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JSAC JOHN SAMUELS ARCHAEOLOGICAL CONSULTANTS

Results of Archaeological Trial Trenching: East Street, Crowland, Lincolnshire (Planning Application Ref. H02/0812/01)

NGR TF 2405 1025

by

John Samuels Archaeological Consultants

on behalf of

M.Parker & Sons Ltd.
St. Johns Road,
Spalding,
Lincolnshire
PE11 1JX.

Site Code: ESC01
Accession No.: 2001.261

JSAC 865/02/03

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REGISTERED ORGANISATION IFA

INQUAR QUALITY ASSURED FIRM UKAS QUALITY MANAGEMENT 026
Certificate Number 1967/99

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Contents

Summary

M. Parker & Sons propose to develop approximately 0.1ha of land to the south of East Street, Crowland, Lincolnshire. John Samuels Archaeological Consultants were commissioned to undertake a pre-determination evaluation of the site and this report details the results of this work.

The site lies on the southern side of East Street within the Conservation Area and adjacent to the Manor House, to the east of the Holy Trinity Bridge (SAM 7) and to the west of Crowland Abbey (SAM 22613). Archaeological remains close to the development site date from the Neolithic period and later. Saxon and medieval remains have been recorded at Abbey Walk, close to the site during archaeological monitoring. The Abbey and Holy Trinity Bridge are of medieval date, with the site being located halfway between the two.

The results of the evaluation have established that remains of medieval/late-medieval date exist within the development boundaries at a minimum depth of 0.9m below the present ground surface. These remains comprise a well containing a bone skate and 12th-13th century pottery, stone walls, a pathway/surface and garden soil containing 15th-16th century pottery, and a garden soil of 17th-19th century date. Modern disturbance seal these deposits.

1.0 Introduction

Site location and description

1.1 The proposed development site is located to the south of East Street, Crowland, Lincolnshire (NGR TF 2405 1025 at a height of 4.62m AOD (Figures 1 & 2). The site is trapezoidal in plan covering an area of approximately 0.1ha. The site is currently developed with sheds and buildings occupying just under half the site (Plate 1). Soils at the site are Ireton Association (873) comprising humose coarse and fine loamy soils over sandy soils overlying glaciofluvial drift (SSEW 1983).

Planning Background

1.2 Discussions with the Archaeological Advisor, South Holland District Council concluded that a trench measuring 10m x 3m should be excavated archaeologically (3% evaluation). The objective of the evaluation was to identify whether any remains exist and if so, define their nature, condition, extent and depth (Plate 2).

1.3 This report conforms to the requirements of *Planning Policy Guidance: Archaeology and Planning* (DoE 1990) (PPG16). It has been designed in accordance with current best archaeological practice and the appropriate national standards and guidelines including :

Management of Archaeological Projects (English Heritage, 1991);

Model Briefs and Specifications for Archaeological Assessments and Field Evaluations (Association of County Archaeological Officers, 1994);

Code of Conduct (Institute of Field Archaeologists, 1994);

Standard and Guidance for Archaeological Field Evaluations (Institute of Field Archaeologists, 1994; revised 1999).

The Lincolnshire Archaeological Handbook (Lincolnshire County Council 1998).

1.4 The field evaluation was undertaken in October 2001 by Dan Slatcher BA, MA, MIFA and Jenny Young BA(Hons), MA, AIFA. This report was written by Jenny Young in consultation with Clare Herring BA(Hons), MPhil (Cantab).

2.0 Archaeological Background

2.1 The earliest archaeological remains close to the site date from the Neolithic period and later. Prehistoric finds include Neolithic flint axes (SMR 22005) and an Iron Age bronze pin (SMR 22018). The Romano-British period is represented by an intaglio found at Crowland Abbey (SMR 22049).

2.2 Crowland is a known medieval settlement (SMR 20268) although documentary sources suggest an earlier Saxon origin. The name Crowland derives from the Old English words *crūw* or *crūg* meaning a bend and *land* denoting land in a bend of the River Witham (Cameron 1998).

2.3 Crowland is known to have been in existence in the early 8th century when Felix the biographer of St. Guthlac, described Crowland. It is at this date that Crowland Abbey is thought to have been founded (Hayes & Lane 1992). A later 10th century date is however the preferred foundation date. By the time of the Domesday Survey of 1086AD Crowland Abbey held land in nine parishes although Crowland itself was not included in the survey (Hayes & Lane 1992). By the early 12th century, the Abbey was rebuilt under Geoffrey of Orleans (Pevsner 1989) and saw renovations in later periods. There are no surviving remains of the monastic premises.

2.4 Close to the development site, at Abbey Walk, archaeological evaluation and a watching brief has recorded limestone structural remains and pottery from the Saxon and medieval periods (SMR 23653, 23654, 23655, 23705).

2.5 Medieval remains include chance finds and settlement remains. The 14th century tri-partite Holy Trinity Bridge (SMR 20552/SAM 7)) once spanned a canalised course of the River Welland which has since been diverted. A carved bone knife (SMR 20266) has been recorded at Crowland Abbey and pottery of this date has been recorded during building works (SMR 20543).

2.6 The post-medieval period is also represented by chance finds and remains. A hoard of late 17th century farthings were recorded during the demolition of a wall in the late 18th century (SMR 22015). A mounting block has been recorded on East Street (SMR 22050). Probable mill mounds of post-medieval date have been recorded to the east of the site (SMR 22020). The modern period is represented by a fingerpost (SMR 23698).

3.0 Results

3.1 Pre-13th century

3.1.1 The earliest feature encountered during excavation comprised a stone lined well constructed from Barnack limestone. The well was not excavated and remains preserved in situ at a depth of approximately 1.3m below the present ground surface. The well was butted up to by a grey sandy deposit (014) containing frequent limestone. On the northern side of the well, the limestone had been placed to form a flat surface and, on the southern side formed a revetment or retaining feature of the underlying natural geology at a depth of 1.2m below the present ground surface (see Figure 3 & Plate 3). On the southern end of the trench this deposit/layer appeared to continue under a wall ,(024) with the upper level of this deposit being recorded at a depth of 0.3m below the upper level of the wall (024). A hardened layer of white grey silt (025) was recorded sealing deposit (014) and contained no dating evidence. This layer has been interpreted as representing a floor surface leading to the well.

3.2 13th-15th Centuries

3.2.1 The earliest fill of the well (012/3), which was investigated to a depth of 0.4m below the well's mouth, comprised a loose orange brown silty sand containing frequent limestone and represents a rapid infilling of the well. Three sherds of pottery dated to the 13th-15th centuries was retrieved from this deposit suggesting a pre-13th century date for the well and surface (025 & 014). Of particular interest, was a bone skate made from a horse radius which was recovered.

3.3 15th-17th centuries

3.3.1 To the south of the well, an orange-brown silty clay (027) at a depth of 0.9m below the present ground surface was recorded and was sealed by (021). Both these deposits are interpreted as forming a pathway or surface at a divide between two properties. Pottery retrieved from (021) has been dated to the 15th-16th centuries. A redeposited yellow-brown clay layer (026), had been deposited in a slight depression above (021) but contained no dating evidence.

3.3.2 Deposits (021) and (027) butted up to two east-west aligned walls (024) and (023) The wall remains were constructed of Barnack limestone, with some shaped blocks and others roughly hewn. The walls in themselves are not substantial enough to have been load bearing walls and therefore have been interpreted as denoting property divisions. The uppermost levels were encountered at 0.9m below the present ground surface.

3.3.3 At the southern end of the trench, wall (023) was butted by a deposit (018), recorded at a depth of 0.9m below the present ground surface. Layer (018) comprised an orange grey

silty clay and has been interpreted as representing redeposited natural and contained 5 tile and 1 brick fragment of medieval-post-medieval date. At the southern end of the trench an area of silt and charcoal was recorded (022) but contained no dating evidence.

3.3.4 Within deposit (018), a slight depression containing dumped deposit (015/017) was recorded. Deposit (015/017) comprised a black organic silt containing frequent limestone (some worked and shaped) and 42 fragments of 15th-16th pottery along with sheep and cattle bone. Within this deposit, brick and stone had been placed on a north-south alignment to form a hardened surface leading northwards towards wall (023) and the division between the property boundaries. This was recorded at a depth of 0.95m below the present ground surface and was sealed by a dark brown silty clay (016). The upper level of deposit (016) was recorded at 0.80m below the present ground surface and contained no dating evidence.

3.3.5 The earliest fill of the well (012/013) which was investigated, was sealed by (011) comprising a firm, black silty organic material with the upper level recorded at 0.8m below the present ground surface. This layer contained five sherds of pottery dated to the 15th-17th centuries and appears to have formed within a hollow formed after the infilling of the well. Five pieces of animal bone including sheep or goat (some butchery marks present), cattle and pig bone were retrieved.

3.3.6 A 0.3m thick deposit of firm, greenish black clayey silt (009/010) sealed (011) and was recorded at a depth of 0.95m below the present ground surface. This layer has been interpreted as representing a garden soil related to the later use of the property fronting onto East Street. Only one piece of pottery dated to the 15th-17th centuries period was recovered suggesting a rapid infilling. Ten fragments of animal bone were retrieved and species represented include cattle and sheep or goat, with only one cattle bone showing signs of butchery.

3.4 17th-19th century

3.4.1 Layer (009/010) was in turn sealed by (007/008), a 0.6m thick layer of dark greenish black clayey silt containing 14 fragments of late 17th-19th century pottery, 1 brick, sheep, pig bone and occasional mussel and oyster shell. The purpose of this layer has been interpreted as a garden soil related to the sites later occupation.

3.5 19th-20th century

3.5.1 A modern cut [006], was recorded cutting through (007/008) and contained a series of dumped fill (005- 002) containing modern debris. A horse tooth, pottery and glass of 19th-20th century date was recovered from (005) during excavation. A concrete post (020) was recorded cutting through (007/008). All deposits were sealed by a 0.3m thick modern surface (001/019) comprising dumped deposits of silts and gravels intermixed with topsoil.

4.0 Discussion

4.1 Archaeological evaluation at East Street, Crowland has recorded the presence of structures dating from the 13th century and possibly earlier. Fieldwork undertaken to the east of the site at Abbey Walk, confirmed that a presence in the Saxon period existed. However, the current evaluation did not encounter deposits of this date. This can be attributed to the level at which the excavation ceased, that is, the upper horizon of archaeological features. It is possible that remains of an earlier date exist below the upper archaeological horizon investigated.

4.2 The earliest deposits the current evaluation recorded comprised a well possibly related to a property fronting onto East Street at a depth of 1.3m below the present ground surface. The pottery retrieved suggests an infill date of between c. 1200-1499AD.

4.3 Sometime during the 13th-15th centuries it appears that the well may have fallen into disuse and was rapidly infilled. A garden soil then developed or was dumped over the top of the well and was retained by wall (024). A parallel wall (023) was also constructed at the southern end of the site, leaving a partition between the two properties. The alignment of the partition or pathway would suggest that this may have been used as an access route to the Abbey and possibly led through to the Holy Trinity bridge. The pottery retrieved suggests that this route was in use in the 15th-16th centuries.

4.4 By the 17th-19th centuries it appears that the site still retained its use as a garden with very little domestic debris present. This use has continued up until more recent times.

4.5 The finds retrieved from the site suggest occupation or activity from the 13th century with regional imports being present at this time (see Appendix C). The 15th-17th centuries are mainly represented by Bourne D ware types although one sherd of a Dutch red earthenware bowl with a frilled footring is noted as being the first example recorded in the county.

4.6 The presence of medieval-post-medieval tile confirms the presence of buildings during these periods along with handmade brick.

4.7 The animal bone recovered generally shows no signs of butchery and cattle, sheep or goat, horse and chicken are represented (Appendix D). A bone skate made from a horse radius was recovered from the upper infill of the well and such finds are quite common in deposits dated to the 8th-13th centuries (Appendix E).

4.8 In general, the archaeological evaluation has confirmed a presence of well-preserved and surviving stone structures at East Street, Crowland at a minimum depth of 0.9m below the present ground surface. Opportunities to investigate the buried archaeological resource in the centre of Crowland are rare and the evaluation has established that there is a high potential for well-preserved remains to exist at depth.

5.0 Figures

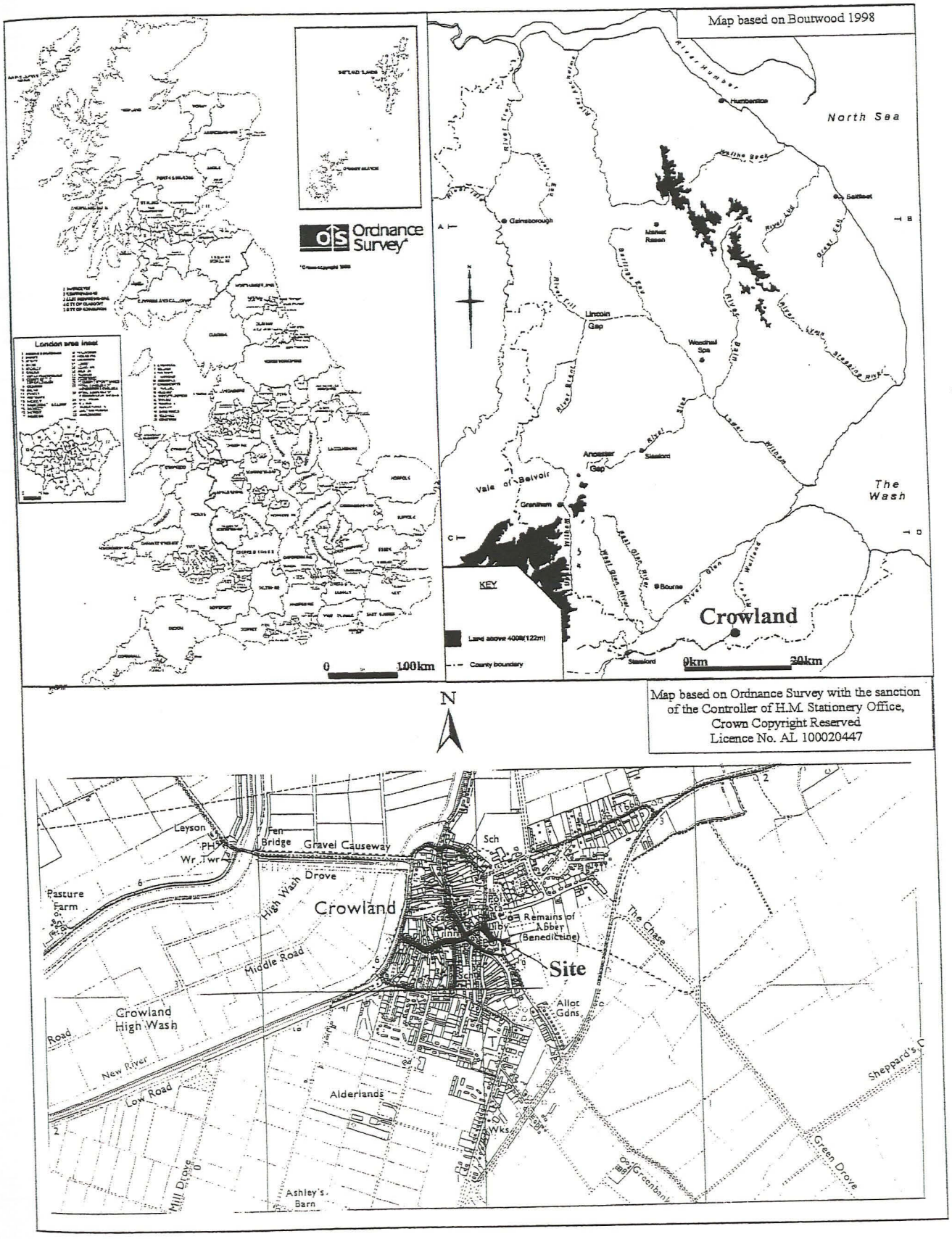
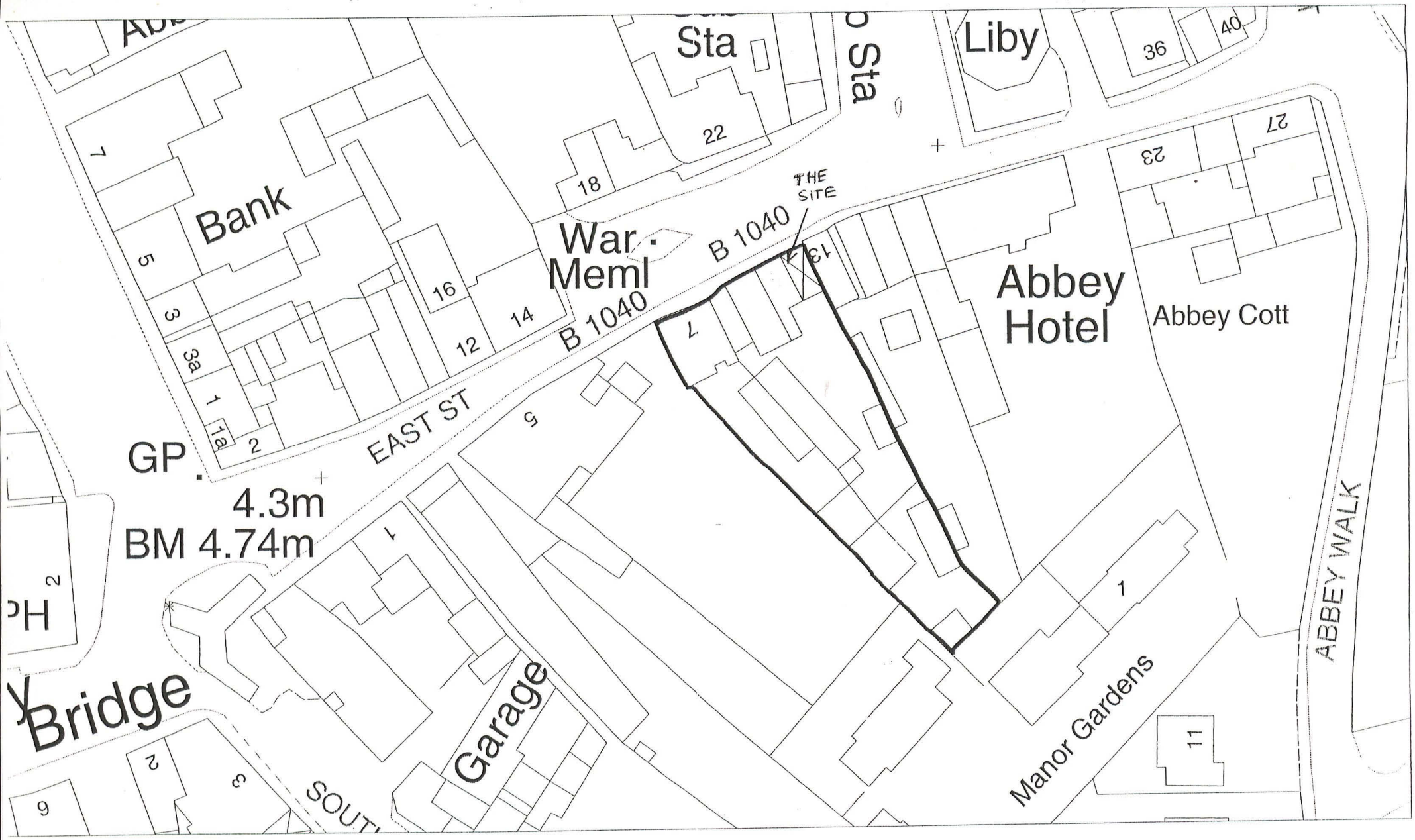


Figure 1. Site location



Not to scale

Figure 2. The site in more detail

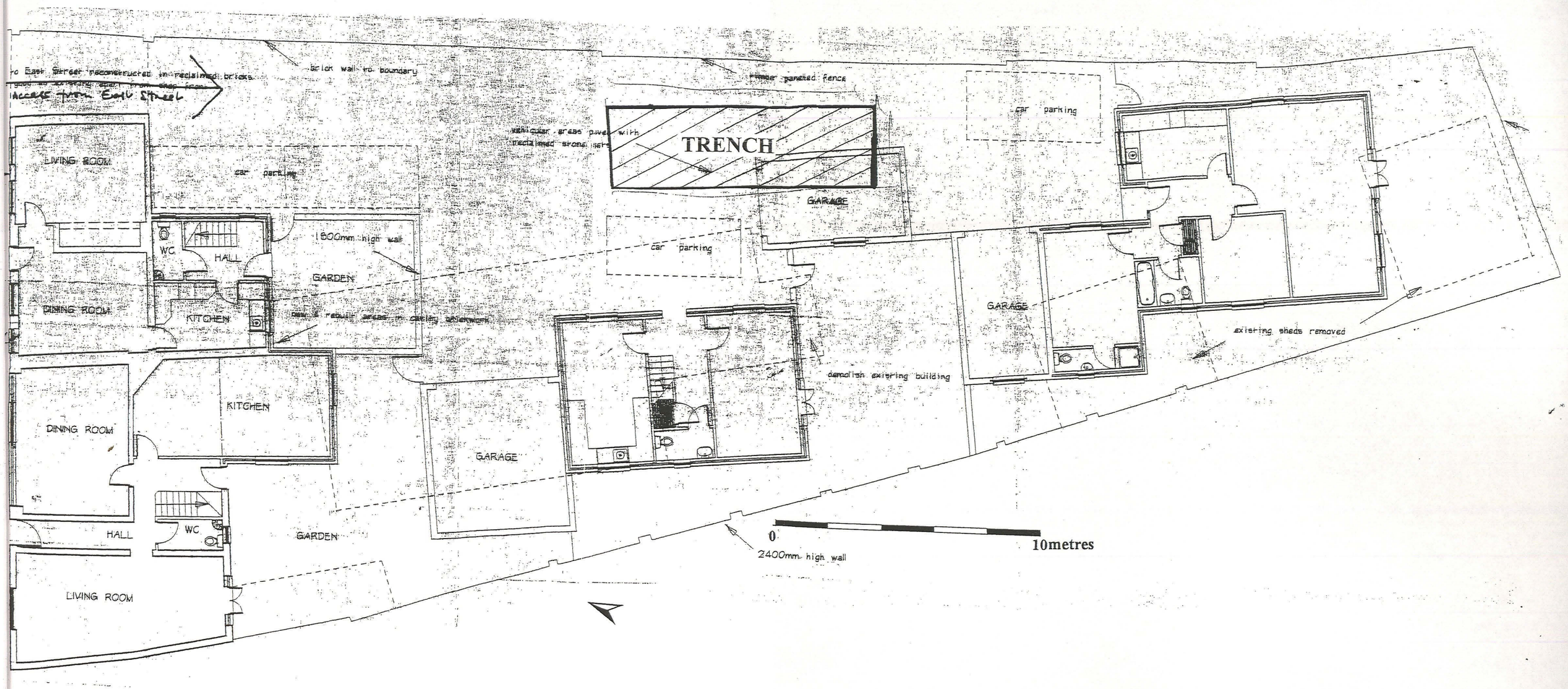
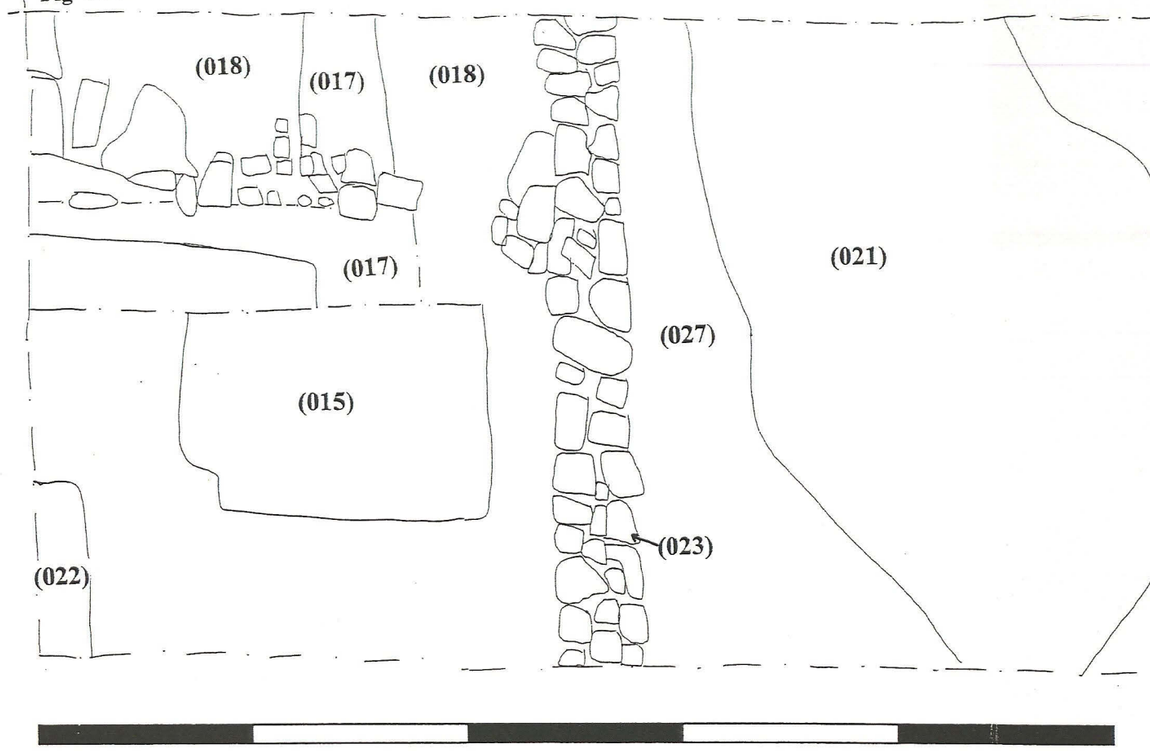


Figure 3. Proposed development and trench location. Scale 1:100

Figure 5



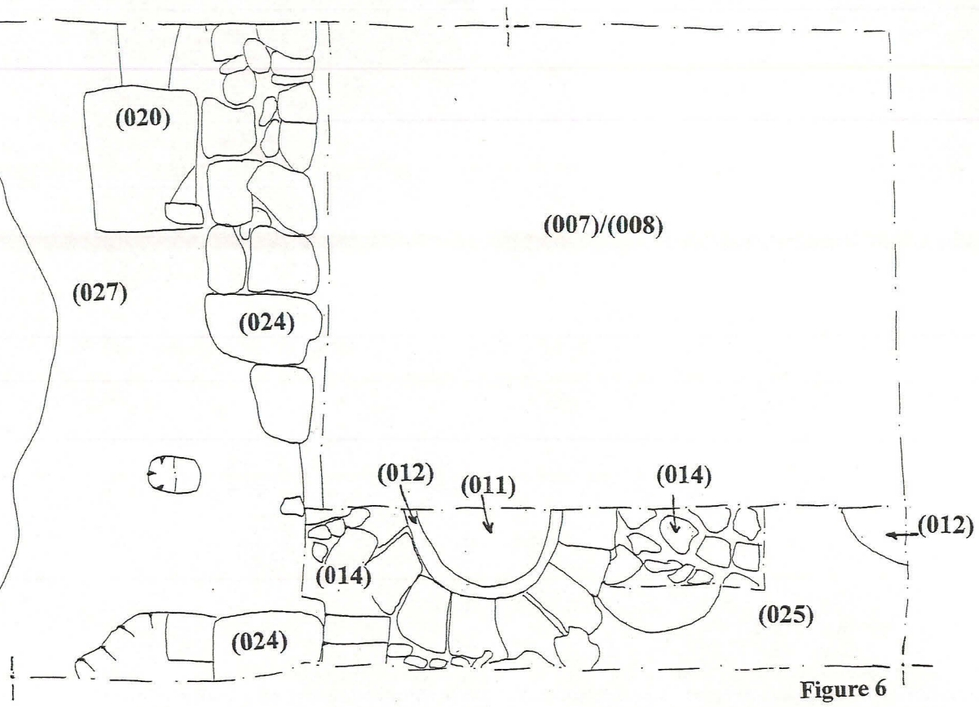


Figure 6

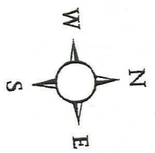


Figure 4. Plan of the trench

West Section

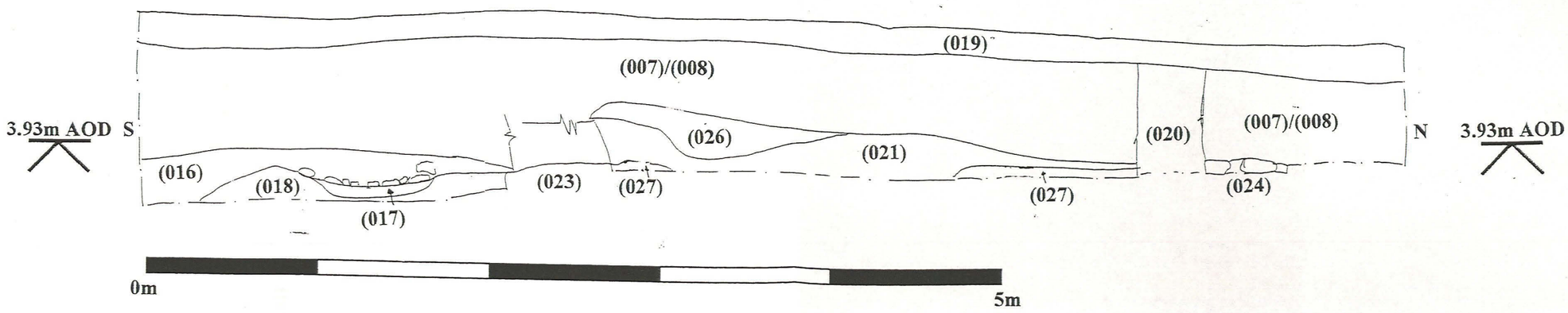


Figure 5. Western section

East Section

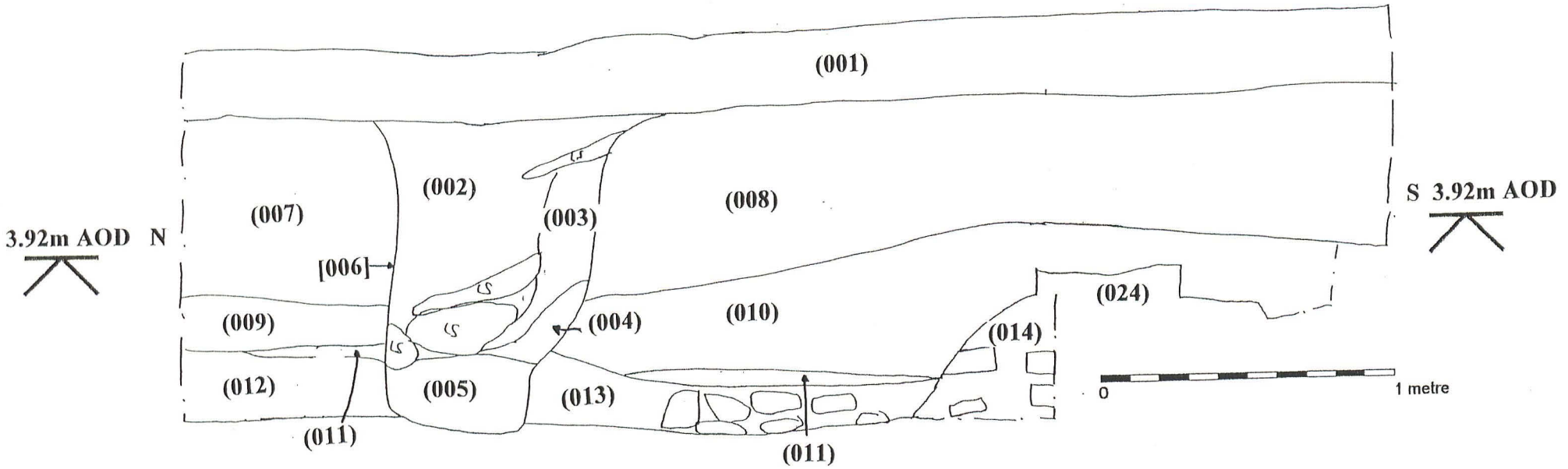


Figure 6. Eastern section

6.0 Plates

Plate 1. The site prior to trenching
Plate 2. The trench after machining and cleaning showing context (015) in the foreground
Plate 3. Stone lined well
Plate 4. The trench after excavation with context (015/ 017, 018) in the background and (023) & (024) in mid-shot

Plate 1. The site prior to trenching

Plate 2. The trench after machining and cleaning showing context (015) in the foreground

Plate 3. Stone lined well

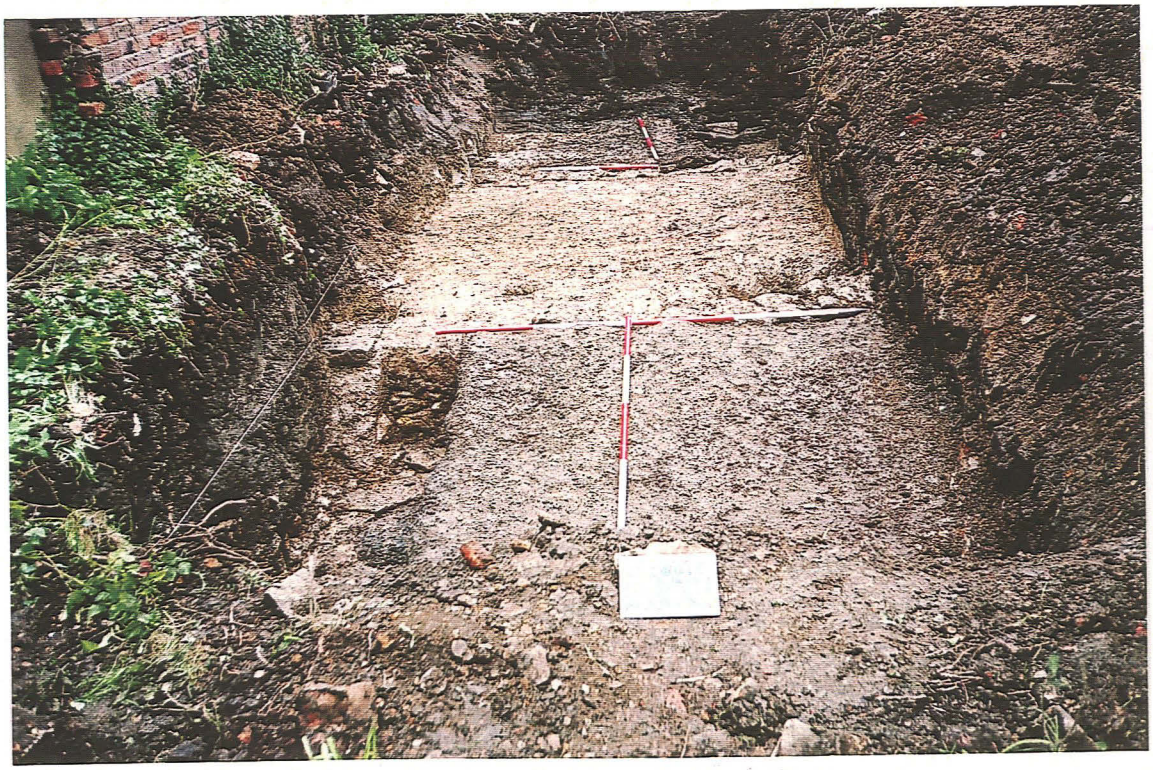


Plate 4. The trench after excavation with context (015/ 017, 018) in the background and (023) & (024) in mid-shot

7.0 Bibliography

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APPENDIX A:

Context Summary

Context No.	Description	Date	Interpretation
001	Firm, black and orange silts and gravels (same as 019)	Modern	Modern surface
002	Firm, black and orange silty clay and gravel	Modern	Upper fill of [006]
003	Firm, black clayey silt containing peagravel and stone	Modern	Secondary fill of [006]
004	Soft, orange sand	Modern	Secondary fill of [006]
005	Soft, black clayey silt	19th-20th century	Primary fill of [006]
006	Straight sided, flat based cut	Modern	Pit
007	Firm, dark greenish black clayey silt containing occasional rounded stone, oyster, mussel and brick (same as 008)	17th-19th century	Garden soil
008	Firm, dark greenish black clayey silt containing occasional rounded stone, oyster, mussel and brick (same as 007)	17th-19th century	Garden soil
009	Firm, greenish black clayey silt containing occasional limestone and rounded stone (same as 010)	15th-17th century	Garden soil
010	Firm, greenish black clayey silt containing occasional limestone and rounded stone (same as 009)	15th-17th century	Garden soil
011	Firm, black silty organics	15th-17th century	Well infill
012	Loose, orange brown silty sand containing frequent limestone (same as 013)	13th-15th century	Well ifill
013	Loose, orange brown silty sand containing frequent limestone (same as 012)	13th-15th century	Well ifill
014	Firm, grey sand containing frequent limestone	Pre-13th century	Revetment/retaining material
015	Firm to soft black charcoal and silt containing frequent to moderate limestone (same as 017)	15th-16th century	Dumped deposit
016	Firm, dark brown silty clay	Unknown	Layer
017	Firm to soft black charcoal and silt containing frequent to moderate limestone	15th-16th century	Dumped deposit

Context No.	Description	Date	Interpretation
	(same as 015)		
018	Firm, orange grey silty clay	Medieval/post -medieval	Redeposited natural
019	Firm, black and orange silts and gravels (same as 019)	Modern	Modern surface
020	Concrete and silty clay	Modern	Concreted post
021	Firm, greenish grey silty clay	15th-16th century	Redeposited natural
022	Soft, black silt and charcoal	Unknown	Dumped layer
023	Barnack limestone blocks some shaped and roughly hewn	?15th-17th century	Wall
024	Barnack limestone blocks some shaped and roughly hewn	?15th-17th century	Wall
025	Firm/compact whitish grey silt	13th-15th century	Compacted layer
026	Firm, yellowish brown clay	Unknown	Redeposited natural
027	Firm, orange brown silty clay	?15th-17th century	Redeposited natural

APPENDIX B:

Finds Summary

Context No.	Type	Number	Description	Date
005	Glass	1		Post-medieval
	Pot	3		19th/20th century
	Animal bone	1	Horse	
007	Pot	14		Late 17th-19th
	Animal bone	2	Sheep, pig	
	Clay pipe	1		
	Brick	1		
009	Pot	1		15th-17th
	Animal bone	11	Cattle, sheep or goat	
011	Pot	5		15th-17th
	Tile	1		Roof tile - limestone
	Animal bone	6	Cattle, sheep or goat, pig	
012	Pot	3		13th-15th
	Animal bone	11	Chicken, cattle, sheep or goat, horse, pig	
015	Pot	25		15th-16th
	Brick	2		
	Animal bone	4	Cattle, sheep, goat	
	Nails – iron	2		
017	Pot	17		15th-16th
	Animal Bone	5	Cattle	
018	Tile	5		Med-post-med
	Brick	1		
021	Pot			15th-16th

APPENDIX C:

SPECIALIST POTTERY REPORT & ARCHIVE

Archive Report on the Post-Roman Ceramic Building Material and Pottery from 7 East Street, Crowland, Lincolnshire (ESC01)

Jane Young
Lindsey Archaeological Services

Introduction

Seven fragments of ceramic building material and sixty-eight sherds of post-Roman pottery representing sixty-one vessels were recovered from the site. The material ranges in date from the medieval to the early modern period. The material was examined both visually and using x20 magnification, then recorded on an Access database using locally and nationally agreed codenames.

Condition

The material recovered is mainly in a fair condition with most pottery sherds showing a small degree of abrasion.

Overall Chronology and Source

A range of thirteen different, identifiable post-Roman pottery ware types and two types of ceramic building material were found on the site. The types and general date ranges for these fabrics are shown in Table 1. A very limited range of pottery vessel types was recovered including jars, bowls and jugs.

Table 1: Ceramic codenames and date range with total quantities by sherd or fragment count

codename	full name	earliest date	latest date	sherds/frags
BRK	Brick	Tudor	post-med	2
BOU	Bourne D ware	1450	1650	40
BOUA	Bourne-type Fabrics A, B and C	1150	1350	6
DUTR	Dutch Red Earthenware	1250	1650	3
ELY	Ely-type ware	1175	1350	1
GRE	Glazed Red Earthenware	1500	1650	3
GRIM	Grimston ware	1200	1550	1
LMLOC	Late Medieval local fabrics	1350	1550	6
LMX	Late Medieval Non-local fabrics	1350	1550	1
MISC	Unidentified types	400	1900	1
NOTS	Nottingham stoneware	1690	1900	1
PMLOC	Post-medieval Local fabrics	1450	1700	1
PNR	Peg/nib tile	1200	1600	5
TB	Toynton/Bolingbroke wares	1450	1750	3
TOY	Toynton Medieval Ware	1250	1450	1

The Pottery

Post-Roman pottery was recovered from eight stratified contexts (see Table 2); only a small number of sherds were recovered from each context. The earliest stratified pottery is of 13th to 15th century types (context 012) and includes regional imports from Grimston and Ely. Other vessels of medieval date were found residually. A single sherd of Nottingham brown Stoneware recovered from context 007 is of late 17th to 19th century date. The remaining pottery recovered from the site is of late to post-

medieval date (15th to 17th century); mainly vessels in Bourne D ware (40 sherds). It is now becoming evident that this fabric type although visually similar, is, under a x20 binocular microscope very variable. Sherds in this ware type have therefore been assigned sub-fabric numbers that may in the future enable the assemblage to be more tightly dated. The vessels from this site fall almost equally into fine and coarse fabrics. Vessels in other local and regional fabrics include examples from the Toynton/Bolingbroke and Boston kilns. The presence of a Dutch Red Earthenware bowl with a frilled footring may be significant as this is the first example of this type to be noted by the author in the county.

Table 2: Suggested deposition date of ceramic groups from stratified contexts

context	date	comments	tile/brick frags	pottery sherds
007	late 17th to 19th	date on latest sherd	1	14
009	15th to 17th		0	1
011	15th to 17th		0	2
012	13th to 15th		0	4
015	15th to 16th		1	25
017	15th to 16th		0	17
018	13th to 16th	tile only	5	0
021	15th to 16th		0	5

Ceramic Building Material

A small group (5 fragments) of flat roof tile was recovered from the site; all the tiles are probably of medieval to early post-medieval date. Two fragments of handmade brick in a fine dark red fabric are probably examples of Tudor brick. One brick is highly fired and is glazed on one surface with a green glaze. This brick is most unusual in that a piece of cloth has become embedded in the fabric during manufacture and after burning out during firing has left a clear impression of the weave.

Summary and Recommendations

This is a small mixed assemblage of post-Roman pottery and ceramic building material suggesting activity in the area from the medieval period through to the early modern period. There appears to have been an intensive period of activity in the late medieval to early post-medieval period probably between the 15thand the 16th centuries.

Three sherds of Bourne ware and two Local Late Medieval sherds have been removed to a temporary Fabric Type Series. A specialist (who may be able to help with the dating) should perhaps see the cloth impression on the Tudor brick. The assemblage should be kept for future study.

Tile Archive ESC01

Jane Young *Lindsey Archaeological Services*

context	cname	frags	weight	description	date
007	BRK	1	284	handmade;red fabric;white salt surfacing;glazed;cloth impression in fabric	tudor ?
015	BRK	1	29	handmade	tudor ?
018	PNR	1	143		med to post-med
018	PNR	1	159		med to post-med
018	PNR	1	64	mortar	med to post-med
018	PNR	1	48	white salt surfacing;semi vitr	med to post-med
018	PNR	1	70		med to post-med

Pottery Archive ESC01

Jane Young *Lindsey Archaeological Services*

context	cname	sub fabric	form type	sherds	vessels	weight	decoration	part	action	description	date
007	BOU	1	bowl	2	1	31		base			
007	BOU	2	jug/jar	1	1	5		base			
007	BOU	2	jug/jar	1	1	31		BS		cu glaze	
007	BOU	2	jug/jar	1	1	5		BS			
007	BOU	2	small jug	1	1	60		base			
007	BOU	4	jug/jar	1	1	20		BS		glaze	
007	BOU	7	jug	1	1	61		handle			
007	GRE		bowl ?	1	1	10		base			
007	GRE		bowl ?	1	1	20		base			
007	GRE		jar/pipkin	1	1	37		rim			
007	NOTS		?	1	1	4		BS			
007	PMLOC	bright oxid;fine-med sandy;hard	jar/jug	1	1	27		BS		amber glaze;red slip;abun fine quartz some larger occ fe	
007	TOY		jug ?	1	1	13		BS		or TOYII	
009	BOU	2	small jug	1	1	2		rim		cu glaze	
011	BOU	3	jug/jar	1	1	17		BS			
011	BOUA	A/B	jar	1	1	6		BS		soot	
012	BOU	4	jug/jar	1	1	8		BS		cu glaze	med ?

context	cname	sub fabric	form type	sherds	vessels	weight	decoration	part	action	description	date
012	ELY		jug	1	1	52	long stabbings	handle		wide strap;? ID	
012	GRIM		small jug	1	1	5		rim		? ID or fine BOUA Fabric A	13-15th
012	MISC	dull oxid;med sandy;hard	?	1	1	24		base		comm round-subround quartz .4-.8mm some fe stained mod fe;?? ELY	saxo-Norman to med
015	BOU	3	jug/jar	1	1	8		BS			
015	BOU	3	jug/jar	1	1	7		BS			
015	BOU	3	large jug/jar	5	1	292		base & BS			
015	BOU	3	small jug/jar	1	1	6		BS			
015	BOU	6	jug/jar	1	1	15		BS	Fabric type series	thin walled	
015	BOU	7	bowl	1	1	21		BS	Fabric type series	semi vitrified;same vessel context 017	
015	BOU	7	jug	1	1	11		LHJ			
015	BOU	7	jug/jar	1	1	27		BS		same vessel context 017	
015	BOU	7	jug/jar	1	1	39		BS	Fabric type series		
015	BOU	7	jug/jar	1	1	10		BS		interior deposit	
015	BOU	7	jug/jar	1	1	10		BS		low fired	
015	BOU	7	jug/jar	1	1	10		BS		flake	
015	BOUA	A	jug/jar	1	1	10		BS		reduced glaze;thin walled;? ID;may be same vessel as below	
015	BOUA	A	jug/jar	1	1	31		base		reduced glaze;thin walled;? ID;may be same vessel as above	

context	cname	sub fabric	form type	sherds	vessels	weight	decoration	part	action	description	date
015	BOUA	A/B	jar/jug	1	1	3		BS			
015	DUTR		frypan	1	1	21		BS		soot	
015	DUTR		large bowl ?	2	1	123		base & BS		footring;thick amber glaze int & ext;form unusual in Lincs	
015	LMLOC		jug/jar	1	1	31		BS		thin glaze;same vessel context 017	
015	LMLOC	OX/R/OX;fine sandy;hard	large jug/jar	1	1	81		base		mod subround quartz occ limes/chalk;poss a Bourne product	
015	LMX	OX/R;med sandy;hard	very large jug/	1	1	175		BS		flaked int;mixed fine-med quartz sparse coarser sparse limes/chalk;less poss a Bourne	
017	BOU	1	small jug/jar	1	1	15		BS		thin walled	
017	BOU	2	jug/jar	1	1	27		BS			
017	BOU	2	jug/jar	1	1	31	pressed strip at neck ?	neck		int soot ?	
017	BOU	3	jug	1	1	72		rim		cu speckled glaze	
017	BOU	3	jug/jar	1	1	10		BS			
017	BOU	7	bowl	1	1	18		BS		same vessel context 015	
017	BOU	7	jug/jar	1	1	36		BS		same vessel context 015	
017	BOU	7	jug/jar	2	1	8		BS			
017	BOU	8	jug/jar	1	1	11		BS			
017	BOUA	A/B	jar	1	1	9		BS		int glaze	

context	cname	sub fabric	form type	sherds	vessels	weight	decoration	part	action	description	date
017	LMLOC	oxid with reduced margins;fine-med sandy;hard	jar/jug	1	1	6		BS	Fabric Type Series	sistinctive thin glaze on lower body;abun fine-med quartz sparse fe;?? A fine TB;same vessel context 015	
017	LMLOC	reduced with oxid outer margin;fine-med sandy;hard	jar/jug	1	1	14		BS	Fabric Type Series	sistinctive thin glaze on lower body;abun fine-med quartz sparse fe;?? A fine TB	
017	LMLOC	reduced;fine-med quartz occ fe;int soot	jar/jug	1	1	3		base		scar of stacked vessel	14-16th
017	LMLOC	reduced;med ssandy;hard	large jug	1	1	36	pressed basal edge	base		thick reduced glaze;abundant fine-med quartz occ fe;int soot	14-16th
017	TB		bowl	1	1	72		rim		cracked in firing ?	14-16th
017	TB		jar/jug	1	1	8		BS			14-16th
021	BOU	2	large jug/jar	1	1	106		BS		internal deposit	
021	BOU	2	large jug/jar	1	1	18		BS		internal deposit ?	
021	BOU	4	large jug/jar	1	1	109		base			
021	BOUA	A/B	jug	1	1	14		handle		strap handle;? Not a Bourne product ?? ELY	13-14th
021	TB		jar	1	1	26		BS		? Not Toynton kilns	15-16th

APPENDIX D:

BONE ARCHIVE

Archive Catalogue of Animal Bone from Crowland – ESC01

site	cont.	species	bone	no.	side	fusion	zone	butchery	gnawing	toothwear	measurement	path.	comment	preservation
ESC01	005	EQU	LPM2	1	R								NO WEAR	4
ESC01	007	SSZ	RIB	1	R	PN	1						PROX AND MIDSHAFT	4
ESC01	007	SUS	MT4	1	L	DN	12						DISTAL EPIPHYSIS LOST	4
ESC01	009	BOS	FEM	1	F		4						PROX PART DISTAL FOSSA	4
ESC01	009	BOS	FEM	1	L	PN		CH					DISTAL SHAFT FRAGMENT-CHOPPED ACROSS DISTAL END- 3 PIECES	4
ESC01	009	BOS	FEM	1	R		4						DISTAL SHAFT FRAGMENT	4
ESC01	009	BOS	INN	1	L	EF	459		DG				ACETABULUM-CHEWED-FEMALE?	4
ESC01	009	BOS	PH1	1	L	PF	12						SOME DAMGE	4
ESC01	009	CSZ	LBF	2	F								SHAFT FRAGMENT	4
ESC01	009	CSZ	RIB	1	F								SPLIT SHAFT FRAGMENT	4
ESC01	009	CSZ	UNI	1	F								INDET	4
ESC01	009	OVCA	LMV	1	L	CJAJ	234	CH					CENTRUM AND TRANS PROCESS-CHOPPED DOWN MIDDLE	4
ESC01	011	BOS	AST	1	F				DG				LATERAL FRAGMENT-WELL CHEWED	4
ESC01	011	BOS	MAN	1	R		6						POST VENTRAL PART HORI RAMUS	4
ESC01	011	OVCA	INN	1	L	EF	456789	CH					POST INNOMINATE-ILIUM CHOPPED OFF	4
ESC01	011	OVCA	INN	1	R		46						PUBIS	4
ESC01	011	SUS	MAN	1	R		678			h I7J3K0			POST TOOTH ROW AND ANGLE OF JAW- 2 PIECES	4
ESC01	012	BOS	LI	1	R								MEDIUM WEAR	4
ESC01	012	CHIK	FEM	1	L						GL-74.2 SD-6.9		COMPLETE	4
ESC01	012	CSZ	LBF	1	F								SHAFT FRAGMENT	4
ESC01	012	CSZ	LBF	1	F								SHAFT FRAGMENT	4
ESC01	012	CSZ	RIB	1	L				DG				PROX SHAFT FRAGMENT-CHEWED	4
ESC01	012	EQU	RAD	1	R			W					DISTAL SPLIT SHAFT-SKATE- ANT SURFACE SMOOTHED FLAT	4
ESC01	012	OVCA	HUM	1	L	DF	6789		DG				DAMAGED DISTAL HALF-CHEWED	4
ESC01	012	OVCA	LM3	1	R					K12			COMPLETE	4
ESC01	012	OVCA	MAN	1	R		123						ANT RAMUS	4
ESC01	012	SSZ	LBF	1	F								SHAFT FRAGMENT	4
ESC01	012	SUS	MAN	1	L		123			fg			ANT RAMUS-INCISORS AND CANINE UNERUPTED-DEC PREMOLARS UP	4
ESC01	015	CSZ	LMV	1	R	CN							ANT CENTRUM AND ZYGAPOPHYSIS-POROUS	4
ESC01	015	OVCA	RAD	1	R	PFDF	123456				GL-143.2 Bp-30 Dp-15.8 SD-17.4 Bd-27.8 Dd-18.2		COMPLETE	4
ESC01	015	SSZ	FEM	1	F								MIDSHAFT FRAGMENT	4
ESC01	015	SSZ	RIB	1	R								PROX SHAFT FRAGMENT	4
ESC01	017	BOS	FEM	1	F			CH					PROX SHAFT-PROX END CHOPPED- 2 PIECES	4
ESC01	017	BOS	HUM	1	F	DN	78						UNFUSED DISTAL CONDYLE-VERY POROUS-CALF	4
ESC01	017	CSZ	LMV	1	L								PROX PART TRANSVERSE PROCESS AND PART ANT ZYGAPOPHYSIS	4
ESC01	017	CSZ	SKL	1	F								FRAGMENT WITH TOOTH ALVEOLUS	4

THE ENVIRONMENTAL ARCHAEOLOGY CONSULTANCY

Key to codes used in the cataloguing of animal bones and marine shells

SPECIES:

SPECIES CODE			SPECIES CODE	
MAN	human		DOVE	Dove species
EQU	Horse		FER	Feral dove
EQSZ	Horse size		PART	Partridge
BOS	Cattle		SWAN?	Swan?
BOSL	Cattle-large		WOOD	Woodcock
CSZ	cattle size		CURL	Curlew
SUS	Pig		WADE	wader
OVCA	sheep or goat		CROK	Crow or rook
OVI	Sheep		CORV	Crow or rook
CRA	Goat		JACK	Jackdaw
SSZ	sheep size		OWL	Owl indet.
FEL	Cat		BUZZ	Buzzard
CAN	Dog		GULL	Gull sp.
AUR	Aurochs			
AUR?	Aurochs?		TURD	Turdidae
CER	red deer		BIRD	Identifiable but not id'd
DAM	Fallow deer		PASS	Passerine
CLS	roe deer		LBIRD	Large bird
LEP	Hare		UNIB	Bird indet
ORC	Rabbit			
LAG	Lagomorph		FROG	Frog
CARN	Carnivore		FRTO	Frog or toad
FOX	Fox			
POLE	Polecat/ferret			
WEA	weasel		GAD	Gadid, cod family
BADG	Badger		LING	Ling
SEAL	seal		HADD	Haddock
SQU?	Squirrel?		RAY	ray
BEAV	Beaver		FISH	Fish
ROD	Rodent		UNIF	Fish indet
RAT	Rat			
AGR	Field vole		OYS	oyster
ARV	Water vole		COK	Cockle
MUS	House mouse		MUSS	Common Mussel
SORA	Common shrew		WHELK	Common whelk
MOLE	Mole		HEL	Helix aspersa
SMA	Small mammal		HELIX	Helix sp.
UNI	Unknown		HELN	Helix nemoralis
			SNAIL	snail
CHIK	Chicken			
CHKZ	Chicken size		FOSS	Fossil bone
GOOS	Goose, dom			
GOOS?	Goose, dom.?			
GSSZ	Goose size			
GSSP	Goose species			
GOSZ	Goose, poss. Wild			
DUCK	Duck, domestic sp.			
DUCK?	Duck?			
DKSP	Duck species			
DSP	Duck species indet			
MALL	Duck, dom.			
TURK	Turkey			

BONE ELEMENT:

BONE CODE		BONE CODE	
SKEL	skeleton	SCP	scapula
SKL	skull	HUM	humerus
ANT	antler	RAD	radius
ANT?	antler?	ULN	ulna
ATT	antler tine	RUL	radius and ulna
HC	horn core	C/T	carpus/tarsus
TEMP	temporal	C23	carpus 2+3
FRNT	frontal	CAR	carpus
PET	petrous	CPA	accessory carpal
PAR	parietal	CPI	intermediate carpal
OCIP	occipital	CPR	radial carpal
ZYG	zygomatic	CPU	ulnal carpal
NAS	nasal	MTC	metacarpus
PMX	premaxilla	MC1-5	metacarpus 1-5
MAN	mandible	MTP	metapodial
MNT	mandibular tooth	MPL	lateral metapodial
DLI	deciduous lower incisor	INN	innominate
DLPM1-4	deciduous lower premolar 1-4	ILM	ilium
LI	lower incisor (and 1-3)	PUB	pubis
LC	lower canine	ISH	ischium
LPM1-LPM4	lower premolar 1-4	FEM	femur
LM1-LM3	lower molar 1 - molar 3	PAT	patella
MAX	maxilla	TIB	tibia
DUI	deciduous upper incisor	FIB	fibula
UI	upper incisor (1-3)	LML	lateral malleolus
UC	upper canine	AST	astragalus
DUPM	deciduous upper premolar	CAL	calcaneum
DUPM1-4	deciduous upper premolar 1-4	CQ	centroquartal
UPM1-UPM4	upper premolar 1-4	TAR3	tarsus 3
UM1-UM3	upper molar 1 - molar 3	T4	tarsus 4
MXT	maxillary tooth	TAR	tarsus
TTH	indeterminate tooth	MTT	metatarsus
INC	incisor	MT1-5	metatarsus 1-5
HYD	hyoid	MTL	lateral metatarsus
ATL	atlas	SES	sesamoid
AXI	axis	PH1	1st phalanx
CEV	cervical vertebra (and 3-7)	PH2	2nd phalanx
TRV	thoracic vertebra (and 1-13)	PH3	3rd phalanx
LMV	lumbar vertebra	PHL	lateral phalanx
SAC	sacrum	LBF	long bone
CDV	caudal vertebra	UNI	unidentified
VER	vertebra		
STN	sternum	CLV	clavicle
CC	costal cartilage	COR	coracoid
RIB1	first rib (2 etc)	CMP	carpo-metacarpus
RIB	rib	CMC	carpo-metacarpus
		WPH1-3	wing phalanges 1-3
URO	urostyle	WPH	wing phalanx
		LSA	lumbosacrale
DENT	dentary		
CLEI	cleithrum		
RAY	fin ray		
SHELL	shell		
UV	upper valve		
VAL	valve		

NUMBER: number of fragments in the entry

SIDE: W - whole L - left side R - right side F - fragment

FUSION: records the fused/unfused condition of the epiphyses
P - proximal; D - distal; E - acetabulum; N - unfused; F - fused; C - cranial; A - posterior

ZONES: records the part of the bone present.
The key to each zone on each bone is on page 4

BUTCHERY: records whether a bone has been chopped (CH), cut (KN), worked (W), burnt (C)

GNAWING: records if a bone has been gnawed by dogs (DG), cats (FEL) or rodents (RG)

TOOTH WEAR - Codes are those used in Grant, A. 1982 The use of tooth wear as a guide to the age of domestic animals, in B.Wilson, C.Grigson and S.Payne (eds) *Ageing and sexing animal bones from Archaeological sites*, 91-108.

Teeth are labelled as follows in the tooth wear column:

Deciduous	Permanent
f ldpm2/dupm2	F lpm2/upm2
g ldpm3/dupm3	G lpm3/upm4
h ldpm4/dupm4	H lpm4/upm4
	I lm1/um1
	J lm2/um2
	K lm3/um3

MEASUREMENTS :Any measurements are those listed in A.Von den Driesch (1976) *A Guide to the Measurement of Animal Bones from Archaeological Sites*, Peabody Museum Bulletin 1, Peabody Museum, Harvard, USA

PATHOLOGICAL: A 'P' indicates that the bone fragment carries a pathology

COMMENTS: This may include a short description of the fragments, any pathologies, butchery or gnawing evidence

PRESERVATION: records the condition of the bone in the following manner

1- enamel only surviving
2- bone very severely pitted and thinned, tending to break up; teeth with surface erosion and loss of cementum and dentine
3- surface pitting and erosion of bone, some loss of cementum and dentine on teeth
4- surface of bone intact, loss of organic component, material chalky, calcined or burnt
5- bone in good condition, probably with some organic component

ZONES - codes used to define the zones on each bone

SKULL	1. paraoccipital process	METACARPUS	1. medial facet of proximal articulation, MC3
	2. occipal condyle		2. lateral facet of proximal articulation, MC4
	3. intercornual protuberance		3. medial distal condyle, MC3
	4. external acoustic meatus		4. lateral distal condyle, MC4
	5. frontal sinus		5. anterior distal groove and foramen
	6. ectorbitale		6. medial or lateral distal condyle
	7. entorbitale		
	8. temporal articular facet	FIRST PHALANX	1. proximal epiphysis
	9. facial tuber		2. distal articular facet
	0. infraorbital foramen		
		INNOMINATE	1. tuber coxae
MANDIBLE	1. Symphyseal surface		2. tuber sacrale + scar
	2. diastema		3. body of illium with dorso-medial foramen
	3. lateral diastemal foramen		4. iliopubic eminence
	4. coronoid process		5. acetabular fossa
	5. condylar process		6. symphyseal branch of pubis
	6. angle		7. body of ischium
	7. anterior dorsal acsending ramus posterior M3		8. ischial tuberosity
	8. mandibular foramen		9. depression for medial tendon of rectus femoris
VERTEBRA	1. spine	FEMUR	1. head
	2. anterior epiphysis		2. trochanter major
	3. posterior epiphysis		3. trochanter minor
	4. centrum		4. supracondyloid fossa
	5. neural arch		5. distal medial condyle
			6. lateral distal condyle
SCAPULA	1. supraglenoid tubercle		7. distal trochlea
	2. glenoid cavity		8. trochanter tertius
	3. origin of the distal spine		
	4. tuber of spine	TIBIA	1. proximal medial condyle
	5. posterior of neck with foramen		2. proximal lateral condyle
	6. cranial angle of blade		3. intercondylar eminence
	7. caudal angle of blade		4. proximal posterior nutrient foramen
			5. medial malleolus
HUMERUS	1. head		6. lateral aspect of distal articulation
	2. greater tubercle		7. distal pre-epiphyseal portion of the diaphysis
	3. lesser tubercle		
	4. intertuberal groove	CALCANEUM	1. calcaneal tuber
	5. deltoid tuberosity		2. sustentaculum tali
	6. dorsal angle of olecranon fossa		3. processus anterior
	7. capitulum		
	8. trochlea	METATARSUS	1. medial facet of proximal artciulation, MT3.
	9.		2. lateral facet of proximal articulation, MT4
	0.		3. medial distal condyle, MT3
RADIUS	1. medial half of proximal epiphysis		4. lateral distal condyle, MT4
	2. lateral half of proximal epiphysis		5. anterior distal groove and foramen
	3. posterior proximal ulna scar and foramen		6. medial or lateral distal condyle
	4. medial half of distal epiphysis		
	5. lateral half of distal epiphysis		
	6. distal shaft immediately above distal epiphysis		
ULNA	1. olecranon tuberosity		
	2. trochlear notch- semilunaris		
	3. lateral coronoid process		
	4. distal epiphysis		

APPENDIX E:

BONE SKATE REPORT

Report on the bone skate from East Street, Crowland (ESC 01).

Context 012, BONE SKATE.
Maximum length: 164mm; width30mm; weight 56g.

The skate is made from a horse radius, but only the split shaft survives, both epiphysial ends are now missing. They are more commonly made from metapodials but other examples made from cow or horse radii have been identified (MacGregor 1985, 142). It is very worn and has obviously been extensively used, although the polish is not particularly evident because the surface of the bone has been eroded by the soil conditions. In common with most examples the anterior side was the surface in contact with the ice, the posterior however, shows no signs of the lesser trimmings sometimes found to roughen the surface and provide a better grip for the foot. Strap holes at the toe and heel are common for attaching the foot to the skate (although these are not essential because the skates were kept flat on the ice) but these would not have survived on this small fragment. These are fairly frequent finds in Britain from the 8th - 13th century (MacGregor 1985, 144).

There is a vivid description of skating on Moorfields, just north of the City of London, by William FitzStephen in *c.* 1170 (Douglas and Greenaway 1953).

> Others, more skilled at water sports, put on their feet the shin-bones of animals, binding them firmly round their ankles, and holding poles shod with iron in their hands, which they strike from time to time against the ice, they are propelled swift as a bird in flight or a bolt shot from an engine of war. Sometimes, by mutual consent, two of them run against each other in this way from a great distance, and, lifting their poles, each tilts against the other. Either one or both fall, not without some bodily injury, for, as they fall, they are carried a great way beyond each other by the impetus of their run, and wherever the ice comes into contact with their heads, it scrapes off the skin utterly. Often a leg or an arm is broken, if the victim falls with it underneath him; but theirs is an age greedy for glory, youth yearns for victory and exercises itself in mock combats in order to carry itself more bravely in real battles.

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MacGregor Arthur 1985, *Bone Antler Ivory & Horn: The Technology of Skeletal Materials Since the Roman Period,* London.

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Jane Cowgill
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