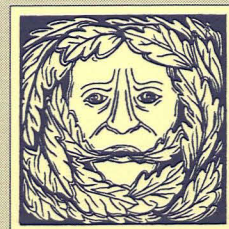


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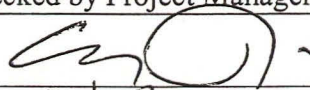

**ARCHAEOLOGICAL WATCHING BRIEF  
AT THE DRILL HALL,  
FREE SCHOOL LANE,  
LINCOLN,  
LINCOLNSHIRE  
(LDH 03)**



**A P S**  
ARCHAEOLOGICAL  
PROJECT  
SERVICES

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## 1. SUMMARY

*An archaeological watching brief was undertaken during development on land at the Drill Hall, Free School Lane, Lincoln. The watching brief monitored the excavation of foundation trenches for a new entrance to existing buildings.*

*The site lies on the eastern side of the Roman (AD 43-410) town and past excavations revealed a high status building that lay north of the site. This was subsequently replaced by the rampart of the defended town in the later 2<sup>nd</sup> century. North of the site a Late Saxon (AD 850-1066) pottery kiln was identified.*

*During the medieval period (AD 1066-1540) the site was occupied by a Franciscan friary of which elements, notably the south range, were identified beneath the adjacent library. The friary was replaced after its dissolution by a free school.*

*The watching brief identified Romano-British demolition deposits which were sealed by a buried soil in which Saxon gullies, perhaps associated with the industrial activity identified north of the site, had been cut. Medieval deposits include a single grave and two walls which were all associated with the friary. Few deposits were dated to the earlier Post-medieval period, suggesting the site had been truncated prior to the construction of the Drill Hall in the 19<sup>th</sup> century.*

*Finds retrieved during this investigation include pottery of Romano-British, Saxon and later date, tile, glass, a medieval jetton and a portable limestone stoup, usually associated with the 12<sup>th</sup> century. Clay pipe and animal bone was also retrieved, the former possibly kiln waste.*

## 2. INTRODUCTION

### 2.1 Definition of a Watching Brief

An archaeological watching brief is defined as "a formal program of observation and investigation conducted during any operation carried out for non-archaeological reasons. This will be within a specified area or site on land, inter-tidal zone or underwater, where there is a possibility that archaeological deposits maybe disturbed or destroyed." (IFA 1999).

### 2.2 Planning Background

Archaeological Project Services was commissioned by Lindum Construction to undertake an archaeological watching brief during groundworks associated with a new entrance to the Drill Hall, Free School Lane, Lincoln, Lincolnshire. The watching brief was carried out between the 16<sup>th</sup> September and 1<sup>st</sup> October 2003.

### 2.3 Topography and Geology

Free School Lane is located close to the centre of Lincoln, approximately 450m south of the Cathedral (Fig. 2). The Drill Hall is located on the eastern side of Free School Lane, fronting Broadgate, at National Grid Reference SK 9775 7130.

The site lies on a moderate south facing slope down towards the River Witham at heights of between 12.3m and 11.5m OD.

As an urban area, local soils have not been mapped but overlie a solid geology of Jurassic Middle Lias clay and shale (BGS 1973).

### 2.4 Archaeological Setting

Roman remains were partly revealed during excavations undertaken adjacent to Silver Street and fronting Broadgate in 1973. On the Broadgate frontage, the excavations identified a high status

building which had subsequently been destroyed to allow the construction of a rampart, part of the eastern town defences (Wacher 1979, 83). A second Roman building of 3<sup>rd</sup> – 4<sup>th</sup> century date was identified to the west and fronted a Roman street that also had a wooden water-pipe along its western edge (*ibid.*).

Located north of the site, close to Silver Street, were three Saxon pottery kilns dating to the 10<sup>th</sup> century (Vince and Jones 1990, 14). Crucible fragments were also identified in association with the kiln and suggest metalworking in the vicinity (Wacher 1979, 84).

In 1230, William of Beningworth, sub-dean of Lincoln, granted land around the 'Guildhall' to the citizens of Lincoln to house the Franciscan friars with the guildhall assigned to the friars in 1237 (Page 1988, 222). The wording of the grant suggests that the friars were already in occupation of the site prior to 1230 (Martin 1937, 89). Other grants of land suggest that the friary precinct occupied the area between the present Free School Lane, Silver Street, Broadgate and Saltergate and building is recorded as taking place from 1237 (*ibid.* 90).

The only remaining element of the Franciscan friary is an east-west aligned building used as the Greyfriars museum. Until recently, this structure was thought to represent the choir of the friary church, although now it is generally accepted to be part of an infirmary range (Stocker 1984, 143). Excavations in this vicinity identified burials and a robbed out buttress wall associated with the friary (Wacher 1979, 83). More recent excavations, southeast of the site, identified the south range of the friary including the refectory, kitchen, reredorter and dormitories (Jarvis 1997, 56). The house was surrendered to the bishop of Dover in 1538-9 (Page 1988, 223).

In 1568, the land of the friary was held by Robert Monson who established a free school at his own expense on the site (Page 1988, 223). Some buildings of the friary continued in use, particularly the refectory, although much of the building was robbed (Jarvis 1997, 57). The school was in existence until the early 1900s and was eventually replaced by the present Central Library (*ibid.*). The current building known as Greyfriars was used in the 1580s as a 'House of Industry' where the poor could spin and knit (Crust 2002, 23). The Drill Hall was constructed towards the end of the 19<sup>th</sup> century and was paid for by Joseph Ruston (DoE 1991, 21).

### 3. AIMS

The requirements of the watching brief were to locate and record archaeological deposits and, if present, determine their nature, function, date and origin.

### 4. METHODS

Prior to the excavation of foundation trenches, a hardcore limestone base was laid. Foundation trenches were then excavated by machine to depths required by the development. A small trench was also excavated beneath the walls of the Drill Hall. The sides of the trenches were then cleaned and rendered vertical. Selected deposits were then partially or fully excavated by hand to determine their nature and to retrieve artefactual material. Each deposit encountered was allocated a unique reference number (context number) with an individual written description. A list of all contexts and their descriptions appears as Appendix 1. A photographic record was compiled and sections were drawn at a scale of 1:10. Recording was undertaken according to standard Archaeological Project Services practise.

Following excavation records were checked and a stratigraphic matrix produced. Finds were also examined and a period date assigned where possible (Appendices 2 and 3). Phasing was assigned based on the nature of the deposits and recognisable relationships between them and supplemented by artefact dating.

## 5. RESULTS

Following post-excavation analysis five phases were identified;

Phase 1	Romano-British deposits
Phase 2	Undated deposits
Phase 3	Late Saxon deposits
Phase 4	Medieval deposits
Phase 5	Post-medieval deposits

Archaeological contexts are listed below and described. The numbers in brackets are the context numbers assigned in the field.

### Phase 1 Romano-British deposits

The earliest deposit encountered was a layer of dark yellow silt (013) which was identified as demolition material (Fig. 6, Section 1). This had subsequently been sealed by further demolition layers comprising greyish brown silt with limestone (011) and greenish grey silt and limestone rubble (012). These had a combined thickness of 0.85m and a single fragment of Roman roof tile was retrieved.

### Phase 2 Undated deposits

A sequence of undated deposits was identified beneath the Drill Hall (Fig. 7, Section 5a). The sequence began with greyish brown sandy silt (031), followed by yellow limestone (032), then greyish brown sandy silt with gravel (033), followed by greyish brown sandy silt (030), then yellow sand (029) and a

dumped deposit of greyish brown silty clay with limestone (027)

### Phase 3 Late Saxon deposits

Located adjacent to the Drill Hall were three gullies. The first (014) was 0.4m wide and 0.25m deep, the second (015) was 0.55m wide and 0.4m deep and the final cut (016) was 0.75m wide by 0.35m deep (Fig. 6, Section 1). The three gullies had been infilled with the same extensive levelling deposit which comprised a dark grey silt (010). A single sherd of 9<sup>th</sup> – 10<sup>th</sup> century pottery was retrieved from this layer. Overlying (010) was a further levelling deposit which was a 100mm thick brown sandy silt with gravel (008).

### Phase 4 Medieval deposits

Overlying the Late Saxon levelling deposit (008) and also evident throughout the site was a buried soil. This varied from grey silt (009) to greyish brown silty sand (020).

Cut into the buried soil (009) was an oval feature (007) identified as a grave (Fig. 5). This was 0.7m deep and contained the skeleton of an adult male orientated east-west (Plate 5). The grave had been backfilled with brown silt (004) that contained early to mid 13<sup>th</sup> century pottery and re-deposited Romano-British pottery.

Cutting the buried soil (020) was a pit identified in section only (018). The pit was over 0.25m wide by 0.32m deep (Fig. 7, Section 2). A single fill of greyish brown silt with mortar fragments (017) was recorded from which a fragment of medieval roof tile was retrieved.

Revealed to the north of the grave was a 2.4m length of north-south aligned limestone wall (019). This was in a random coursing of roughly hewn blocks and bonded with greyish brown silt (Fig. 4; Plate 4). Parallel to this wall, some 4m to the east, was a second limestone wall

(025), also random coursed in rough hewn blocks (Fig. 7, Sections 4 and 5).

### Phase 5 Post-medieval deposits

Sealing the medieval grave was a layer of yellowish brown silty sand containing limestone fragments (023). This was identified as a demolition deposits and measured 0.15m thick and extended westwards towards Free School Lane (Fig. 3).

This was further sealed by a dumped deposit of greyish brown sandy silt with brick, tile and gravel (022). This was 0.39m thick and contained 16<sup>th</sup> – 17<sup>th</sup> century pottery and a large collection of 18<sup>th</sup> – 19<sup>th</sup> century clay pipe. This latter material may be kiln waste. This was then sealed by a layer of grey to black sandy silt (021).

Overlying the undated deposit (028) was a foundation course of concrete and stone and incorporating brick (026). Upon this was constructed the brick wall (024) of the Drill Hall.

### Phase 6 Recent deposits

Sealing all archaeological deposits across the site was a deposit of greyish brown silt with gravel (003). This had been sealed by limestone fragments (002) which had been placed prior to this development.

## 6. DISCUSSION

Romano-British (Phase 1) deposits comprise two demolition layers and were dated based on a single tile. This would suggest the possibility of structures in this vicinity, lying between a road and the east town wall. The road which ran parallel to the ramparts was not identified during this investigation, although it may lie at depth in the vicinity of Section 3. It has previously been recorded that stone buildings to the north of the site had been

demolished during the later 2<sup>nd</sup> century, prior to the construction of the ramparts (Wacher 1979, 83).

Remains of Late Saxon date (Phase 3) comprise levelling deposits and three gullies. These may relate to the Saxon industrial remains previously found fronting Silver Street to the north of the site as occupation during this period has generally been found further west (Vince and Jones 1990, 14).

Medieval deposits (Phase 4) may all be associated with the Franciscan friary. However, a medieval buried soil and undated deposits (Phase 2) may pre-date the friary foundation, although the undated deposits were not fully examined as they lay beneath the Drill Hall. Relating to the friary are two short disturbed lengths of limestone walling. Both are aligned north to south and it is difficult to place them within the layout of a friary complex. The two claustral ranges have been identified to the south, suggesting that these perhaps relate to the main body of the church.

The skeleton was partially truncated during the development but enough remained to identify the individual as a male adult aged between 25 and 34 years of age. Other fragments of human bone were also retrieved.

Post-medieval deposits (Phase 5) comprise a range of demolition and dumped layers as well as the construction of the Drill Hall in c. 1890. The dumped deposit has been dated to the 18<sup>th</sup> - 19<sup>th</sup> centuries by a range of artefacts, amongst which was a moderately large group of clay pipe fragments that appear to be kiln waste. These may indicate pipe making in the area in the 19<sup>th</sup> century, but could have been imported as part of the make-up deposit. The paucity of post-medieval deposits may indicate that the area was landscaped prior to the construction of the Drill Hall.



Roman pottery and tile was the earliest category of material found during the investigation. Although most was Late Roman in date, some examples date to the Legionary occupation of the city. A possible fragment of Roman window glass was also collected. Pottery of Saxon date was also retrieved.

Medieval artefacts included a range of pottery, including locally and regionally produced wares, roof tiles, a possible jetton and a portable limestone piscina or stoup (Fig. 8). The stone piscina is an unusual find as it is usually restricted to the 12<sup>th</sup> century. Clay pipe of 18<sup>th</sup> – 19<sup>th</sup> century date and a small assemblage of animal bone was also collected.

## 7. CONCLUSION

An archaeological watching brief was undertaken at Free School Lane, Lincoln, as the site lay in close proximity to previous archaeological discoveries, notably within the eastern part of the Roman town and on the site of a medieval friary.

Deposits ranging in date from the Romano-British period to the present day were identified during this investigation. Romano-British deposits appear to relate to disuse of the site, earlier levels not having been reached. Saxon activity was also identified as were remains associated with the Franciscan friary established on the site in 1230. Part of these remains included the grave of an adult male.

Finds include Romano-British pottery, tile and glass, Saxon pottery and medieval pottery, tile, a jetton and a limestone piscina or stoup. Animal bone and clay pipe was also retrieved.

## 8. ACKNOWLEDGEMENTS

Archaeological Project Services wish to

acknowledge the assistance of J. Hall of Lindum Construction for commissioning the fieldwork and post-excitation analysis. The work was coordinated by Steve Malone and this report was edited by Gary Taylor and Tom Lane. David Start kindly permitted access to the library and parish files maintained by Heritage Lincolnshire.

## 9. PERSONNEL

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 Finds Illustration: David Hopkins  
 Photographic reproduction: Sue Unsworth  
 Illustration: Paul Cope-Faulkner  
 Post-excitation analysis: Paul Cope-Faulkner

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## 11. ABBREVIATIONS

BGS British Geological Survey

DoE Department of the Environment

IFA Institute of Field Archaeologists

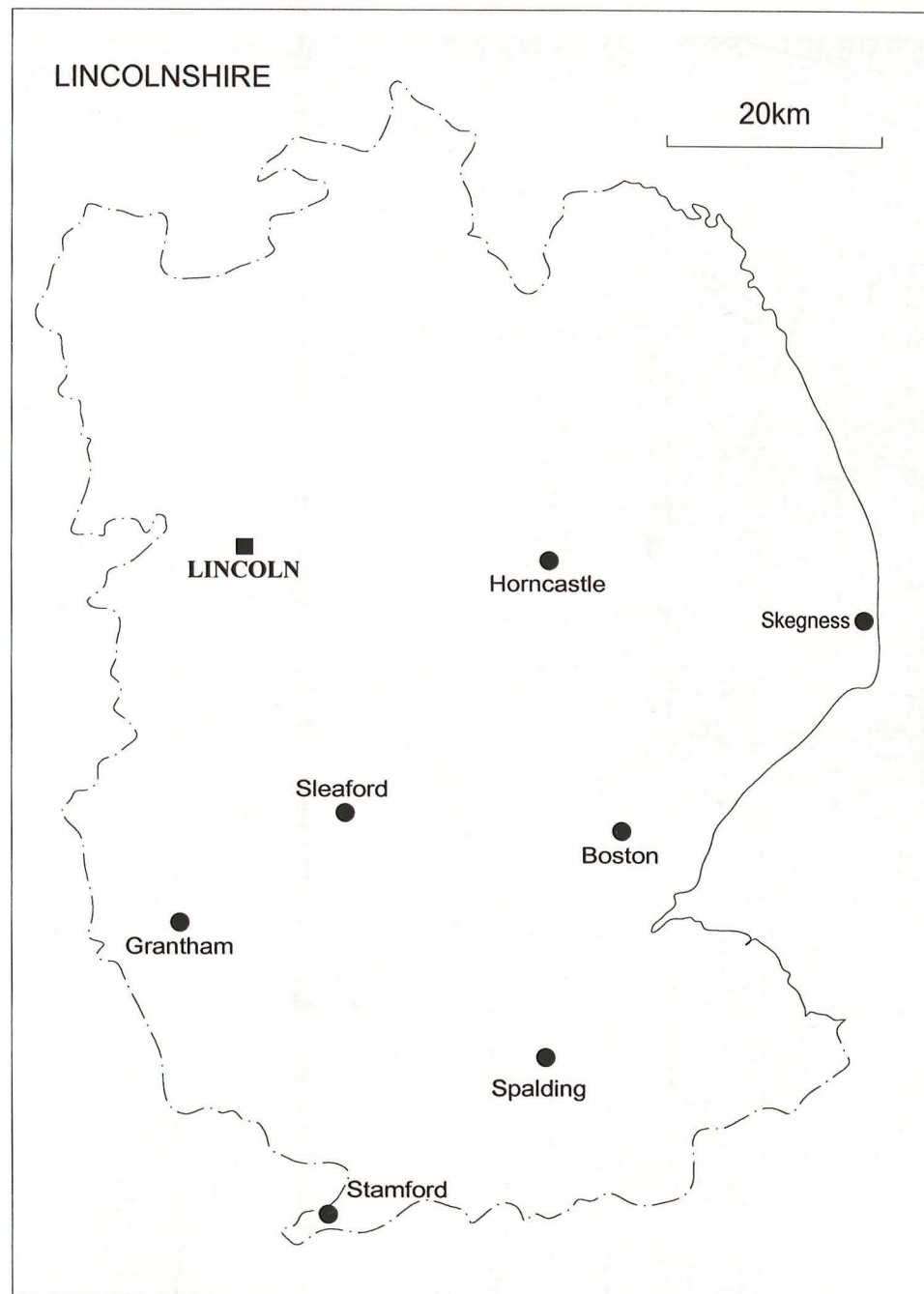


Figure 1 - General Location Plan



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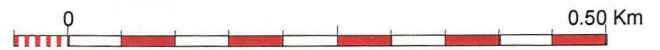
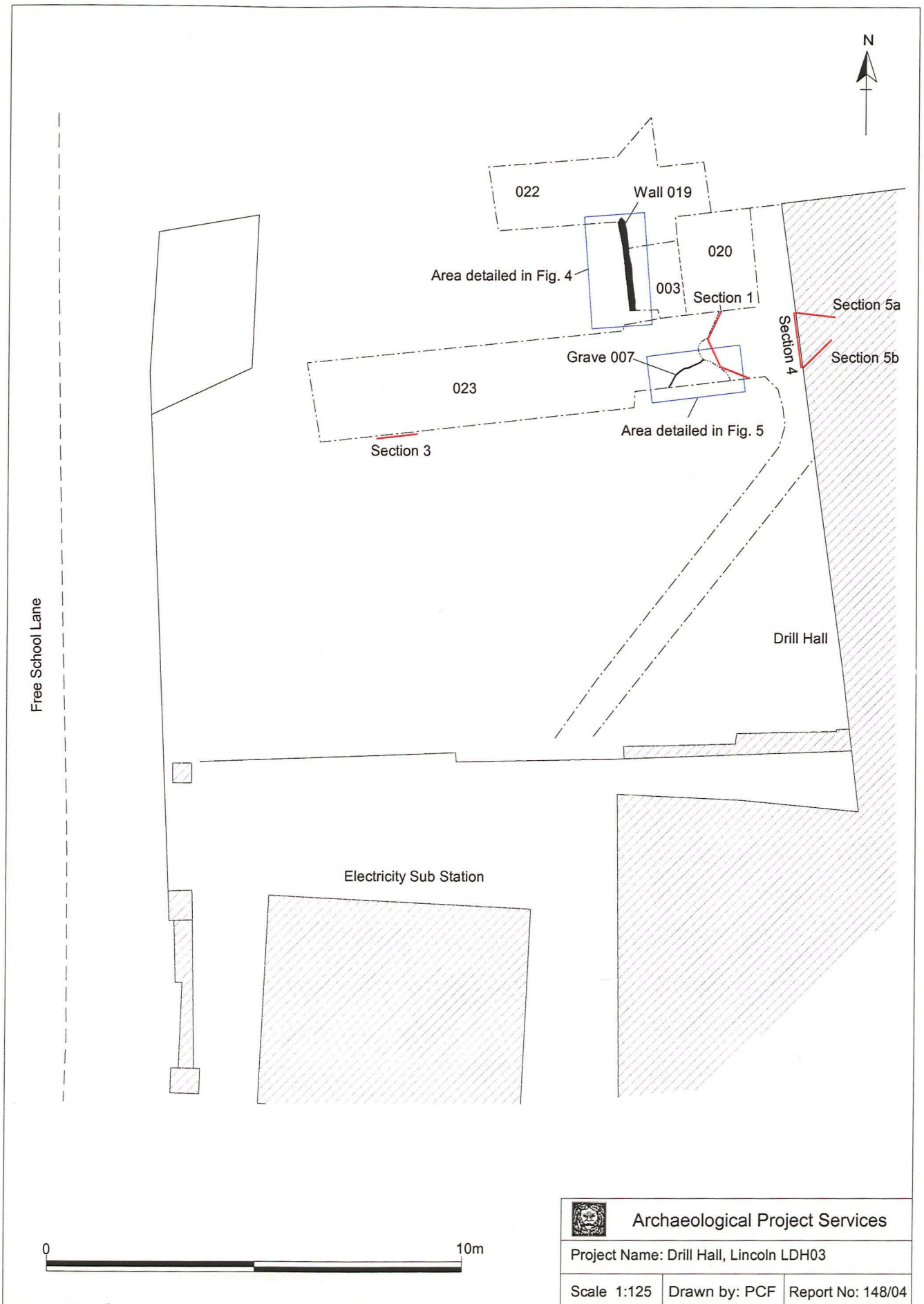


Figure 2 - Site location plan




 <b>Archaeological Project Services</b>		
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Scale 1:125	Drawn by: PCF	Report No: 148/04

Figure 3 - Plan of the development showing principal deposits

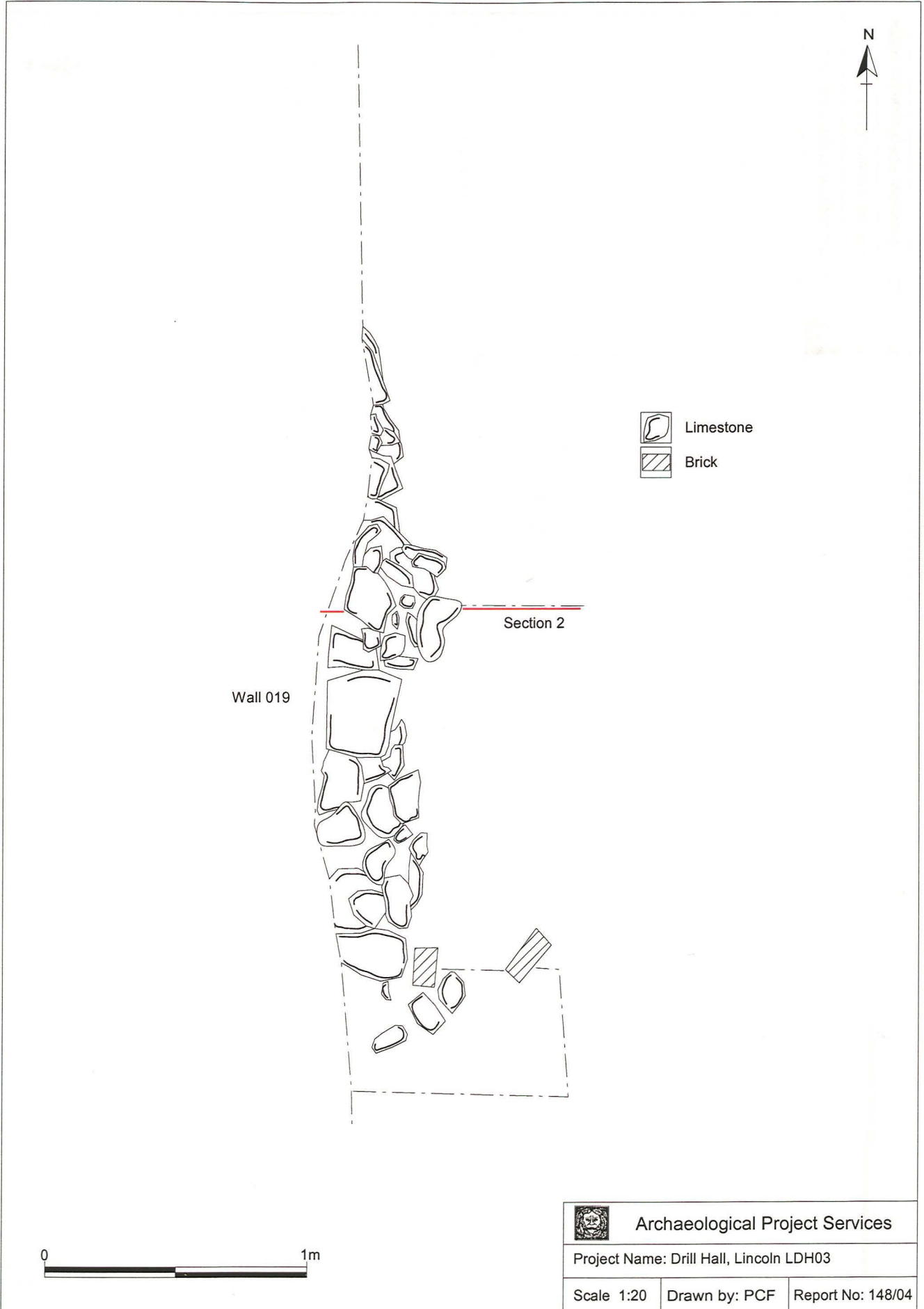


Figure 4 - Plan of medieval wall (019)

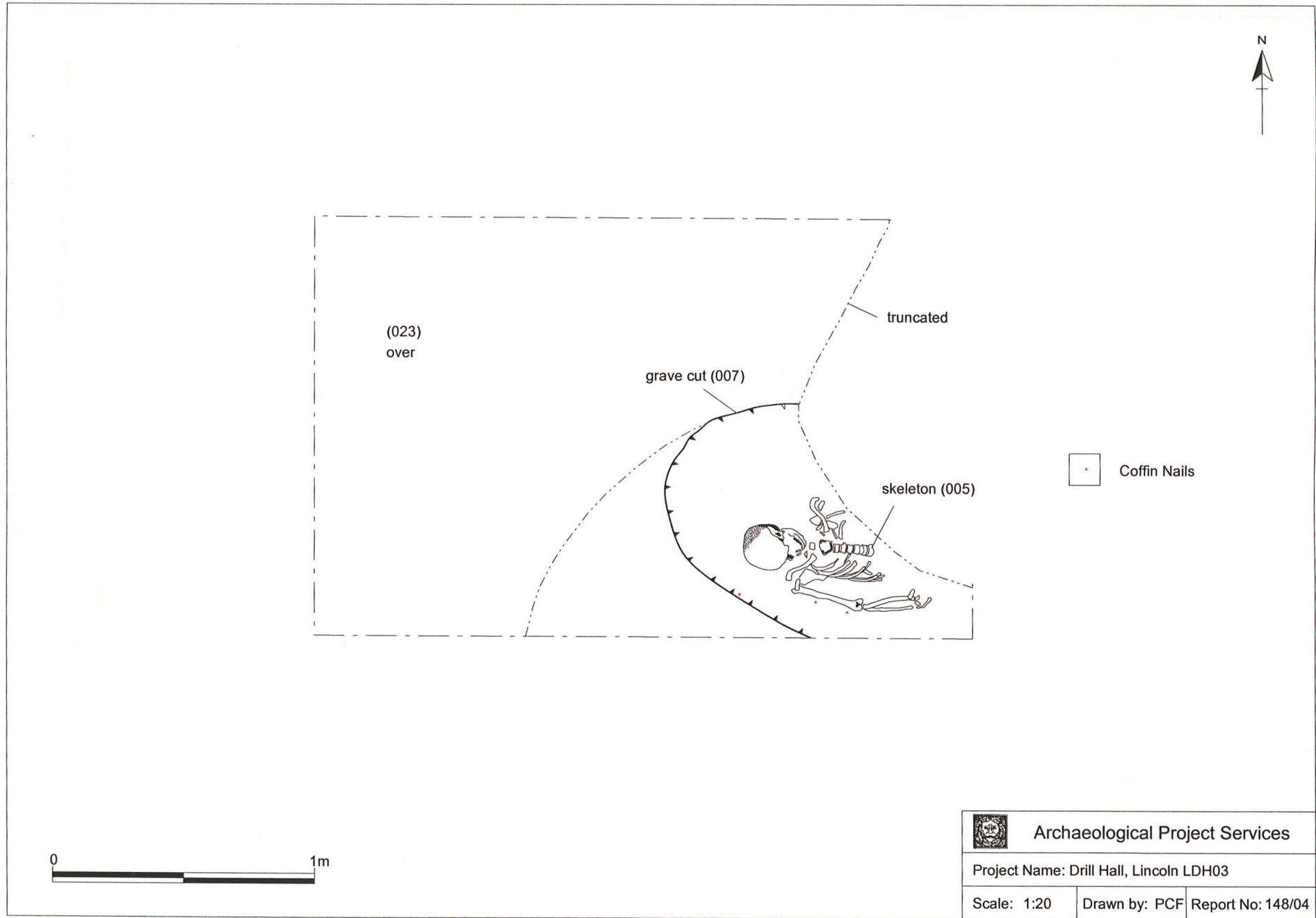
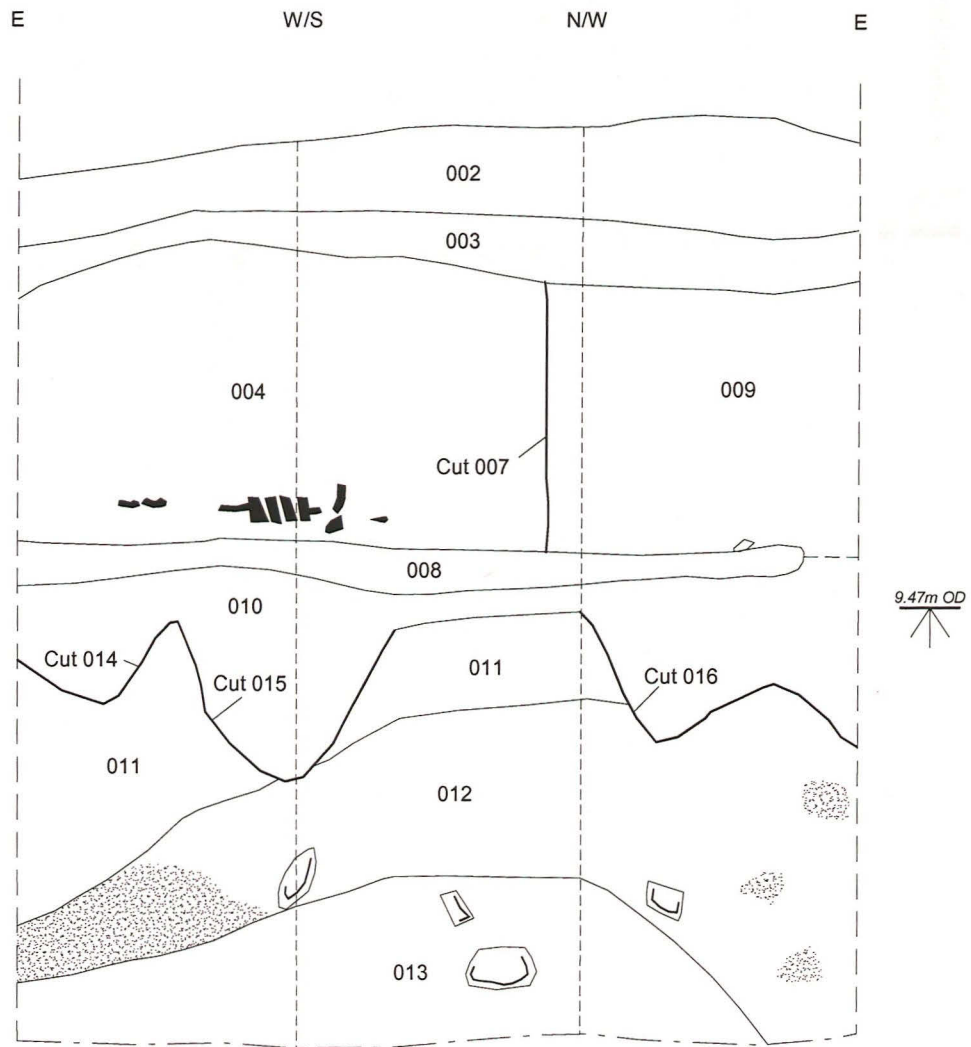


Figure 5 - Plan of the medieval burial



Section 1




 <b>Archaeological Project Services</b>		
Project Name: Drill Hall, Lincoln LDH03		
Scale 1:20	Drawn by: PCF	Report No: 148/04

Figure 6 - Section 1



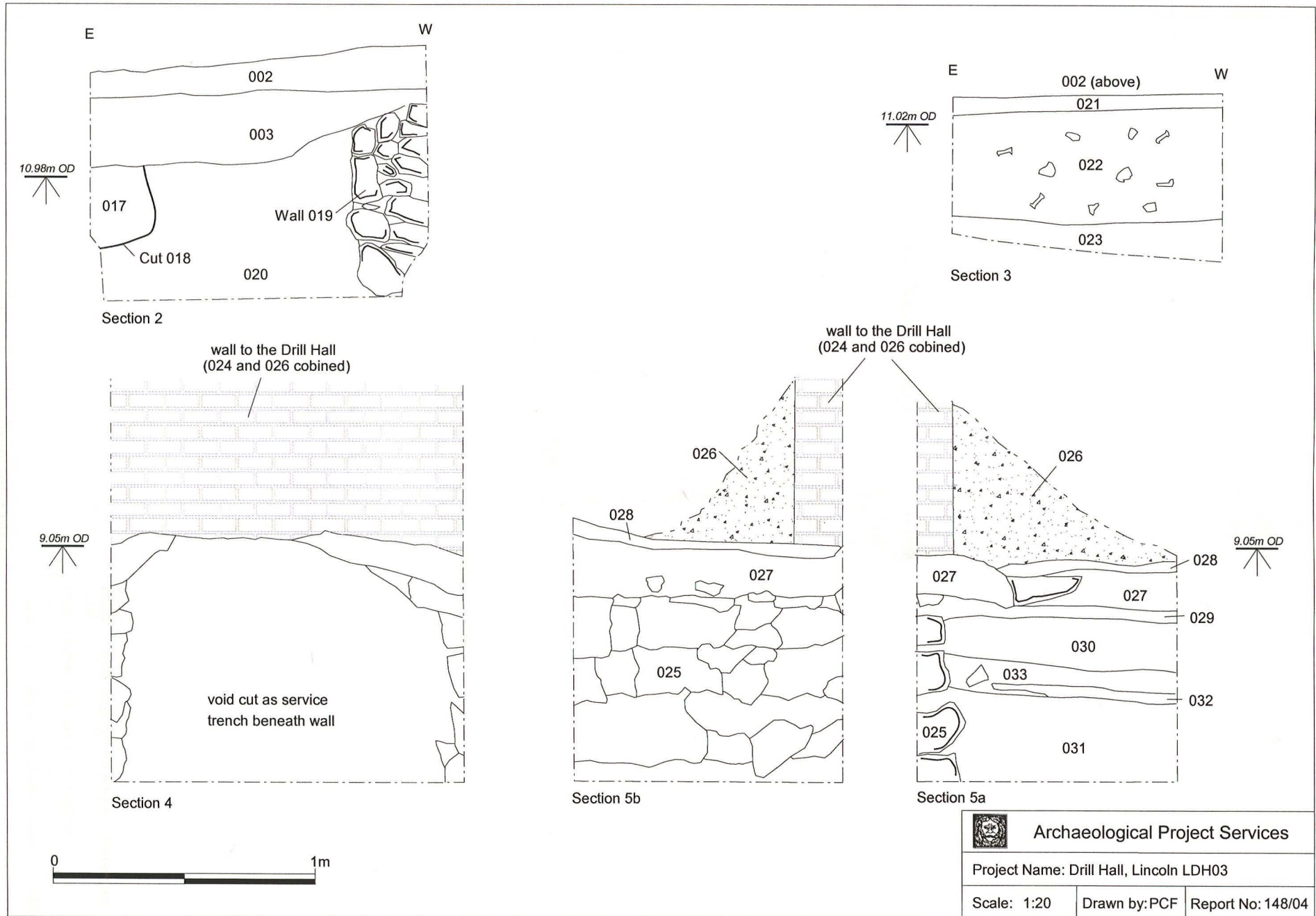
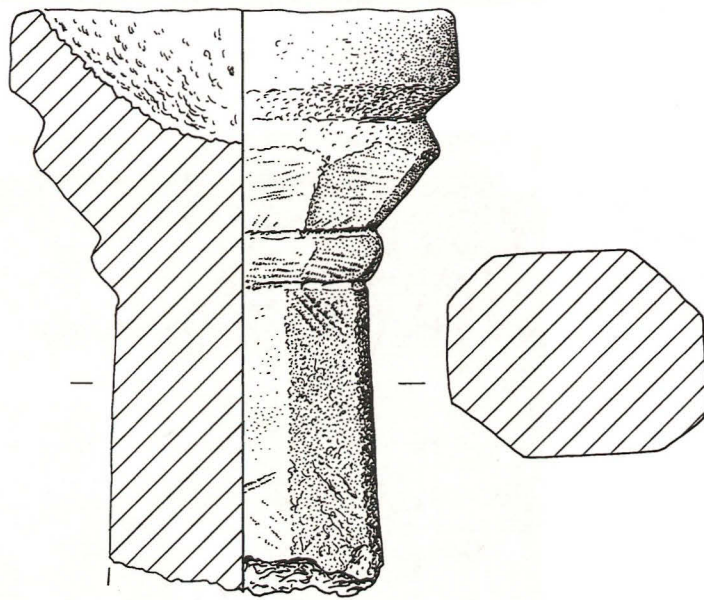


Figure 7 - Sections 2 to 5



Context (025)  
Limestone piscina or stoup



Archaeological Project Services

Project Name: Drill Hall, Lincoln LDH03

Scale 1:2

Drawn by: DWH

Report No: 148/04

Figure 8 - The limestone piscina or stoup



Plate 1 - General view across the development area, looking east



Plate 2 - Section 5a showing the sequence of undated deposits and the medieval wall (025), looking northeast



Plate 3 - Section 2 showing the medieval wall (019) and medieval pit (018), looking south



Plate 4 - Plan view of the medieval wall (019), looking west



Plate 5 - The medieval burial (005), looking south

## Appendix 1

### CONTEXT DESCRIPTIONS

No.	Description	Interpretation
001	Unstratified finds retrieval	
002	Loose light yellow limestone fragments, 0.3m thick	Hardstanding
003	Firm dark greyish brown silt and gravel, 0.15m thick	Demolition/levelling deposit
004	Loose mid brown silt	Backfill of (007)
005	Skeleton,	Burial within (007)
006	Disarticulated human bones retrieval	
007	Oval cut, long axis aligned east-west, 0.7m deep, vertical sides and flat base	Grave
008	Friable light brown sandy silt and gravel, 100mm thick	Levelling deposit
009	Friable dark grey silt, 0.7m thick	Former topsoil
010	Loose dark grey silt, variable thickness	Levelling deposit
011	Firm mid greyish brown silt with limestone rubble, 0.7m thick	Demolition deposit
012	Firm mid greenish grey silt and limestone rubble, 0.15m thick	Demolition deposit
013	Firm dark yellow sandy silt, 0.15m-0.5m thick	Demolition deposit
014	Feature, 0.4m wide by 0.25m deep, gradual sides and rounded base, filled by (010)	Gully
015	Feature, 0.55m wide by 0.4m deep, steep sides and rounded base, filled by (010)	Gully
016	Feature, 0.75m wide by 0.35m deep, steep sides and rounded base, filled by (010)	Gully
017	Firm dark greyish brown sandy silt with frequent mortar fragments	Fill of (018)
018	Feature, 0.25m wide by 0.32m deep, recorded in section only, steep sides and undulating base	Pit
019	Limestone structure, aligned north-south, random coursed rough hewn limestone with east face visible, bonded with dark greyish brown silt	Foundation wall
020	Firm dark greyish brown silty sand, 0.65m thick	Former topsoil
021	Loose dark grey to black sandy silt with frequent gravel, 80mm thick	Levelling deposit
022	Firm mid greyish brown sandy silt with frequent brick/tile fragments and gravel, 0.39m thick	Dumped deposit
023	Loose mid yellowish brown silty sand with limestone fragments, 0.15m thick	Demolition deposit
024	Brick (240mm x 120mm x 80mm) structure, decorative bond	Wall to Drill Hall
025	Limestone structure, aligned north-south, random coursed rough hewn limestone with west face visible, bonded with mortar	Wall
026	Indurated mid grey concrete and stone incorporating brick	Foundation to (024)
027	Firm mid greyish brown silty clay with frequent limestone fragments, 0.15m thick	Dumped deposit
028	Loose mid yellow sand, 60mm thick	?Dumped deposit
029	Loose mid yellow sand, 50mm thick	?Dumped deposit
030	Loose dark greyish brown sandy silt, 0.18m thick	Possible former topsoil
031	Loose dark greyish brown sandy silt, 0.3m thick	Possible former topsoil
032	???Yellow limestone, 50mm thick	Possible surface
033	Loose mid greyish brown sandy silt with gravel	?Occupation deposit

## Appendix 2

### THE ROMAN POTTERY

*By Barbara Precious*

The group is small and residual but is interesting as it reflects the trends of the assemblages from the interior of the Drill Hall (BDH03) that CLAU (Mike Jarvis) excavated. Context 001 produced early Roman pottery including legionary-type wares (LEG and CR) as well as an early rim-type of Dressel 20 olive oil amphora from Baetica in Spain. Context 4 produced a couple of early but abaraded sherds (RDSL? and CR) and also a sherd of later Roman amphorae from a possible north African source (NACA). The pottery is more like the pottery from the rampart groups at BDH03. Context 20, similarly late. It is worth noting that there is a concentration of early Roman pottery of legionary types in this area.

Although residual, this pottery should be retained.

CONTEXT	FABRIC	FORM	DEC	VESSNO	DWGNO	ALTER	COMMENTS	JOIN	SHS	WT
001	CR	FL				ABR	BS		1	44
001	DR20	A					RIM 1C TYPE		1	89
001	LEG	BK					BS		1	2
001	ZDATE						EROM/POSTRO			
001	ZZZ						ALL EARLY ROM FABRICS BUT IN POSTRO CONTEXT			
004	CR	F?					BS; EROM		1	10
004	DWSH	J					BASE STRING; POSS JDLS; LROM		1	67
004	GREY	BWM				ABR	RIM		1	12
004	GREY	BWM	BIA				BS SHLDR GROOVE;SPOOL		1	18
004	GREY	CP	B				FLAKE SHLDR BURNISHED		1	2
004	GREY	J	BWL				BS BASAL BHL TOWARDS BASE		1	21
004	GREY	JNN?	NOTCH;B				BS NECK; SPOOL		1	11
004	NACA?	A					BS;THIN WALL CAL WIND BLOWN SAND		1	4
004	NVCC	BK	ROUZ				BS LFAB		1	1
004	OX		B				FRAG BURNISHED ON ONE SIDE		1	1
004	RDSL?	OPEN				VABR	BASE; V MICACEOUS FAB; CC LOST;EROM		1	27
004	ZDATE						L3-4C/POSTRO			
004	ZZZ						MIX DATES SOME EROM;DATE ON LATEST			
020	GREY	DPR	BHL				RIM LWR WALL HIGHLY BURNISHED		1	34
020	GYMS	J					BS W MINIMAL SHELL;UNUSUAL FAB		1	6
020	ZDATE						L3-4C/POSTRO			
020	ZZZ						DPR FINER FAB THAN SWANPOOL			

### Appendix 3

#### THE SAXON AND MEDIEVAL POTTERY

*By Jane Young*

context	cname	sub fabric	form type	sherds	vessels	weight	decoration	part	description
001	LKT		jar	1	1	6		BS	
004	LSW1		jar ?	1	1	4		BS	soot
004	LS/SNLS		small jar	1	1	6		BS	soot
004	LS/SNLS		jar	1	1	12		BS	
004	LFS		jar	1	1	7		BS	soot int & ext
004	LFS		?	2	2	25		base	soot
004	LSWA		jug/jar	1	1	13		BS	very abraded
004	LFS		?	1	1	10		base	soot
004	LFS		jar	1	1	7		base	soot
004	LFS		large bowl	1	1	39		base	
004	LFS		jar	1	1	7		BS	
004	NSP	sandy	jug/jar	1	1	6		BS	no glaze
004	TORK		jar	1	1	2		BS	
004	LSW1		jug ?	1	1	2		BS	
004	LKT		?	1	1	12		base	
004	LSW2		small jug	1	1	9		BS	cu in glaze
004	LSW1		jug	1	1	4		BS	
004	LSW1		jug	1	1	5		BS	
004	LSW1		jug	2	1	7		BS	
004	LSW1		small jug	1	1	1		BS	spalled glaze
004	NSP	sandy	small jug	1	1	5		neck	
004	BEVO1		small jug	1	1	4		neck	
004	LSWA		?	1	1	11		BS	flake



004	LSWA		jug/jar	1	1	8	base		
004	LSWI		jug/jar	1	1	3		BS	
004	LKT		small jar	1	1	4	square roller stamping	BS	
004	LFS		jar	1	1	10		BS	soot
004	LFS		?	1	1	3		BS	soot int & ext
004	LFS		?	4	4	7		BS	soot
004	LFS		jar	1	1	17		rim	EVERB1 rim
004	EST	A	small hemispherical lamp	1	1	7		BS	soot ext & part int
004	LKT		?	1	1	3		base	waster
004	LFS		?	1	1	13		base	part int soot
004	LKT		?	1	1	1		BS	
004	TORK		?	1	1	8		BS	
004	LKT		?	1	1	5		base	internal fe slip;int soot
004	LKT		jar	1	1	10		BS	int & ext soot
004	NSP	fine/sandy	jug/pitcher	1	1	15	incised zig-zag lines below rim	neck	
004	TORK		small jar	1	1	3		BS	
004	LKT		jar ?	1	1	2		BS	
004	TORK		jar ?	1	1	6		BS	oxid
004	LKT		jar	1	1	3		neck	
004	NSP	sandy	jug	1	1	54		handle	strap handle with pressed edges
004	NSP	sandy	jar ?	1	1	8		BS	abraded;cracked during firing
004	MISC	shelly	jar ?	1	1	11		BS	probably Roman
004	LKT		large vessel	1	1	46		BS	leached int;internal fe slip;part int soot
004	LKT		jar/pitcher	1	1	10		BS	very thin walled;overfired
004	LKT		small jar	1	1	7	square roller stamping on int	rim	
004	LKT		?	1	1	10		base	soot;internal fe slip
004	LKT		jar ?	1	1	1		BS	
010	LKT		small jar	1	1	9		rim	waster;EVERA1 rim
020	LFS		jar	1	1	6		BS	soot int part ext & over breaks

020	LFS	?	1	1	8	base	soot
022	GRE	small jar/pipkin	2	1	23	BS	cu bichrome
022	GRE	bowl	1	1	8	rim	? Or BERTH
022	GRE	jar	1	1	7	BS	unglaze
023	LFS	?	1	1	16	base	soot ext & over break
023	LKT	small jar	1	1	12	base	waster

context	date	earliest horizon	latest horizon	comments
001	12th to 16th	MH2	PMH2	date on single tile
004	early to early/mid 13th	MH4	MH4	large group;high
010	late 9th to late 10th	ASH7	ASH11	single sherd
012	Roman	R	R	date on single tile
020	late 10th to late 12th	ASH11	MH3	
022	mid/late 16th to early/mid 17th	PMH3	PMH4	
023	12th to 16th	MH2	PMH2	date on single tile

## Appendix 4

### THE OTHER FINDS

*by Dr Glyn Coppack, Rachael Hall and Gary Taylor*

In addition to the pottery and tile (reported separately), a quantity of other artefacts, mostly metal and clay pipe, comprising 60 items weighing a total of 2041g, was retrieved.

#### Provenance

The material was recovered from a grave fill (004) a former topsoil (020), a dumped deposit (022), a wall (025) and as unstratified artefacts (001).

#### Range

The range of material is detailed in the tables.

*Table 1: The Artefacts*

Context	Material	Description	No.	Wt (g)	Context Date
001	Glass	Dark green bottle neck with applied string rim, late 18 <sup>th</sup> century	1	85	Late 18 <sup>th</sup> century
	Glass	Dark green bottle glass, body sherd, heavy iridescence, late 18 <sup>th</sup> century	1	54	
004	CBM	Daub, wattle impression 10mm diameter	1	20	Medieval
	Stone	Burnt limestone	3	14	
	Copper alloy	Disc, 26mm diameter, encrusted, probable jetton	1	4	
	Glass	Edge fragment of sheet window glass, with grozed edge, possible Roman	1	12	
	Iron	Nails, wood adhering to many	22	169	
020	Iron	Wire	1	1	
022	CBM	Salt-glazed ceramic drain	2	334	19 <sup>th</sup> - 20 <sup>th</sup> century
025	Stone	Barnack limestone <i>piscina</i> or stoup, base of bowl and part of freestanding octagonal stem	1	1262	Late 13 <sup>th</sup> century

Note: CBM = Ceramic Building Material

Many of the nails in the group from (004) have timber impressions in their corrosion, or fragments of wood attached. These nails were found in association with a human skeleton and therefore appear to be coffin nails.

The *piscina* is an unusual example and would have been freestanding, perhaps outside the door to a church or chapel. They are more common on 12<sup>th</sup> century sites and, thus, are rarely found associated with friaries.

*Table 2: The Clay Pipe*

Context	Bore /64"					Description	Total No.	Wt (g)	Context Date
	8	7	6	5	4				
001				1		Stem, 104mm long, unused ?	1	6	18 <sup>th</sup> century
022						Bowl fragment, moulded; fluting lower half, pendant arcs between vertical lines, leaves on mould seams; unused? 1840-80	1	5	Bowl date 1840-80; Bore date 1757
						Bowl fragment, oak leaves on mould seams; unused? 1840-80	1	5	

Context	Bore /64"					Description	Total No.	Wt (g)	Context Date
	8	7	6	5	4				
					10	Stems, 33-97mm long; 1 self glazed; 1 appears blocked with pipe clay; possibly not used	10	37	
				13		Stems, 13-60mm long; possibly not used	13	33	
Totals	0	0	0	14	10		26	86	

Analysis of the clay pipes followed the guidance published by Davey (1981).

None of the pipe fragments bear clear, unequivocal evidence of use and most appear not to have been smoked. This, and the partial blocking of one stem with what appears to be pipe clay may indicate that the group is largely kiln waste.

The fluted bowl from (022) is identical to Mann's example 187 and dates to the period 1840-80 (Mann 1977, 27; fig 18). The second bowl fragment from the context appears to be an example of Mann's 170, also of the period 1840-80 (*ibid.*, 23, fig 15).

Although not a large collection, the stems from (022) clearly form a coherent group and, therefore, bore dating by statistical methods was attempted on the assemblage. This gave a date of 1757 by both the Binford and Hanson methods (Oswald 1975, 92-3). This is clearly much earlier than the date suggested by the bowls from the deposit and although it is usual for stem dates to be a little earlier than chronology provided by pipe bowls, the variation here is excessive. The reasons for this are unclear, though the method is unreliable for collections of pipe dating after about 1800. As many of the stems are quite large, they do not seem to exhibit great residuality or redeposition. However, in this instance, it is advisable to ignore the stem date and use only the bowls to indicate the date for the context.

#### Condition

All the material is in good condition and presents no long-term storage problems. Archive storage of the collection is by material class.

#### Documentation

Details of archaeological sites and discoveries in the area are maintained in the Lincoln Urban Archaeological Database.

#### Potential

In general, the assemblage is of limited local potential and significance. However, the nail group from (004) was associated with a burial and is informative, indicating the body was inhumed in a coffin.

Additionally, the pipes from (022) may be kiln waste and this is of high local potential and significance.

#### References

Davey, P. J., 1981 Guidelines for the Processing and Publication of Clay Pipes from Excavations, *Medieval and Later Pottery in Wales* 4

Mann, J. E., 1977 *Clay Tobacco Pipes from Excavations in Lincoln 1970-74*, Lincoln Archaeological Trust Monograph Series Vol. XV-1 (Council for British Archaeology)

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

## Appendix 5

### THE SKELETAL REMAINS

by

*Dr Rebecca Gowland, St John's College, Cambridge*

#### 1.0 Introduction

The skeletal remains analysed in this report are from the Drill Hall in Lincoln. The remains include a single, articulated burial (context 005 and 006) and two other contexts (001 and 023) consisting of disarticulated human bones. The association of disarticulated bones with articulated burials is common at many archaeological sites and often results from the intercutting and disturbance of earlier graves by later ones. The skeletal material was examined in order to estimate age at death, sex, stature, and the presence of any pathological abnormalities. The methodology used in this analysis and the results are presented below. A catalogue of the bones present, together with skeletal charts, has been included in the appendix.

#### 2.0 Methods

##### 2.1 Sex Estimation

Sex determinations were based upon a variety of diagnostic criteria of the pelvis and skull using methods described in Krogman and Iscan (1986), Bass (1987), and Buikstra and Ubelaker (1994), together with a consideration of metrical data and observations regarding general robusticity.

##### 2.2 Age at Death Estimation

Skeletal indicators of adult age at death used in this analysis include: dental attrition (Brothwell 1981); metamorphosis of the auricular surface of the ilium (Lovejoy *et al.*, 1985) and the pubic symphysis (Brooks and Suchey 1990). No sub-adult skeletal remains were present in this sample.

##### 2.3 Stature

Long bones (where complete) were measured using an osteometric board and stature estimates derived using the formulae developed by Trotter and Gleser (1952).

##### 2.4 Pathology

The bones from each context were examined for evidence of degenerative and infectious diseases, metabolic and endocrine disorders, nutritional deficiency, trauma and neoplastic disease. The dentition was also examined for the presence of pathological lesions or abnormalities.

#### 3.0 Results

This section presents the results of the osteological analysis for each context. Further details of the bones present are included in the appendix.

##### Context 001

Preservation: Left distal tibia only

Sex: Unknown

Age: Adult

Pathology: None

##### Context 005/006

Preservation: poor (approx 50% of skeleton present)

Sex: male (features of the skull and pelvis)

Age: 25-34 years (based on dental attrition and the appearance of the auricular surface and pubic symphyseal face)

Stature: 166.45 +/-3.94 cm

Pathology:

##### *Degenerative Changes*

A variety of degenerative changes to the spine were noted and these are detailed below. Schmorl's nodes were observed on seven of the nine thoracic vertebrae, and two of the four lumbar vertebrae present. Schmorl's nodes

are depressions or pits in the surface of the vertebral bodies, formed when the intervertebral discs become herniated under stress and exert pressure on the adjacent vertebral bodies. They may be associated with degenerative changes or an isolated traumatic episode and are a common finding in archaeological skeletons.

Vertebral osteophytes and osteoarthritic changes were noted on the following vertebrae:

T10- Osteophytes are present on the right inferior surface of the vertebral body and osteoarthritic new bone growth on the right costal facet.

L1- Moderate curving osteophytes are present on the right lateral inferior surface of the vertebral body. Osteoarthritic (osteophytes and porosity) changes are present on the right inferior articular facet

L2- Osteoarthritic changes are present on the right superior articular facet (extensive new bone growth and porosity)

L3- Slight osteophytic new bone growth is present on the right superior articular facet and extensive osteoarthritic new bone growth was observed on the right inferior articular facet.

L4- Extensive new bone growth present on the right superior articular facet

Further osteoarthritic changes (in the form of new bone growth) were observed on the articular tubercle of a left rib.

Vertebral osteophytes are commonly observed in archaeological skeletons and occur in response to the degeneration of the intervertebral disc. The osteophytes observed in this skeleton were of slight to moderate size and are unlikely to have caused the individual much (if any) discomfort or debilitation during life. This is also true of the osteoarthritic changes observed in the synovial joints of the spine and on one of the ribs.

#### *Dental Pathology*

Slight calculus was observed on the buccal and lingual surfaces of both the anterior and posterior teeth. The lower left third molar was congenitally absent/unerupted.

#### Context 023

**Preservation:** very poor (right second metacarpal bone only)

**Sex:** unknown

**Age:** adult

**Pathology:** none

#### **4.0 Discussion**

The primary articulated burial – skeleton 005/006 – is that of a male aged approximately 25-34 years, with an estimated stature of 166.45cm. Two other contexts (001 and 023) contained single disarticulated human bones of adult individuals– no further information could be gleaned from these limited remains. Skeleton 005/006 exhibited a number of pathological conditions and non-metric traits. Non-metric traits are natural skeletal variants and some of these are thought to have a genetic proponent to them. Those exhibited by skeleton 005/006 include wormian bones and an unfused metopic suture on the cranium. Neither of these conditions would have affected the individual during life. Skeleton 005/006 also suffered from degenerative changes to his spine. Again, it is unlikely that these changes would have caused the individual too much (if any) discomfort or debilitation during life. Degenerative changes do not necessarily indicate a particularly active lifestyle as some individuals are genetically predisposed to osteoarthropathies. However, this skeleton did exhibit some bilateral asymmetry of the clavicles– the right being much more robust in appearance than the left. This may be indicative of the individual having been involved in an activity or occupation during life that favoured the right arm.

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## Inventory

### Context 001

Left distal tibia

### Context 005/ 006

#### Skull

Frontal, occipital, right and left parietal bones are complete, right and left temporals are fragmented (unfused metopic suture, wormian bones on the lambdoid suture)

Right and left zygomatic bones, maxilla (fragmented) and mandible

Max	R	8	7	6	/	4	3	2	1	.	1	2	3	4	5	6	-	-	L
Mand	R	8	7	6	5	4	3	2	1	.	1	2	3	4	5	6	7	*	L

/ = post-mortem tooth loss

- = jaw missing

\* = congenital absence

Slight calculus on buccal and lingual surfaces.

Dental wear = 25-35 years.

#### Axial Skeleton

9 thoracic vertebrae (Schmorl's nodes on all except uppermost)

Osteophytes on the right inferior surface of T10(?) and osteoarthritis of the right costal facet.

Four lumbar vertebrae (L1-L4), exhibiting Schmorl's nodes, osteophytic and osteoarthritic changes

5 right ribs

6 left ribs (osteoarthritis of articular tubercle)

5 unidentified rib fragments

Right innominate bone (male), auricular surface = stage 4 (Lovejoy et al 1985), pubic symphysis = stage 4 (Brooks and Suhey 1990)

Sacrum

Manubrium fragment

Possible calcified thyroid cartilage

#### Upper Limbs

Right humerus (31.7cm)

Right ulna (25.9cm)

Right radius (24.0cm)

Right and left clavicle (right more robust)

Right and left scapula (fragmented)

Right second and third metacarpals

#### Lower limbs

Left tibia (distal two thirds)

Right femur (maximum length = 43.5cm, vertical diameter of femoral head = 48.2mm, bicondylar width = 76.6mm)

Two fragments on a fibula shaft (side unidentified)

#### Miscellaneous

Left distal tibia of another individual

Three animal bone fragments

#### Context 022

Animal bone fragment

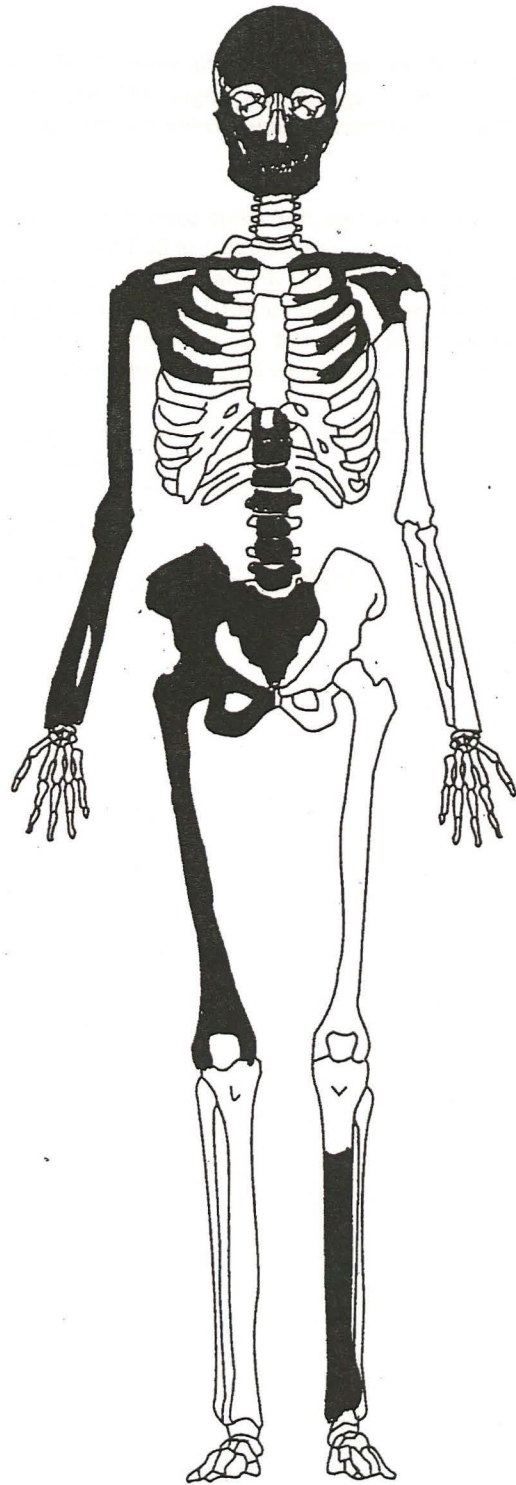
#### Context 023

Right second metacarpal

Animal bone fragment



Skeleton 005/006



## Appendix 6

### THE ANIMAL BONE

By Matilda Holmes BSc MA AIFA

328 fragments were examined, of which 123 were identified to species. Very few came from dated contexts, which ranged from Roman to 20<sup>th</sup> Century in date. The largest assemblage came from context 006, which was undated. The bones were generally in good condition, only 1 showed signs of burning, 7 had been gnawed and 19 showed signs of butchery.

Bones were identified using the specialist's reference collection, and further illustrative material from Bass (1995) and Schmidt (1972). Bones that could not be identified to species were, where possible categorised according to the relative size of the animal (small, medium or large). Due to anatomical similarities between sheep and goat, bones of this type were assigned to the category 'sheep/goat', unless a definite identification using guidelines from Prummel and Frisch (1986) could be made. Ageing data were taken from the fusion of bones (Bass 1995, Silver 1969). Butchery and metrical data (using guidelines from von den Dreisch 1976) were also noted where applicable.

Species present included cattle, sheep/goat (of which 2 bones were positively identified as sheep), pig, dog, horse, hare/rabbit, bantam, goose, mallard and human.

Table 1: Species represented (fragment count)

Species	Roman	L10-L12C	12-16C	E-M13C	L18C	20C	Undated
Cattle	3				7	1	31
Sheep/goat			4		3	5	38
Sheep							2
Pig		1			1	1	11
Horse	1				2		1
Dog							1
Hare/rabbit							1
Bantam							2
Goose					1	1	1
Mallard							1
Human					3		
<b>Total Identified</b>	<b>4</b>	<b>1</b>	<b>4</b>	<b>0</b>	<b>17</b>	<b>8</b>	<b>89</b>
Unid. large species			3	1	30	3	35
Unidentified Mammal					5		58
Unid. medium species				4	1	8	57
<b>Total</b>	<b>4</b>	<b>1</b>	<b>7</b>	<b>5</b>	<b>53</b>	<b>19</b>	<b>239</b>

Due to extremely small sample sizes (ranging from 0 to 17 identified fragments), and the great range in-dates (table 1), the faunal remains from this site cannot be expected to reveal, with any degree of significance, reliable trends for the phases represented. The data may, however, be usefully incorporated with any animal bones retrieved from this site in the future. The length of occupation suggested by the material so far recovered from the site means that any bones recovered from larger excavations would be valuable in assessing the continuity of animal husbandry and economy of the site and surrounding area over time.

#### Bibliography

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von den Driesch, A. (1976). *A guide to the measurement of animal bones from archaeological sites*. Cambridge, Massachusetts, Harvard University Press.

## Appendix 7

### GLOSSARY

- Context** An archaeological context represents a distinct archaeological event or process. For example, the action of digging a pit creates a context (the cut) as does the process of its subsequent backfill (the fill). Each context encountered during an archaeological investigation is allocated a unique number by the archaeologist and a record sheet detailing the description and interpretations of the context (the context sheet) is created and placed in the site archive. Context numbers are identified within the report text by brackets, *e.g.*(004).
- Cut** A cut refers to the physical action of digging a posthole, pit, ditch, foundation trench, *etc.* Once the fills of these features are removed during an archaeological investigation the original 'cut' is therefore exposed and subsequently recorded.
- Dumped deposits** These are deposits, often laid down intentionally, that raise a land surface. They may be the result of casual waste disposal or may be deliberate attempts to raise the ground surface.
- Fill** Once a feature has been dug it begins to silt up (either slowly or rapidly) or it can be back-filled manually. The soil(s) which become contained by the 'cut' are referred to as its fill(s).
- Layer** A layer is a term to describe an accumulation of soil or other material that is not contained within a cut.
- Medieval** The Middle Ages, dating from approximately AD 1066-1500.
- Post-medieval** The period following the Middle Ages, dating from approximately AD 1500-1800.
- Romano-British** Pertaining to the period dating from AD 43-410 when the Romans occupied Britain.
- Saxon** Pertaining to the period dating from AD 410-1066 when England was largely settled by tribes from northern Germany.

## Appendix 8

### THE ARCHIVE

The archive consists of:

33	Context records
11	Sheets of scale drawings
1	Photographic record sheet
1	Stratigraphic matrix
1	Box of finds

All primary records and finds are currently kept at:

Archaeological Project Services  
The Old School  
Cameron Street  
Heckington  
Sleaford  
Lincolnshire  
NG34 9RW

The ultimate destination of the project archive is:

Lincolnshire City and County Museum  
12 Friars Lane  
Lincoln  
LN2 1HQ

The archive will be deposited in accordance with the document titled *Conditions for the Acceptance of Project Archives*, produced by the Lincolnshire City and County Museum.

Lincolnshire City and County Museum Accession Number: 2003.330

Archaeological Project Services Site Code: LDH 03

The discussion and comments provided in this report are based on the archaeology revealed during the site investigations. Other archaeological finds and features may exist on the development site but away from the areas exposed during the course of this fieldwork. *Archaeological Project Services* cannot confirm that those areas unexposed are free from archaeology nor that any archaeology present there is of a similar character to that revealed during the current investigation.

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