–3
 - period 3.1 123, 164–6
 - period 3.2 124, 167–8
 - period 4 124, 169
 - period 5 124, 169
- samples 122
- plaque, lead alloy 86, 87
- Plot 1
 - period 2.1 27–34, 28, 29, 30, 131–2
 - period 2.2 36–9, 37, 40, 133
- Plot 2
 - period 2.1 29, 30, 34–5, 131–2
 - period 2.2 37, 40–1, 133
- Plot 3 29, 35, 37, 41, 132, 133
- Plot 4 29, 35, 37, 41, 132, 133
- plug, lead 76
- pollen analysis 120–1, 144
- ponds
 - period 4 58, 63, 64, 66, 66, 70, 138
 - period 5 71–2
- postholes
 - period 1 21, 23, 24, 26, 129, 139
 - period 2.1 28, 29–30, 34, 132, 140
 - period 2.2 37, 38–9, 38, 41, 140, 141
 - period 3.1 44, 51, 52
 - period 3.2 56, 56, 140
 - period 4 57, 70
 - period 5 71
- pottery, prehistoric 21, 128
- pottery, Roman 21, 89, 128
- pottery, post-Roman
 - abrasion 89
 - assemblage 89
 - Early–Middle Saxon 90–1
 - Late Saxon 91
 - high medieval 91–2
 - late medieval 92
 - post-medieval 92
 - characterisation 147, 155
 - Bourne/Baston-type ware 153–4, 153
 - Middle Saxon 147–9, 149
 - shell-tempered wares 149–52, 151–2
 - discussion 102–3, 104–5
 - discussion by period
 - period 1 92–3, 129
 - period 2 93–4, 142
 - period 3 94, 143
 - period 4 94, 144
 - period 5 94, 145
 - methodology 89
 - residuality and intrusiveness 89–90
 - site area assemblages 94–5
 - temporal variation between areas 98–9
 - variation in period 2.1 and 2.2 96
 - variation in period 3.1 and 3.2 96–7
 - variation in period 4 97–8
 - variation in period 5 98, 99
 - vessel types 99–101
 - thin section and ICPS analyses 101, 156–8
- Prayers, Alice de 19
- property boundaries
 - discussion 132, 133, 136
 - excavation evidence
 - period 2.1 27–8, 28, 29, 32, 34, 35
 - period 2.2 40
- Pyel, John 17, 18, 146
- quarries
 - documentary evidence 2, 14
 - excavation evidence
 - period 2.2 38, 133
 - period 3.1 47, 52, 134
 - period 4 63
 - period 5 71, 72
- querns 106, 107, 144, 145
- quillons 81, 82, 83, 88, 88, 143
- Ramsey (Cams) 118
- Ramsey, William 17
- Ramsey Abbey (Cams) 17
- Rannulf 11, 15–16, 131
- rattle/ventilator 86, 87
- Raunds (Northants) 10, 116, 138, 141–2
- Raveleys Hole 6
- Reyner, Sir William 20
- rings 86–8
- Ringstead, John of 18
- rivet 85, 86
- roads, Roman 3, 4, 5, 6, 128, 130; *see also* Routes 1–6
- roof tiles 106, 142
- Route 1
 - discussion 131, 134
 - excavation evidence
 - period 2.1 27, 29
 - period 2.2 36, 37
 - period 3.1 43, 47
 - period 3.2 53, 55
 - period 4 58, 64
- Route 2a 27, 29, 33, 131
- Route 2b 33, 36, 37, 132, 134
- Route 3 44
- Route 4 43, 47–8, 49
- Route 5 43, 48, 49
- Route 6 33, 58, 63–4, 63, 135, 137
- rubbing stones 106–7, 144
- Ruston (Northants) 19
- Saxton, C., map by 12
- Scaldwell (Northants) 17
- sheep burials 55, 57, 111, 144
- shellfish *see* marine mollusca
- Shirley, George 19
- Shirley, John 19
- Shirley, Sir Thomas 19
- Simeon, Simon 17, 18
- skinning, evidence for 56, 111
- slag 35, 88, 144

- Slipton (Northants) 17, 18
 Soham (Cambs) 118
 South Newington (Oxon) 17, 19, 145
 spindle whorls 76, 77, 128, 142–3, 145
 spur 80–1, 80, 145
 spur/harness buckle 80, 81, 145
 stakeholes 39
 Stanground (Cambs) 11, 12, 131
 staples 74, 142
 stone objects 106–7
 Stragsden (Beds) 16, 136
 strap ends 72, 84–6, 85, 144
 strap mounts 83, 84, 145
 strap stiffener 85, 86
 Strixton (Northants) 17, 19
 studs 74, 142
 Sudborough (Northants) 17, 18
 sunken-featured buildings 24, 130
 suspension mount 80, 81
 Sutton (Cambs) 118
 Swavesey (Cambs) 120, 140
- tacks 75, 145
 Tarry, Richard 20
 textile working evidence 76, 77, 142–3, 145; *see also* flax
 Thetford (Norfolk) 130
 thimbles 76, 77, 145
 Thorney Abbey (Cambs) 16
 Thrapston (Northants) 17
 tiles
 Roman 106
 medieval 106, 142
 trackways
 period 2.1 27, 29, 33, 131
 period 2.2 36, 37, 132–3
 period 3.1 43, 47–8, 134–5, 143
 period 4 58, 63–4, 137
 trade and exchange 143, 145
 tree throw 71
 tweezers 83, 84, 85, 128
 Twywell (Northants) 17, 18
- ventilator *see* rattle/ventilator
 de Vere family 16, 17–18
 Aubrey 17
 Aubrey II 17
 Aubrey III 17
 Henry 18
 John 18
 Raesia 17, 18
 Robert de 17
 Walter 18
 vessel, copper-alloy 76, 145
 villa, Roman 3, 5, 73, 106, 128, 130
- Wadenhoe (Northants) 17
 Wash fisheries 119–20
 water hollows/holes 51, 52
 Waterville family 12
 wells
 period 1 25
 period 2.1 35
 period 3.1 45, 47, 134
 period 3.2 45, 54
 West Cotton (Northants)
 animal bones 116
 buildings 138, 139, 141
 plant remains 126, 127, 142, 143
 West Runton (Norfolk) 120
 Wharram Percy (Yorks) 10, 116
 wheel rut 57
 whetstones 106–7, 144
 Whittlesey, John of 18
 Whittlewood Project 131
 William I 11, 15
 William II 17
 William of Thorpe 12
 windmill 14
 window glass 88, 89, 144
 Wisbech (Cambs) 120
 Woodston (Cambs) 12, 130, 131
 Wulfwine 17
- yards
 period 2.2 39
 period 3.1 49, 49
 period 3.2 54, 54, 135
 period 4 58, 63, 66, 70, 136–7
 period 5 71, 72
 Yaxley (Cambs) 120, 131, 135, 142
 Yelling (Hunts) 17

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