ARCHAEOLOGICAL EXCAVATION ON LAND AT HEALTHLINC HOUSE, CLIFF ROAD, WELTON, LINCOLNSHIRE (WCR 08)

Work Undertaken For
Focus Consultants (UK) Limited
On behalf of
Healthlinc House

July 2008

Report Compiled by
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ARCHAEOLOGICAL PROJECT SERVICES

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1. SUMMARY

An archaeological excavation was undertaken in the grounds of Healthlinc House, Cliff Road, Welton, Lincolnshire. The excavation was undertaken in advance of new construction at the site.

The site is located in close proximity to an Anglo-Saxon (AD 410-650) inhumation cemetery and within one of the medieval (AD 1066-1540) prebendal manor enclosures known as West Hall which supported a canon of Lincoln Cathedral. Romano-British (AD 43-410) settlement remains are also known from the general proximity. Previous evaluation of the site, and the adjacent field to the south, had identified Late Saxon or Saxo-Norman (AD 850-1150) and later remains at the site.

The excavation identified undated, Romano-British, Late Saxon, medieval and post-medieval deposits. A short length of a Romano-British ditch was recorded which may be associated with known settlements of this period around Welton.

Most of the identified deposits relate to Late Saxon activities at the site. These comprise ditches, gullies, pits and a well. One ditch may form part of an enclosure and could be associated with Late Saxon buildings known from previous evaluation to the south. The pits contained domestic refuse (pottery, bone etc) and indicate the close proximity of settlement, though no structural remains were identified during the excavation.

Medieval ditches and gullies were found along the eastern side of the excavated area, perhaps suggesting a shift in the focus of activity during this period. However, no appreciable change in the site economy was identifiable, suggesting little change in function from the Late Saxon period. By the post-medieval period, only two boundary ditches are recorded.

Pottery is the most significant category of artefact retrieved from the site. Examples of residual Romano-British and Early Saxon types were retrieved. However, pottery of mid 9th to 11th century date was the most numerous.

Fragments of quern stone, glass, metalwork and clay pipe were also retrieved from the excavation. A quantity of animal bone was also collected and indicate that cattle and sheep/goat were the principal livestock.

Processing of environmental samples recovered cereal grains though no evidence for crop processing was identified. A few indicators suggesting the site lay in open ground were noted, though overall the preservation of this material is poor.

2. INTRODUCTION

2.1 Definition of an Archaeological Excavation

An archaeological excavation is defined as, *'a programme of controlled, intrusive fieldwork with defined research objectives which examines, records and interprets archaeological deposits, features and structures and, as appropriate, retrieves artefacts, ecofacts and other remains within a specified area or site on land, inter-tidal zone or underwater. The records made and objects gathered during the fieldwork are studied and the results of that study published in detail appropriate to the project design'* (IFA 1999).

2.2 Planning Background

Archaeological Project Services was commissioned by Focus Consultants (UK) Limited on behalf of Health Linc to

undertake an excavation at Healthlinc House, Cliff Road, Welton, Lincolnshire. The excavation was undertaken in advance of development of the area as detailed in planning application M05/P/1365. The work was undertaken between the 17th March and 7th April 2008 in accordance with a specification prepared by Archaeological Project Services (Appendix 1) and approved by the Archaeology Section, Lincolnshire County Council. In addition to the excavation, a watching brief was carried out during groundworks for the new access to the proposed development. This was carried out on the 9th July 2008.

2.3 Topography and Geology

Welton is located 9km northeast of Lincoln and 14km southwest of Market Rasen, in the administrative district of West Lindsey, Lincolnshire (Fig. 1).

Healthlinc House lies 300m west of the centre of the village as defined by the parish church of St Mary at National Grid Reference TF 0083 7973 (Fig. 2). The excavated area lies within the southeast corner of the grounds of Healthlinc House, adjacent to Norbeck Lane (Fig. 3).

The excavated area lies within a levelled area of the grounds at a height of 25.90m OD. The surrounding topography describes a gentle slope down to the east and a more marked slope down to a minor east-west watercourse to the south.

Healthlinc House lies at the junction of three soil types. To the north are fine loamy over clayey soils of the Beccles 1 Association, with fine loamy soils of the Aswarby Association located to the east. To the south and west of the site are brashy calcareous fine loamy soils of the Elmton 1 Association (Hodge *et al*. 1984, 99, 117, 179). These deposits overlie a solid geology of the Middle Jurassic Snitterby Limestone Formation with glacially derived till to the north of the site (BGS 1999).

2.4 Archaeological and Historical Background

Welton is located in an area of known archaeological remains dating from the Romano-British period. A building of this period, as indicated by finds of pottery and tiles (including one stamped with an inscription), is located some 380m southwest of the site. Romano-British pottery has also been identified within 200m of the site and coins of 3rd and 4th century date have been retrieved around the village. A recent evaluation adjacent to the church identified limestone walls of a 3rd – 4th century building (Parker 2007, 6).

A supposed Roman Camp is believed to have existed in the vicinity of Chapel Close, as when this was levelled in 1860, quantities of pottery of the period were recorded (Hunt *c*. 1925, 3).

During the construction of Healthlinc House in 1971, an inhumation cemetery was discovered adjacent to Cliff Road. Eleven graves were recorded which were accompanied by annular brooches, beads, pottery, shield bosses and a spearhead. The range of artefacts suggested a 6th century date for the cemetery. Further burials are believed to have been exposed during the laying of a gas pipe along Cliff Road.

Structural remains of Late Saxon date were revealed during an evaluation of the field immediately south of the site and included cobbled surfaces of 10th – 11th century date and a post-built structure to the west (Albone 1998).

Welton is first mentioned in a writ dating to around 1078. Referred to as *Welletona*, the name is derived from the Old English *wella* and *tūn*, and means ‘the village by

the spring' (Cameron 1998, 136). The writ details the granting of Welton to Lincoln Cathedral on the removal of the See from Dorchester by William the Conqueror (Foster 1931, 2).

The Domesday Survey of *c*. 1086 indicates that six canons held the manor of Welton of the Bishop of Lincoln, with the manor containing five mills, 150 acres of meadow and 40 acres of underwood (Foster and Longley 1976, 7/8). Thus, Welton was divided into six prebendal manors, which provided a living for each canon, and these are named as West Hall, Gore Hall, Beck Hall, Rive Hall, Pans Hall and Brink Hall and which may have preserved an earlier, Saxon, arrangement (Everson *et al*. 1991, 28). The excavated area falls within the West Hall manor, which was later combined with Gore Hall.

The manor of West Hall was further divided into three closes, West Yard (which encompasses the site), Dove Yard to the south and Chapel Yard on the east side of Norbeck Lane (*ibid*. 210). Thirteen skeletons were found in Chapel Yard in 1963, some beneath slabs, and medieval pottery has also been found here. Dove Yard contains impressive earthworks of a fishpond complex (*ibid*., Scheduled Monument Number 31636). The evaluation of the field to the south of the site also identified a stone wall associated with 13th – 14th century roof tiles (Albone 1998).

Extant remains of the medieval period in Welton are scarce, although the heavily modified and rebuilt church of St Mary contains a 13th century arcade (Pevsner and Harris 1989, 787).

Site specific interventions

Prior to the excavation, an evaluation of the site was undertaken in 2003. This identified remains of Late Saxon/Saxo-Norman date and a possible medieval stone wall foundation with yard surfaces (Albone 2003, 1). Furthermore, pottery of Middle Saxon date was also retrieved.

A watching brief on the western side of Healthlinc House retrieved 13th – 14th century pottery from subsoil deposits (Cope-Faulkner 2002, 3).

Excavation of the Anglo-Saxon cemetery also identified that the grounds of Healthlinc House were formerly divided into four tofts. The northwest croft contained a possible house footprint and walls and a sunken trackway were recorded in the northeast croft (Anon nd).

3. AIMS

The primary aim of the excavation, as detailed in the specification (Appendix 1), was to preserve the archaeological evidence contained within the site by record and to attempt a reconstruction of the history and use of the site in the past.

4. METHODS

Excavation

A single trench measuring 28m by 18m was excavated by machine to the surface of natural deposits. Due to size restrictions, the site had to be partially stripped then following completion of archaeological works, buried and the remaining portion then stripped (Plates 1 and 2). Once excavated, the base of the excavated area was cleaned and the sides of the trench rendered vertical. Features and deposits were then excavated by hand to determine their nature, function and age.

Recording was undertaken based on the single context approach developed by the Museum of London (MoLAS 1994) with minor modifications by *Archaeological Project Services*. Each deposit or feature

revealed was allocated a unique reference number (context number) with an individual written description. A list of all contexts and their interpretations appears as Appendix 2. All plans were drawn at a scale of 1:20 and all sections at a scale of 1:10. A photographic record was compiled using a digital camera along with black and white film.

The location of the excavated trench was surveyed by using a Thales Global Positioning System (GPS) and was also used to establish a site grid across the excavated area.

Environmental sampling was taken at the discretion of the site director. Samples were taken using guidelines established by English Heritage (2002). The methodology for the subsequent processing of these samples is detailed in Appendix 5.

Post-excavation
Following excavation, all records were checked and ordered to ensure that they constituted a complete MAP II archive and a stratigraphic matrix of all identified deposits was produced. Finds recovered from those deposits excavated were examined and a period date assigned where possible. Initial phasing has been based on artefact dating and the nature of the deposits and recognisable relationships between them.

5. RESULTS

Following post-excavation analysis, a total of seven phases were identified;

Phase I	Natural deposits
Phase II	Undated deposits
Phase III	Romano-British deposits
Phase IV	Late Saxon deposits
Phase V	Medieval deposits
Phase VI	Post-medieval deposits
Phase VII	Recent deposits

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

Phase I Natural deposits

Natural deposits encountered at the base of the excavated area comprised yellowish brown degraded limestone (006) and yellow clayey sand with fractured limestone (045). The upper surface of the natural geology ranges in heights from 25.42m OD at the northwest corner to 24.96m OD along the eastern edge of the excavated area.

Phase II Undated deposits

Located in the southwest corner of the excavated area was an isolated posthole (044). This measured 0.27m long and 0.2m wide and was 0.16m deep (Fig. 7, Section 14). A single fill of yellowish brown clayey sand (043) was recorded.

Situated 9m to the northeast was a sub-circular pit (035), measuring 0.64m long, 0.55m wide and 70mm deep (Fig. 7, Section 11; Plate 5). The pit contained a fill of yellowish brown clayey sand (034) within which was a single fragment of animal bone.

Within the northeast corner of the site was a northeast-southwest aligned ditch (065). This measured over 6m long, 0.7m wide and 0.15m deep (Fig. 7, Section 20). A single fill of yellowish brown clayey sand (063 and 064) was recorded.

Located immediately to the south of this was a heavily truncated pit (096) which measured at least 0.8m long, over 0.5m wide and 0.4m deep, and contained a fill of brown sandy silt (095).

Situated 3.5m to the west was a short

length of gully (091) truncated by modern disturbance to the north and measuring 1.6m long, 0.26m wide and 60mm deep (Fig. 7, Section 30). This feature contained a single fill of brown silty clay (090).

Immediately southeast of this gully was a possible pit (087). This was 0.51m long, wider than 0.25m and 90mm deep. A single fill of yellowish brown silty sand was recorded (086).

A short length of a curving ditch (083) was recorded some 4.5m to the south of gully (091). This measured 0.56m wide and 0.27m deep and contained a fill of brownish grey silty clay (082).

Phase III Romano-British deposits

Situated to the east of the centre of the site was a northwest-southeast aligned ditch (053). This was at least 6.8m long by 0.52m wide and 0.14m deep (Fig. 7, Section 17; Plate 4). A single fill of yellowish brown clayey sand (052) was recorded from which pottery of 2nd century date was retrieved.

Phase IV Late Saxon deposits

Situated within the southwest area of the site was an L-shaped ditch (015, 038, 051 and 057) which had been truncated by post-medieval features. This was aligned east-west and turned to the south at its east end. A length of over 21m was evident with widths varying between 1.35m and 0.77m and depths of up to 0.41m (Plate 5; Fig. 8, Sections 3, 12, 15 and 22). Recorded fills comprise grey silty clay (014, 036 and 050), greyish brown silty clay (037) and yellowish brown silty sand (056). Pottery was principally of 9th – mid 11th century date, although medieval tile, possibly intrusive, was retrieved from (050).

Perpendicular to this ditch at its western end was a gully (042). The relationship between the two was not ascertained. This gully was 4.9m long, 0.57m wide and 0.18m deep (Fig. 8, Section 13) and contained a single fill of yellowish brown clayey sand (041) from which late 9th – late 11th century pottery was retrieved.

To the north of ditch (051) was a possible circular pit (049) measuring 2.2m long and over 1.51m wide and 0.43m deep (Fig. 11, Section 16; Plate 12). A yellowish brown silty sand (048) was recorded for the fill which contained a single sherd of late 10th to 12th century pottery.

Situated northwest of this pit, along the northern boundary of the excavated area, was an east-west aligned linear pit (008). This was 6.14m long, 1.24m wide and 0.55m deep (Fig. 11, Sections 2 and 4; Plate 8). Brown clayey silt (007) and (016) was recorded in both excavated sections, though towards the east it was overlain by greyish brown silt (017) and yellowish brown clayey silt (018). Pottery of late 9th to late 10th century date was retrieved from the fills.

A further pit (005) was recorded lying to the east where it measured 3.14m long, 1.95m wide and 0.22m deep (Fig. 11, Section 1; Plate 7). This was filled with brown clayey silt with burnt clay and charcoal (004) from which late 9th – early/mid 10th century pottery was retrieved.

South of this pit, towards the centre of the site, was an oval well (024). The dimensions of the well were 4.1m long by 1.92m wide with the actual shaft located towards the southern end (Figs. 9 and 10; Plate 9). The shaft was 0.77m wide and lined with limestone in random coursing (023). The shaft was not completely excavated and was filled with grey silty sand with limestone fragments (022) which contained a residual Romano-

British tile fragment and Late Saxon pottery. To the south of the feature a reddish brown sand with burnt limestone (019) deposit had slumped into the well. Towards the north, (022) was overlain by grey silty sand (021) and the feature sealed with brownish grey silty sand (020). Environmental sampling of the well revealed high numbers of cereal grains, specifically wheat though barley and oat were also represented.

To the west of the well was a second linear pit (026), previously recorded during the evaluation. This measured 3.3m long, 0.8m wide and 0.42m deep (Fig. 11, Section 7). A single fill of greyish brown clayey silt (027) was recorded from which late 10th to 12th century pottery. The evaluation had retrieved pottery of late 9th to 10th century date from the same feature.

To the southwest of this linear pit were two smaller pits. The easternmost (011) was 0.72m long, 0.67m wide and 0.39m deep (Fig. 11, Section 6). Two fills were recorded, a lower of dark yellowish brown clayey sand (025) and an upper of yellowish brown sand (010). Pottery dating to between the late 9th to 11th centuries was collected from both fills.

The second of these pits (029) lay to the west and immediately east of the undated pit (035). This measured 0.86m by 0.76m and was 0.29m deep (Fig. 11, Section 10) and contained a single fill of yellowish brown clayey sand (028) from which 11th to mid 12th century pottery was retrieved.

Located 1.9m east of ditch (057) in the southeast corner of the site was a short length of north-south aligned ditch or an elongated pit (081). This had a visible length of 1.65m and was 0.5m wide and 0.31m deep (Fig. 8, Section 25; Plate 6). A single fill of brown silty clay (080), which contained late 10th to 12th century pottery, was recorded.

Situated in the northeast corner of the excavated area were two east-west aligned ditches that terminated just within the site bounds and cut the undated ditch (065). The more northerly of these (059) was 0.85m wide and 0.28m deep (Fig. 8, Section 19; Plate 10). The fill comprised brown sandy silt (058) that contained late 10th to 12th century pottery.

The second ditch (062) lay 0.6m to the south and was 0.87m wide and 0.45m deep (Fig. 8, Section 19; Plate 10). Two fills were recorded, a basal fill of yellowish brown sandy silt with limestone fragments (061) and an upper of yellowish brown clayey silt (060). Late 9th – 10th century pottery was found along with residual Romano-British tile.

Phase V Medieval deposits

Parallel to the eastern side of the excavated area was a north-south aligned gully (068, 070 and 089) with a total length of 10.6m. It measured up to 0.72m wide and 0.15m deep (Fig. 12, Sections 20, 23, 28 and 29). Recorded fills comprised yellowish brown sandy silt (066), brown sandy silt (067) and grey sandy silt (069 and 088). Late Saxon and 12th – 15th century pottery was retrieved from the fills.

Lying parallel and some 1.25m to the west was a ditch (055 and 078), with a combined visible length of 10.8m and widths of between 1.33 and 2.01m (Fig. 12, Section 18; Plate 11). Greyish brown clayey sand (054), grey silty clay (077) and yellowish brown sandy silt (097) were recorded for the fills. A late 12th to 13th century tile fragment was retrieved from (054).

Cutting both of these ditches as well as the undated pit (087) was a curving ditch (085 and 094). The southern section of the ditch was orientated north-south and curved to the east where it went beyond the

excavated area. Its visible length was 10m and it measured 0.7m-0.79m wide (Fig. 12, Sections 26 and 21). Fills comprised brown silty sand (084) and brown sandy silt (093). Pottery of late 10th to 12th century date was recovered along with later tile.

Cutting this ditch at its southern end was ditch (072). This measured over 5.14m long and over 0.8m wide (Fig. 12, Section 24). This was filled with grey silty clay (071) that contained 11th to 12th century pottery.

Parallel to this ditch, with an indeterminate relationship, was ditch (076). This was over 3m long, over 0.75m wide and 0.36m deep (Fig. 12, Section 24; Plate 11). This also contained grey silty clay (075).

The latest feature was a short gully (031), previously identified during the evaluation. This cut the undated gully (033) and was over 2.2m long by 0.68m wide and 70mm deep (Fig. 12, Section 8). A single fill of greenish brown clayey sand (030) was recorded from which pottery of 14th – mid 15th century date was retrieved.

Phase VI Post-medieval deposits

Located parallel to the west boundary of the site was a large north-south ditch (040). It measured 3.3m wide and was over 0.4m deep, though was not fully excavated due to ground water (Fig. 13, Section 16; Plate 12). A single fill of grey silty clay (039) was recorded to the south, though this was replaced by greenish brown silty sand (047) overlain by brown/black sandy silt (046) to the north. Residual Late Saxon and medieval pottery was retrieved, though most finds were of 16th to 18th century date. Also retrieved was a significant quantity of medieval roof tile.

Some 2.6m to the east and perpendicular to this ditch was an east-west aligned ditch (013 and 074). This also appears to follow or represent a re-cut of medieval ditches (072) and (076). This ditch had an overall length of 14.4m and was 0.76m wide and up to 0.33m deep (Fig. 13, Sections 3, 24 and 25). A single fill of grey silty clay (012, 073 and 079) was recorded from which residual pottery of Saxon and medieval date was retrieved along with 16th – 18th century types.

Phase VII Recent deposits

Sealing all archaeological deposits was a subsoil layer comprising a 0.4m thick layer of greyish brown clayey silt (003). This was in turn sealed by a grey clayey silt topsoil (002) that measured 0.3m thick. Finds of 18th – 19th century date were retrieved from the topsoil.

Subsoil comprising yellowish brown sandy silt (102) was also identified during the watching brief. This was overlain by an organic dumped layer (101) from recent gardening activities, followed by topsoil (100) and recent overburden from the excavation (099).

In addition, two features were also identified as modern and relate to recent horticultural activities at the site. These were planned (Fig. 4), though no other formal recording was undertaken.

6. DISCUSSION

Natural deposits (Phase I) of clayey sand and limestone were encountered and relate to the underlying solid geology of the Jurassic Snitterby Limestone Formation.

A number of features remain undated (Phase II) due to a lack of artefactual material and comprise a posthole, three pits, a gully and short lengths of ditches.

The ditches and gullies are all broadly on a north-south or east-west alignment which reflects those recorded for the Late Saxon and medieval phases. Ditch (065) is aligned slightly northeast-southwest and may not fit in this pattern. Pit (035) lies immediately west of two Late Saxon pits and also respects a Late Saxon ditch and contains an identical fill to both. It is, therefore, not unreasonable to suggest that this is contemporary.

A short length of ditch was assigned to the Romano-British period (Phase III). Although residual finds of the period are recorded from elsewhere on the site, this ditch has a noticeable northwest-southeast alignment which differs from other linear features recorded at the site.

Late Saxon, also described as Saxo-Norman, deposits (Phase IV) include a well, pits, ditches and gullies. Towards the end of this phase, these deposits can be associated with the Domesday prebendal manor of West Hall, though none of the features recorded are suggestive of actual habitation. Although the manor must have been created following the removal of the See from Dorchester *c*. 1080, it has been suggested (Everson *et al*. 1991, 28) that it may be based on a pre-conquest arrangement. Pottery indicates a foundation prior to the 1080s, supporting the notion of an existing arrangement.

Of the excavated features, the ditch along the southern part of the site is notable as it appears to define an area situated to the southeast of the site. Evaluation of this area in 1998 identified Late Saxon building remains and cobbled surfaces both to the south and southeast (Albone 1998).

The well is of some significance and may have been placed close to habitation areas or livestock. This was not fully excavated.

Medieval deposits (Phase V) comprise ditches and gullies. These are often of short lengths and are probably agricultural in origin as an aid to localised drainage. Furthermore, they are all located in the eastern part of the excavated area and may not relate to the crofts and tofts recorded previously as fronting Cliff Road. A few features (031 and 032) were interpreted as structural in nature during the evaluation, though this was not confirmed during the excavation of the site where they were re-interpreted as simple gullies.

This indicates that the focus of the medieval prebendal manor was located in one of the adjacent 'yards' of West Hall manor, most likely Chapel Yard to the east. West Yard would appear to have served a mixed domestic and agricultural function by the medieval period.

Post-medieval (Phase VI) comprise a north-south aligned boundary ditch and a short length of east-west aligned ditch. The latter may represent re-cutting of the earlier medieval ditches. The north-south boundary ditch could be the boundary depicted on 18th century maps (Albone 2002, Fig. 3).

Romano-British pottery was the earliest artefact found during the excavation and contributes to a growing corpus of such material from around the village. However, the quantity of artefacts from this period is small suggesting that nearby settlement may be at some distance from the site.

Residual early to mid Saxon pottery was also retrieved from the investigation and may represent re-working of deposits associated with the inhumation cemetery to the north of the site, though may also represent domestic occupation in the general proximity.

The largest element of the pottery

assemblage is of mid 9th – mid 12th century date, accounting for 70% of the collection. Most of this derives from kilns centred on Lincoln, though Torksey types were also recognised as well as a type only previously found along the east coast of Lincolnshire. Some are sooted on the outside and are likely to be associated with domestic activities.

Medieval pottery is also domestic in nature and is dominated by pottery produced either in or surrounding Lincoln with examples derived from Nottingham and Toynton.

Quantities of medieval roofing tile were found, both locally produced and imported types, and indicate the presence of a building in the vicinity during the 12th – 14th centuries.

The animal bone assemblage was considered too small for detailed analysis. It was dominated by cattle and sheep/goat during the Late Saxon and medieval periods, though pig is absent from the latter. Horse was present and deer also found during the medieval period.

The environmental data was retrieved from a number of phases and the results tend to be fairly uniform. This would suggest that activities varied little, particularly between the Late Saxon and medieval phases. Cereal grains were abundant but there was little evidence of crop processing. The survival of this material suggests accidental spillage into a fire or burnt stored grain. Overall, domestic activities are best suggested by the environmental sampling.

Site overview

The data from the excavation suggests the site during the Late Saxon and medieval periods was adjacent to domestic activities with the likelihood that agricultural functions were also undertaken nearby. The site lay within a yard of a medieval manorial holding, though there is no evidence of status, indicating that the manorial centre lay elsewhere. Furthermore, there is no functional evidence for the yard apart from a mixed agricultural and domestic holding.

7. CONCLUSIONS

An archaeological excavation was undertaken at Cliff Road, Welton, as the site lay in an area of known archaeological remains of Saxon and medieval date.

The earliest remains encountered comprise a single ditch of the Romano-British period perhaps related to known occupation of the period in the vicinity of the site. No evidence for a southern continuation of the Anglo-Saxon cemetery was revealed, although residual pottery of the period was recorded.

The site seems to have principally been occupied during the Late Saxon and medieval periods. A series of ditches and gullies may indicate attempts to demarcate boundaries or aid drainage. No structural features were identified indicating that habitation occurred elsewhere, though in relatively close proximity. There is no distinct change during the period when the site becomes a prebendal manor of Lincoln cathedral, perhaps indicating that the manorial arrangement fossilized an existing system.

The post-medieval remains comprise two boundary ditches, one of which matches a boundary depicted on early maps of the village.

Pottery was the largest category of material found during the excavation and encompasses types dating from the Romano-British to modern periods. Tile was also encountered and was glass,

metalwork, quern fragments, clay pipe. Animal bone was also collected.

8. ACKNOWLEDGEMENTS

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9. PERSONNEL

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10. BIBLIOGRAPHY

Albone, J, 1998 *Archaeological Field Evaluation at Norbeck Lane, Welton, Lincolnshire*, unpublished PCA report

Albone, J, 2002 *Desk-Based Assessment of Proposed Development at Healthlinc House, Welton, Lincolnshire (WCR 02)*, unpublished APS report **217/02**

Albone, J, 2003 *Archaeological Evaluation on land at Healthlinc House, Cliff Road, Welton, Lincolnshire (WCR 03)*, unpublished APS report **26/03**

Anon, nd *Archive notes on the excavation of an Anglo-Saxon cemetery at Welton*
BGS, 1999 *Market Rasen: Solid and drift edition*, 1:50 000 map sheet **102**

Cameron, K, 1998 *A Dictionary of Lincolnshire Place-names*, English Place-Name Society Popular Series No. **1**

Cope-Faulkner, P, 2002 *Archaeological Watching Brief of Development at Healthlinc House, Cliff Road, Welton, Lincolnshire (WNL 01)*, unpublished APS report **53/02**

English Heritage, 2002 *Environmental Archaeology. A guide to the theory and practice of methods, from sampling and recovery to post-excavation*

Everson, PL, Taylor, CC and Dunn, CJ, 1991 *Change and Continuity: Rural Settlement in North-East Lincolnshire*

Foster, CW, 1931 *The Registrum Antiqussitium of the Cathedral Church of Lincoln. Pt 1*, The Lincoln Record Society **27**

Foster, CW, and Longley, T (eds), 1976 *The Lincolnshire Domesday and the Lindsey Survey*, The Lincoln Record Society **19**

Hodge, CAH, Burton, RGO, Corbett, WM, Evans, R and Seale, RS, 1984 *Soils and their use in Eastern England*, Soil Survey of England and Wales **13**

Hunt, A, *c*. 1925 *Welton-by-Lincoln*

IFA, 1999 *Standard and Guidance for Archaeological Field Excavation*

Lewis, C, 2006 'The Medieval Period (850-1500)', in NJ, Cooper (ed), *The Archaeology of the East Midlands. An*

Archaeological Resource Assessment and Research Agenda, Leicester Archaeology Monograph **13**

Parker, N, 2007 *Archaeological Evaluation on land between 17 and 21 Lincoln Road, Welton, Lincolnshire (WELR 07)*, unpublished APS report **153/07**

Pevsner, N and Harris, J, 1989 *Lincolnshire*, The Buildings of England (2nd edition, revised N Antram)

11. ABBREVIATIONS

APS Archaeological Project Services

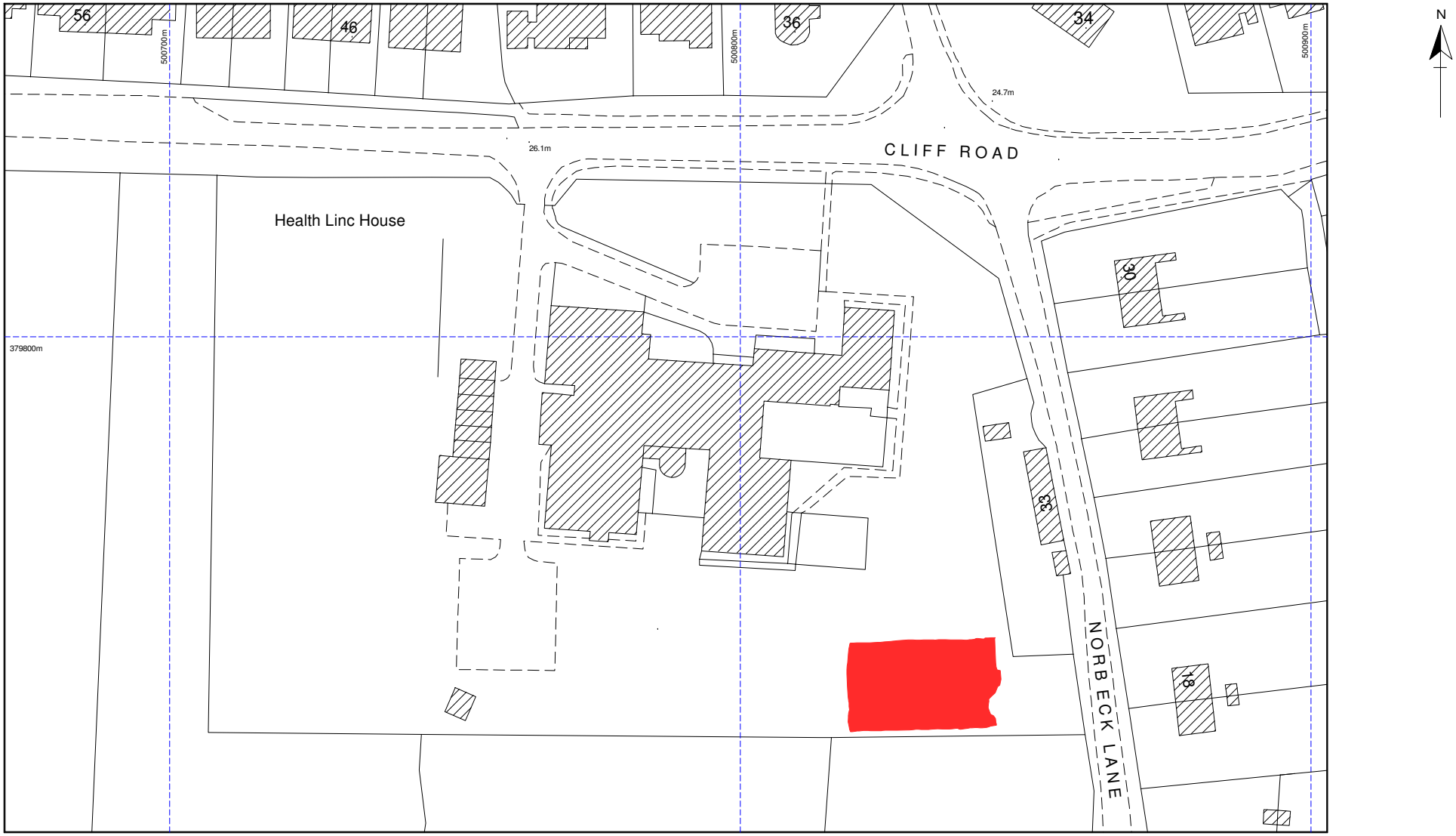
BGS British Geological Survey

IFA Institute of Field Archaeologists

PCA Pre-Construct Archaeology

Figure 1 - General location plan


N
81
80
South Farm
Tel Ex
Ppg Sta
Grange Farm
Farm
Mill Lane
17
81
Mill House
CH
Hackthorn Road
WELTON CP
Pit (dis)
Prebend Lane
01
02
19
Ryland Farm
14
Stonefield Park
Ryland
80
Sch
Sch
18
FB
PO
FB
29
Welton
Council Farm
Sewage Works
FB



Archaeological Project Services		
Project Name: Cliff Road, Welton WCR08		
Scale 1:1000	Drawn by: PCF	Report No: 60/08

Figure 3 - Trench location plan

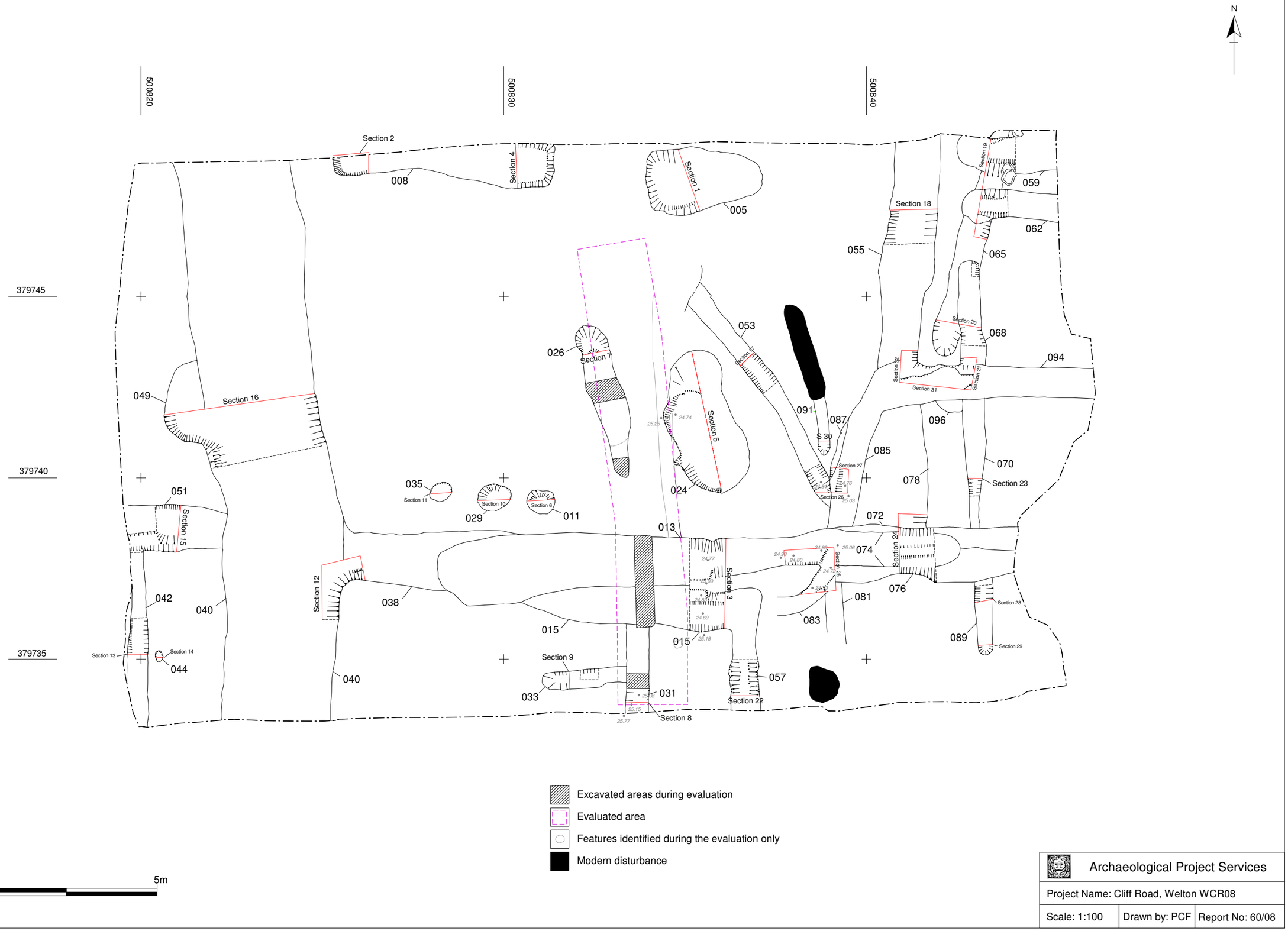


Figure 4 - Plan of excavated features

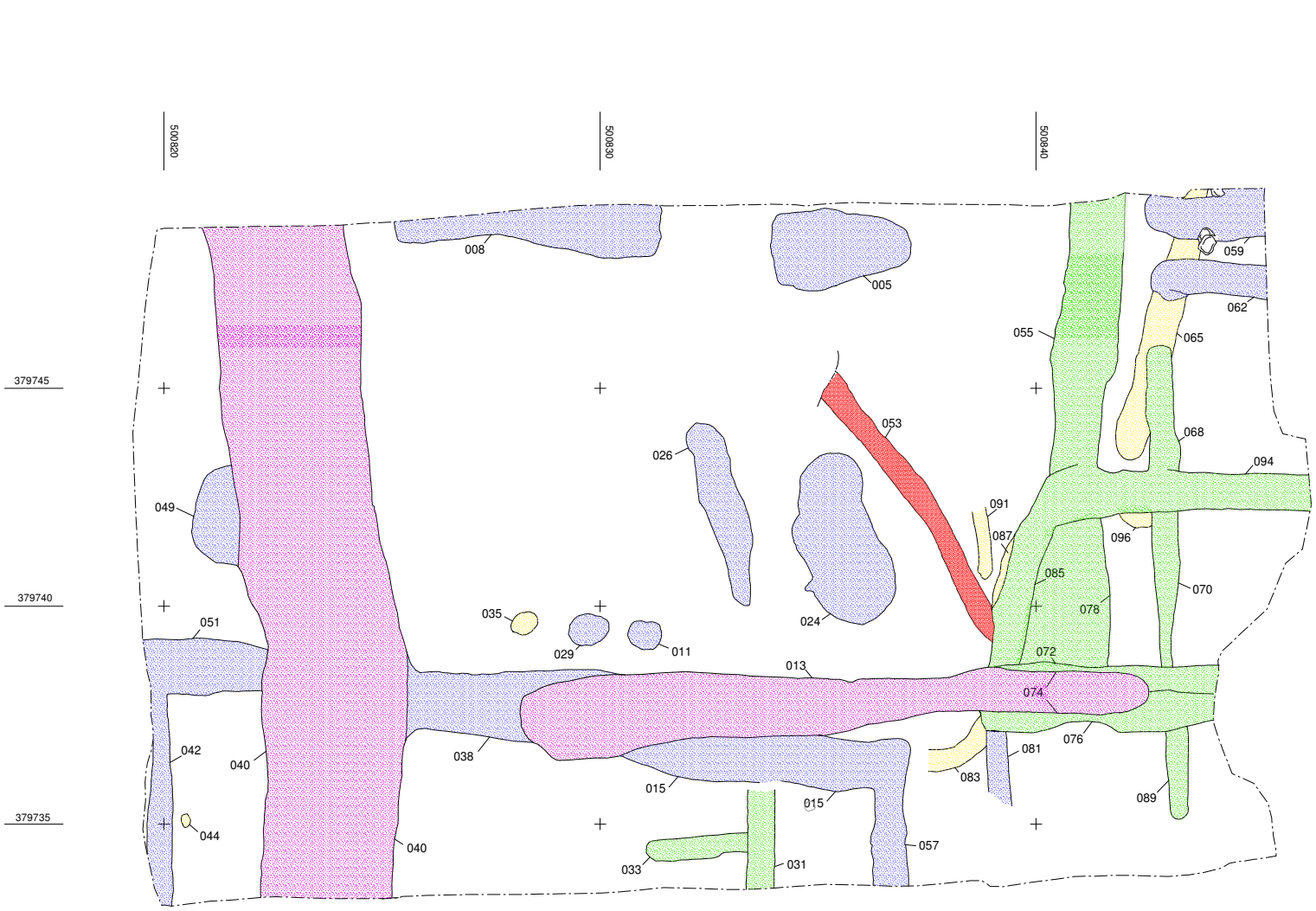
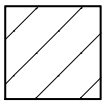
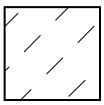


Figure 5 - Plan of features by Phase



CLAY Main Component



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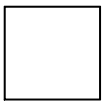
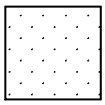


SAND Main Component



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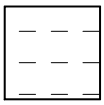
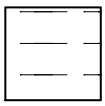


SILT Main Component



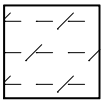
SILT Small Component

Brick

Burnt limestone

Limestone

THEREFORE:

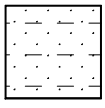


Clayey Silt

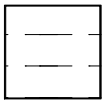
Silty Clay

Sandy Clay

Clayey Sand



Sandy Silt



Silty Sand

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Figure 6 - List of conventions used for sections

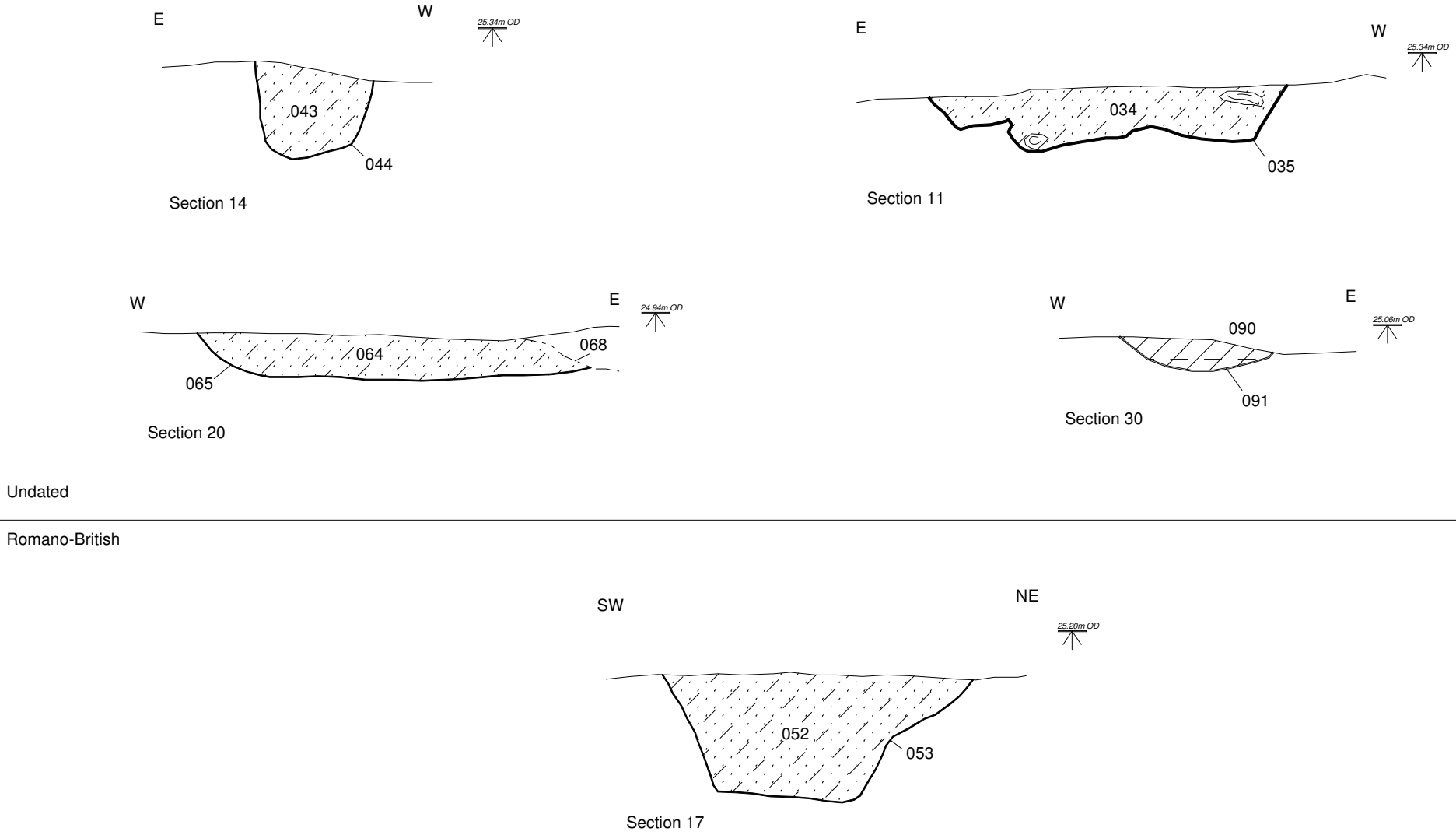


Figure 7 - Sections of undated and Romano-British features

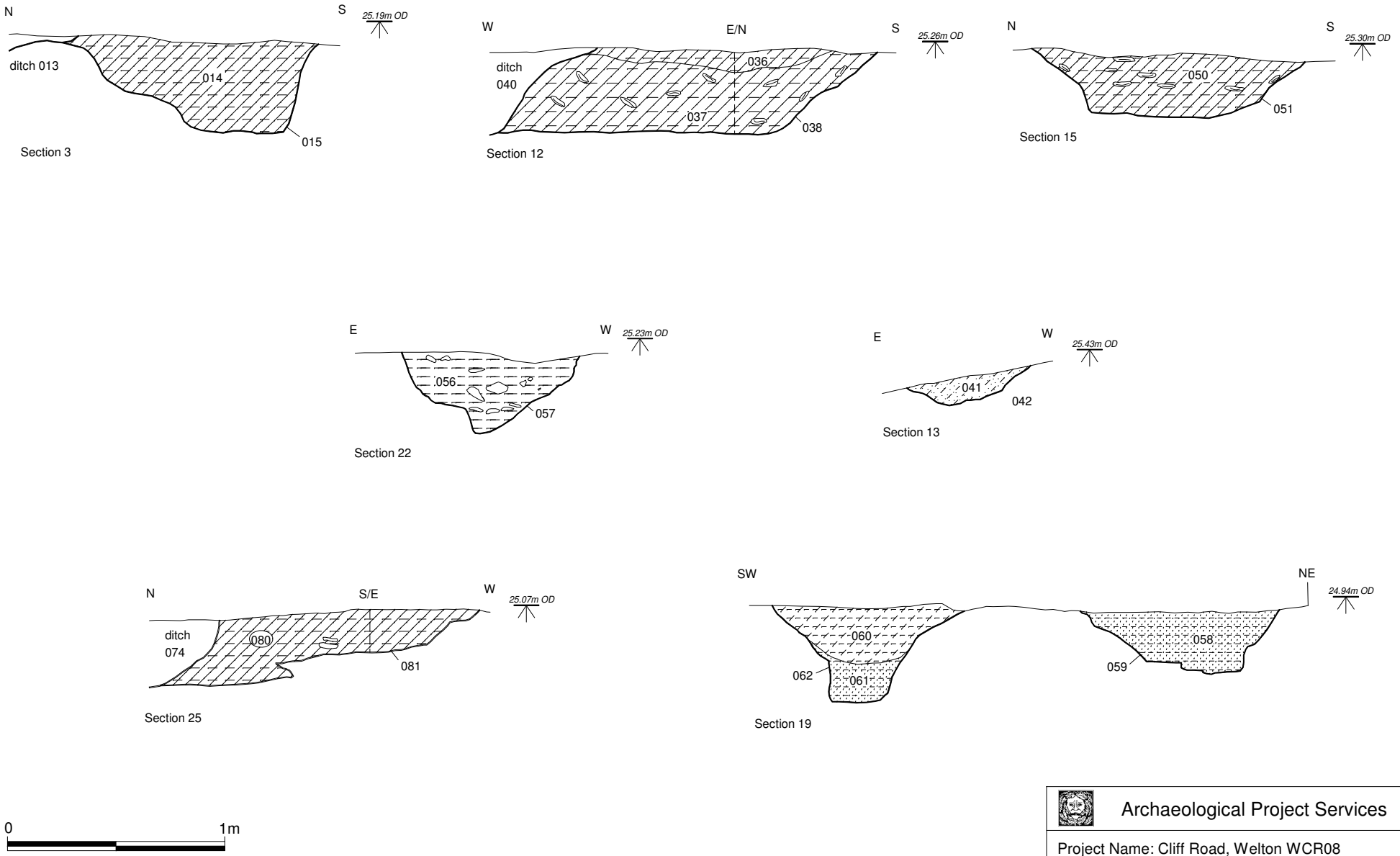


Figure 8 - Sections of Late Saxon ditches and gullies

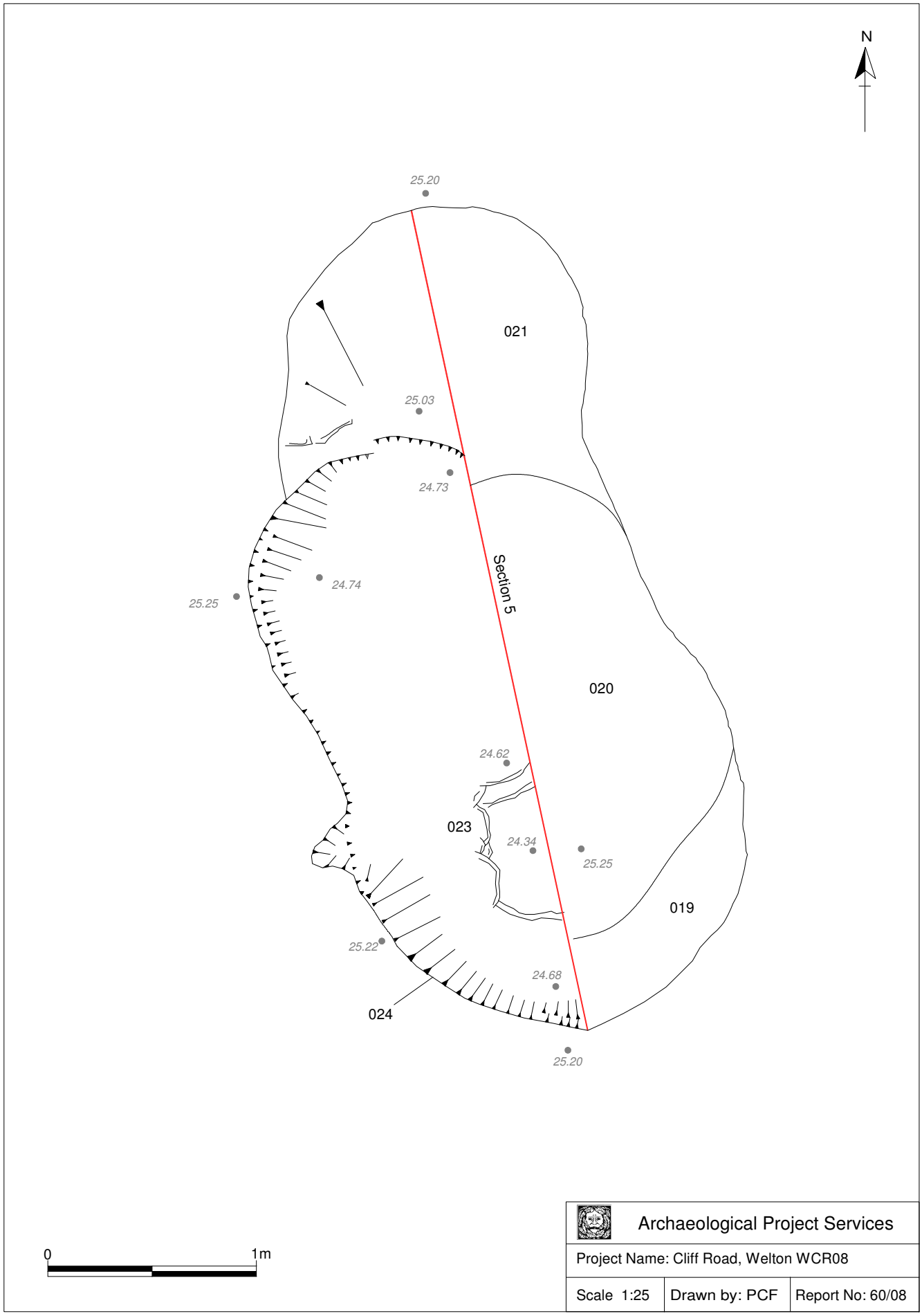
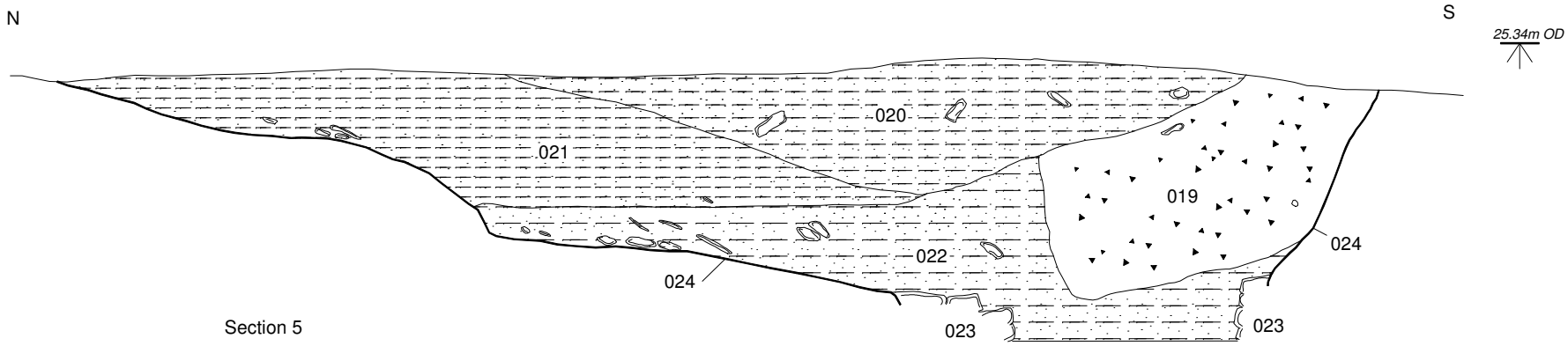


Figure 9 - Plan of the Late Saxon well (024)



0 1m

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Project Name: Cliff Road, Welton WCR08		
Scale 1:20	Drawn by: PCF	Report No: 60/08

Figure 10 - Late Saxon well section

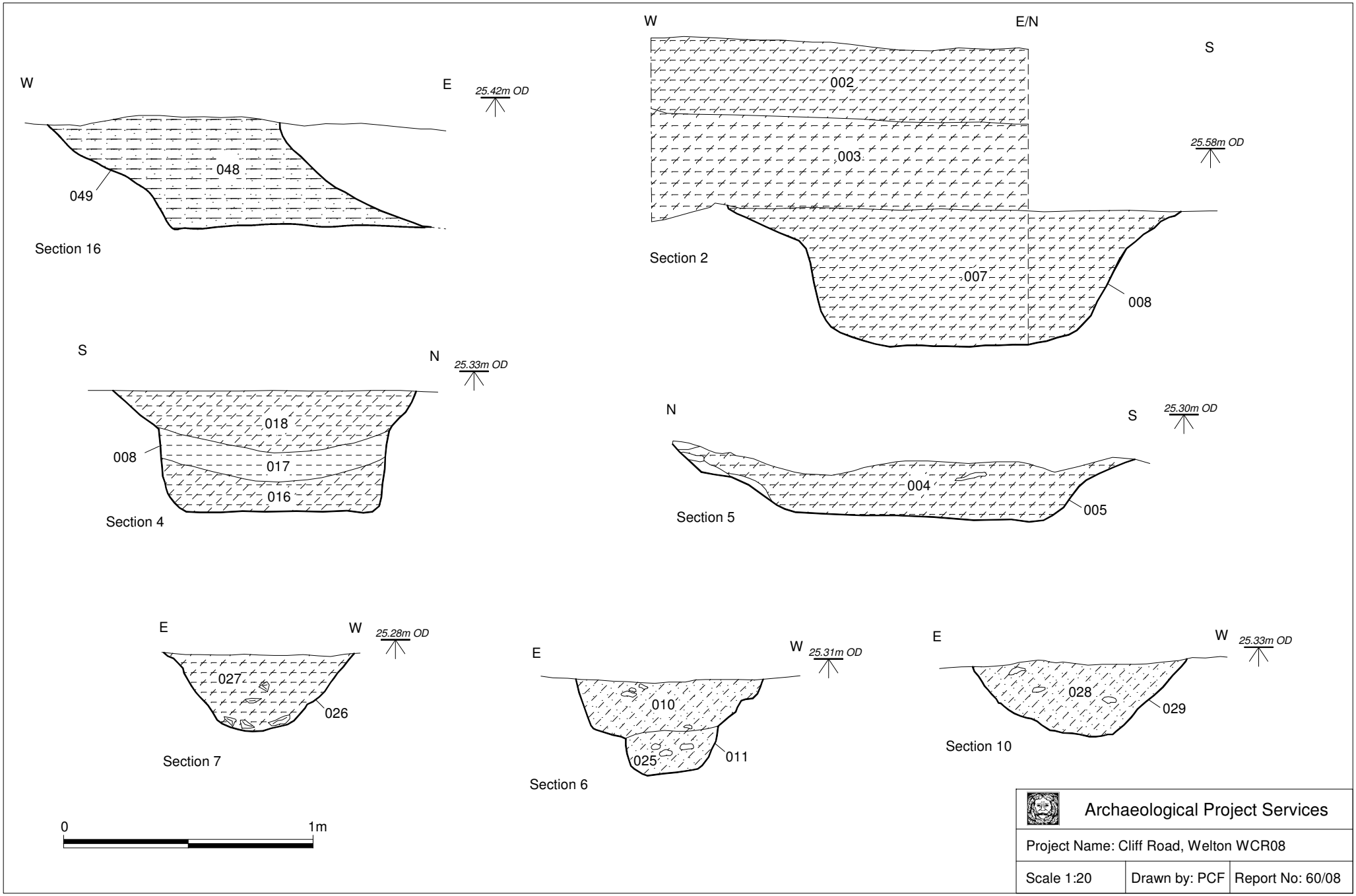

Figure 11 - Sections of Late Saxon pits

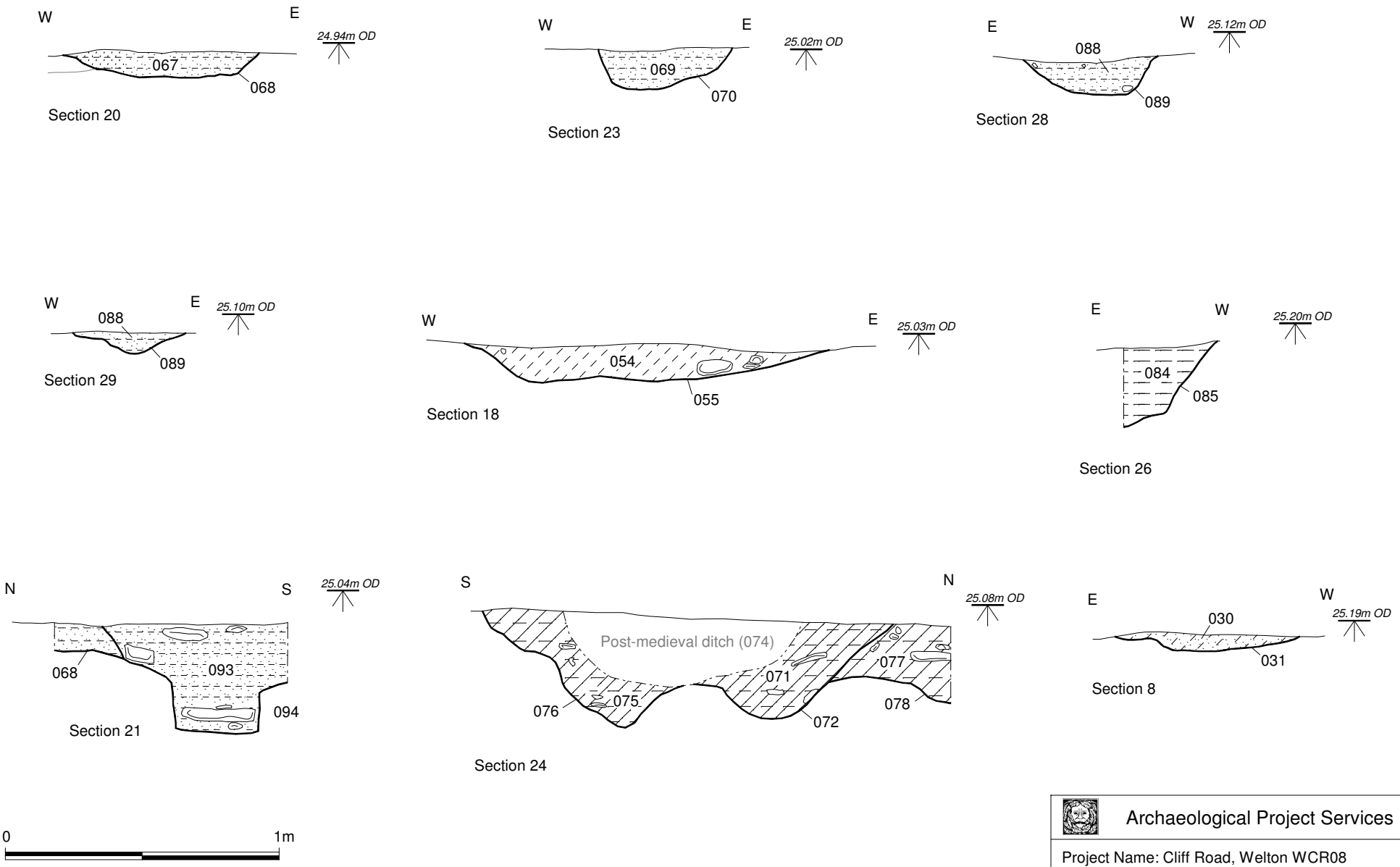

Figure 12 - Sections of medieval features

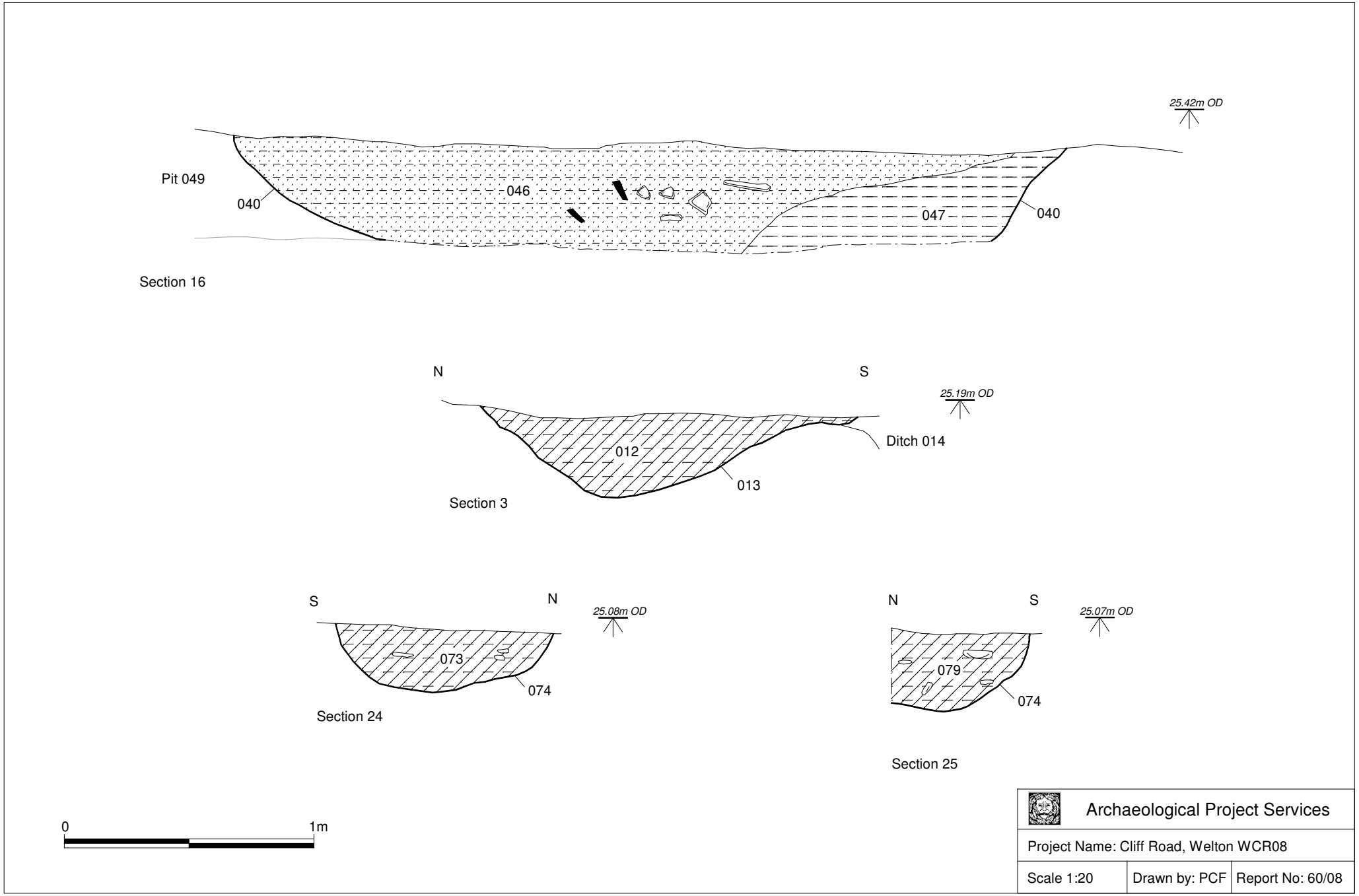

Figure 13 - Sections of post-medieval features

Plate 1 – View of the western part of the site prior to excavation, looking west

Plate 2 – The eastern half of the site prior to excavation, looking east

Plate 3 - Undated pit (035), looking south

Plate 4 – Romano-British ditch (053), looking northwest

Plate 5 – Late Saxon enclosure ditch (051), looking east

Plate 6 – Late Saxon enclosure ditch (057), looking south

Plate 7 – Late Saxon pit (005), looking northeast

Plate 8 – Late Saxon pit (008), looking northeast

Plate 9 – Late Saxon well (024), looking southeast

Plate 10 – Section 19 showing Late Saxon ditches (059) and (062), looking west

Plate 11 – Section 24 showing medieval ditches (072), (076) and (078) and post-medieval ditch 074, looking west

Plate 12 – Post-medieval ditch (048) and Late Saxon pit (049), Looking north

Appendix 1

WRITTEN SCHEME OF INVESTIGATION FOR ARCHAEOLOGICAL EXCAVATION AT HEALTHLINC HOUSE, WELTON, LINCOLNSHIRE

1 SUMMARY

1.1 *This document comprises a specification for archaeological excavation of land at Healthlinc House, Cliff Road, Welton, Lincolnshire.*

1.2 *The site is archaeologically significant and previous investigations have located archaeological remains of middle Saxon, late Saxon and medieval date. Early Saxon burials were identified during construction of Healthlinc House in 1971.*

1.3 *Planning Permission for development of the site has been granted subject to the implementation of a scheme of archaeological work. This investigation will comprise excavation of the footprint of the proposed buildings, an area measuring 28m x 18m. Remaining groundworks to be undertaken as part of the investigation will be archaeologically monitored.*

1.4 *On completion of the fieldwork post excavation analyses and reporting will be undertaken*

2 INTRODUCTION

2.1 This document comprises a specification for a programme of archaeological work at Healthlinc House off Cliff Road, Welton, Lincolnshire.

2.2 The document contains the following parts:

2.2.1 Overview

2.2.2 The archaeological and natural setting

2.2.3 Stages of work and methodologies to be used

2.2.4 List of specialists

2.2.5 Programme of works and staffing structure of the project

3 SITE LOCATION

3.1 Welton is located approximately 15km northeast of Lincoln. Situated in the western part of the village, the site is located on the south side of Cliff Road, at Healthlinc House at National Grid Reference TF 0083 7973 (Fig. 1). The proposed area of development lies towards the southeast corner of the grounds of Healthlinc House and comprises a roughly rectangular area measuring 40m x 20mwhich fronts onto Norbeck Lane.

4 PLANNING BACKGROUND

4.1 Planning permission issued by West Lindsey District Council (Application No.M05/P/1365) for residential development is subject to a condition requiring the implementation of a scheme of archaeological works comprising an excavation to ensure the recording of any buried deposits which might survive on the site. The scheme of works should be in accordance with section 4.10.4 of the Lincolnshire Archaeological Handbook.

4.2 An archaeological evaluation of the site during January 2003 (Albone, 2003) identified archaeological remains of middle Saxon, late Saxon and medieval date.

5 SOILS AND TOPOGRAPHY

5.1 Welton parish spans the Lincolnshire Limestone ridge in the west, dropping down into the

River Langworth valley to the east. The site lies at approximately 25mOD on the north side of a slight, east-west stream valley. The site is on soils of the Beccles 1 Association typical stagnogleys, with Aswarby Association gleyic brown calcareous earths immediately to the east (Hodge et al. 1984, 99; 118). The soils are developed on Tealby Clay and limestone).

6 ARCHAEOLOGICAL AND HISTORICAL BACKGROUND

6.1 The settlement of Welton is first recorded in 1072 in a writ issued by King William granting the manor to the newly founded cathedral at Lincoln (Foster 1931, 2) The place-name 'Welletone' is Old English in origin and refers to the 'farmstead or village with a spring'.

6.2 Evidence for prehistoric activity within the assessment area is sparse and currently comprises a single Neolithic stone axe recovered to the north of the village and cropmarks to the north and west of the village which possibly represent prehistoric ditched enclosures.

6.3 Romano-British deposits and finds identified in the area are relatively rich. Pottery of 4th century date and tiles, including one stamped with an inscription, have been recovered from the site of a Roman building 380m to the southwest of the proposed development. A small quantity of Roman pottery has also been found 200m to the southwest.

6.4 An early history of the village records that when a Roman camp was levelled in Chapel Close in about 1860, "many Roman urns were found and unfortunately broken to pieces…"(Hunt c.1925). Chapel close is located on the opposite side of Norbeck Lane to the proposed development site. The interpretation of the site as a "camp" is not likely to be accurate but if the pottery was correctly identified, some activity at this location is indicated (Albone, 2002).

6.5 During the construction of Healthlinc House in 1971 an Anglo-Saxon inhumation cemetery was discovered. Eleven graves were recorded accompanied by annular brooches, beads, pottery vessels, shield bosses and a spearhead, indicating a date of around the 6th century. The graves were very shallow with the deepest extending only 0.3 into the natural subsoil.

6.6 An archaeological evaluation undertaken immediately to the southeast corner of the house revealed structural remains of late Saxon date. These included foundation trenches and cobbled surfaces of 10th to 11th century date. A post-built structure was also identified (Albone 1998). It was considered likely that the remains identified during the evaluation were part of a late Saxon precursor to the prebendal manor of West Hall, supporting a suggestion by Everson et al (1991, 28) that the later manor fossilized an earlier pattern. A second evaluation undertaken in Januaryof 2003 within southeast corner of the grounds of the house also identified remains of Late Saxon and Medieval (Albone, 2003)

6.7 The proposed development site lies within the area of the shrunken medieval settlement of Welton. The evaluation undertaken immediately to the south identified a stone wall associated with 13th to 14th century roof tiles. An iron pivot from a door or window shutter was also found. Medieval remains were also identified during the construction of Healthlinc House. The site appeared to have originally been divided into four separate crofts by ditches. Pottery of 13th to 14thcentury date was recovered and the site of a possible house was noted in the southwest corner of the northwestern croft (Notes in SMR file).

6.8 Approximately 200m to the south earthwork remains of fishponds survive and include three rectangular ponds and two east to west aligned channels (Everson et al1991, 210). These earthworks are protected as a Scheduled Ancient Monument(SAM 31636). St. Mary's church is located 300m to the east and contain fabric of13th and 14th century date (Pevsner and Harris, 1989,786)

7 AIMS AND OBJECTIVES

7.1 The primary aim of the project is to preserve the archaeological evidence contained within the site **by record** and to attempt a reconstruction of the history and use of the site.7.2 The excavation is directed at the excavation and recording of middle Saxon, late Saxon and medieval deposits identified at the site.

7.3 The archaeological remains identified at Healthlinc House, Welton have potential to address research topics for the late Saxon and early medieval period as identified in the regional

Resource Assessment and Research Agenda (Cooper,2006).

Rural Settlement
The development of the nucleated village, particularly of those still extant, is identified as a research priority. Most of these settlements have known origins extending back to at least to the late Saxon period but whether an earlier focus was occupied or not is not generally known. 'The nature and impact of the 'great replanning, cannot be understood until more is known about the early development of continuing settlements' (Lewis, 2006).

Peasant buildings
Investigation of the form and nature of peasant building on medieval sites is recognized as a research priority.

7.4 The narrower objectives of the work will be to:

7.4.1 Determine the date of the archaeological remains present on the site.

7.4.2 Determine the extent and spatial arrangement of archaeological remains present within the site.

7.4.3 Establish the character of archaeological remains present within the site.

7.4.4 Determine the extent to which surrounding archaeological remains extend into the site.

7.4.5 Identify the way in which the archaeological remains identified fit into the pattern of occupation and land-use in the surrounding landscape.

8 SITE OPERATIONS

8.1 General Considerations

8.1.1 All work will be undertaken following statutory Health and Safety requirements in operation at the time of the investigation. A Risk Assessment will be prepared prior to the investigation, and updated throughout its duration.

8.1.2 The work will be undertaken according to the relevant codes of practice issued by the Institute of Field Archaeologists (IFA). Archaeological Project Services is an IFA registered archaeological organisation (no. 21)managed by a Member (MIFA) of the institute.

8.1.3 All work will be carried out in accordance with *Standards for Field Archaeology in the East of England, 2003*.

8.1.4 Any artefacts found during the investigation and thought to be 'treasure', as defined by the Treasure Act 1996, will be removed from site to a secure store and the discovery promptly reported to the appropriate coroner's office.

8.2 Methodology

8.2.1 A single area measuring 28m x 18m will be subject to area excavation and comprises the footprint area of the buildings to be constructed at the site. This is shown of Figure 2 and comprises the whole of the area within the lines 27710 from west to east and 18000 from north to south.

8.2.2 Following the site stripping, areas will be cleaned if necessary and a pre excavation plan of the entire area of investigation will be compiled using a survey grade GPS system.

8.2.3 Where safe to do so, all discrete features should, in normal circumstances, be fully excavated but should in any case not be less than50% of the whole.

8.2.4 Linear features not directly associated with settlement will be sampled at10m intervals in 1m wide sections to allow an informed interpretation of their date and function. Junctions of linears and other features will also be excavated to determine

stratigraphic relationships.

8.2.5 The excavation of linear features associated with settlement must be a minimum of 25%; this may increase depending on the nature of the physical evidence. Structural remains such as eaves drip gullies, beamslots and post-holes demonstrated to be part of a buildings construction will require total excavation.

8.2.6 All industrial features including "domestic" ovens and hearths should be100% excavated and sampled for analysis.

8.2.7 Archaeological features will be recorded on APS pro-forma context record sheets. The system used is the single context method by which individual archaeological units of stratigraphy are assigned a unique record number and are individually described and drawn.

8.2.8 Plans of features will be drawn at a scale of 1:20 and sections at a scale of 1:10. Should individual features merit it, they will be drawn at more appropriate scales.

8.2.5 Throughout the duration of the investigation a photographic record consisting of black and white prints (reproduced as contact sheets) and colour slides will be compiled. Colour digital images will also be taken to augment the photographic record and may be used in subsequent site reports. The photographic record will consist of:

- the site before the commencement of field operations
- the site during the investigation to show specific stages of work, and the layout of the archaeology within the area.
- individual features and, where appropriate, their sections.
- groups of features where their relationship is important.
- the site on completion of fieldwork

8.2.9 Finds collected during the fieldwork will be bagged and labelled according to the individual deposit from which they were recovered, ready for later washing and analysis. All finds work will be carried out to accepted professional standards and the Institute of Field Archaeologists *Guidelines for Finds Work* (1992).

8.2.10 Conservation of artefacts will be carried out by Lincoln City and County Museum. The resources available for conservation is dependent on the quantity and type of artefacts recovered from the site.

8.2.11 The location of the site recording grid will be established by a GPS or EDM survey and accurately related to the Ordnance Survey grid and to suitably mapped local features.

8.2.12 During the investigations, all exposed surfaces, excavation horizons, and spoil, will be regularly and repeatedly metal-detected to ensure optimum recovery of artefacts. Any identified artefacts will be excavated from its parent context in normal stratigraphic sequence.

8.2.13 Samples will be taken from a representative range of feature types ofSaxon or medieval date.

8.3 Environmental, ecofactual and scientific sampling strategy

8.3.1 Environmental samples from features recorded during the evaluation identified significant quantities of charred cereals representing agricultural activities at the site.

8.3.2 The sampling strategy will emphasise the recovery of charred plant remains and other residues which may provide information relating to the nature of the agricultural

economy Saxon period.

8.3.3 Samples should ideally be recovered from dated and well sealed contexts. Particular attention should be paid to prehistoric pits as these are more likely to contain dietary and food residues and perhaps other material relating to the storage and processing of agricultural produce.

8.3.4 Retrieval of samples will be undertaken with a view to obtaining and understanding of the distribution of intra site activities relating to, for example, food production and consumption, food processing, preparation and consumption or the definition of living spaces. Therefore samples will be recovered from linear features such as ditches and gullies at intervals of no less than five metres where associated with settlement. Smaller discrete features directly related to settlement structures should be samples at least 1m intervals.

8.3.5 Samples should be recovered from contexts which contain domestic detritus for the recovery of information on economy, diet and site activities.

8.3.6 Potential for scientific dating are most likely to derive from charred organic material. Any samples for C14 dating should ideally be taken from 'primary' undisturbed contexts such as dumped waste in pits, or less likely, ditches. Of most potential are material relating directly to activities such as food processing, preparation or disposal where short lived, contemporary items such as carbonised cereals are present.

9 POST-EXCAVATION ANALYSIS AND REPORT

9.1 Stage 1

9.1.1 On completion of site operations, the records and schedules produce during the investigation will be checked and ordered to ensure that they form a uniform sequence forming a level II archive. A stratigraphic matrix of the archaeological deposits and features present on the site will be prepared. All photographic material will be catalogued and labelled, the labelling referring to schedules identifying the subject/s photographed.

9.1.2 All finds recovered during the fieldwork will be washed, marked and packaged according to the deposit from which they were recovered. Any finds requiring specialist treatment and conservation will be sent to the Conservation Laboratory at the City and County Museum, Lincoln.

9.2 Stage 2

9.2.1 Detailed examination of the stratigraphic matrix to enable the determination of the various phases of activity on the site.

9.2.2 Finds will be sent to specialists for identification and dating.

9.3 Stage 3

9.3.1 On completion of stage 2, a report detailing the findings of the investigation will be prepared.

9.3.2 This will consist of:
A non-technical summary of the results of the investigation.
A description of the archaeological setting of the investigation.
Description of the topography of the site.
Description of the methodologies used during the investigation.
A text describing the findings of the investigation.
A consideration of the local, regional and national context of the investigation findings.
Plans of the archaeological features exposed. If a sequence of archaeological deposits is encountered, separate plans for each phase will be produced.
Sections of the archaeological features.

Interpretation and assessment of the archaeological features exposed, and their chronology and setting within the surrounding landscape.
Specialist assessment reports on the finds from the site.
Appropriate photographs of the site and specific archaeological features.

10 ARCHIVE

10.1 The documentation and records generated during the project will be sorted and ordered into the format acceptable to the City and County Museum, Lincoln. This will be undertaken following the requirements of the document titled Conditions for the Acceptance of Project Archives for long term storage and curation.

10.2 If required, microfilming of the archive will be carried out, with the silver master transferred to the RCHME and a diazo copy deposited with the Lincolnshire County Council HER.

11 REPORT DEPOSITION

11.1 Copies of the report will be sent to the Client, West Lindsey District Council Planning Department, the Lincolnshire County Council Archaeology Section and to the Lincolnshire County Council Historic Environments Record.

12 PUBLICATION

12.1 Details of the investigation will be input to the Online Access to the Index of Archaeological Investigations (OASIS).

12.2 If appropriate, notes on the findings will be submitted to the appropriate national journals: Britannia for discoveries of Roman date, and Medieval Archaeology and the Journal of the Medieval Settlement Research Group for findings of medieval or later date.

13 CURATORIAL MONITORING

13.1 Curatorial responsibility for the archaeological work undertaken on the site lies with Karen Dennis, Historic Environment Countryside Advisor for Lincolnshire County Council. They will be given seven days notice in writing before the commencement of the project.

14 VARIATIONS TO THE PROPOSED SCHEME OF WORKS

14.1 Variations to the scheme of works will only be made following written confirmation of acceptability from the archaeological curator.

14.2 Should the archaeological curator require any additional investigation beyond the scope of the brief for works, or this specification, then the cost and duration of those supplementary examinations will be negotiated between the client and the contractor.

15 STAFF TO BE USED DURING THE PROJECT

15.1 The work will be directed by Tom Lane MIFA, Senior Archaeologist, Archaeological Project Services. The on-site works will be supervised by an Archaeological Supervisor with knowledge of archaeological investigations of this type. Archaeological excavation will be carried out by Archaeological Technicians, experienced in projects of this type.

15.2 The following organisations/persons will, in principal and if necessary, be used as subcontractors to provide the relevant specialist work and reports in respect of any objects or material recovered during the investigation that require their expert knowledge and input. Engagement of any particular specialist subcontractor is also dependent on their availability and ability to meet programming requirements.

Task	Body to be undertaking the work
Conservation	Conservation Laboratory, City and County Museum, Lincoln.
Pottery Analysis	Prehistoric: Dr C Allen, independent specialist; or Dr D Knight,

	Trent and Peak Archaeological Unit Roman: M Darling, independent specialist Anglo-Saxon and later: J Young, independent specialist/A Boyle, APS
Other Artefacts	J Cowgill, independent specialist/G Taylor, APS
Human Remains Analysis	J Kitch, APS
Animal Remains Analysis	J Kitch, APS
Environmental Analysis	V Fryer, independent specialist
Soil Assessment	Dr C French, independent specialist
Pollen Assessment P	at Wiltshire, independent specialist
Radiocarbon dating	Beta Analytic Inc., Florida, USA
Dendrochronology dating	University of Sheffield Dendrochronology Laboratory

16 PROGRAMME OF WORKS

16.1 The duration for the excavated is estimated at 10 days using a team of 3 site assistants and one project officer. Post-excavation work is likewise dependent on the quantity and complexity of archaeological remains encountered, and the involvement of specialist analysts.

17 INSURANCES

17.1 Archaeological Project Services, as part of the Heritage Trust of Lincolnshire, maintains Employers Liability insurance to £10,000,000. Additionally, the company maintains Public and Products Liability insurances, each with indemnity of £5,000,000. Copies of insurance documentation can be supplied on request.

18 COPYRIGHT

18.1 Archaeological Project Services shall retain full copyright of any commissioned reports under the *Copyright, Designs and Patents Act* 1988 with all rights reserved; excepting that it hereby provides an exclusive licence to the client for the use of such documents by the client in all matters directly relating to the project as described in the Project Specification.

18.2 Licence will also be given to the archaeological curators to use the documentary archive for educational, public and research purposes.18.3 In the case of non-satisfactory settlement of account then copyright will remain fully and exclusively with Archaeological Project Services. In these circumstances it will be an infringement under the *Copyright, Designs and Patents Act* 1988 for the client to pass any report, partial report, or copy of same ,to any third party. Reports submitted in good faith by Archaeological Project Services to any Planning Authority or archaeological curator will be removed from said Planning Authority and/or archaeological curator. The Planning Authority and/or archaeological curator will be notified by Archaeological Project Services that the use of any such information previously supplied constitutes an infringement under the *Copyright, Designs and Patents Act* 1988 and may result in legal action.

18.4 The author of any report or specialist contribution to a report shall retain intellectual copyright of their work and may make use of their work for educational or research purposes or for further publication.

19 BIBLIOGRAPHY

Albone, J, 1998 *Archaeological Field Evaluation Report: Land off Norbeck Lane, Welton, Lincolnshire.* PCA Report

Albone, J, 2002 *Archaeological Desk-Based Assessment of Proposed Development at Healthlinc*

House, Cliff Road, Welton, Lincolnshire (WCR01) Archaeological Project Services Client Report **217/02**

Albone, J, 2003 *Archaeological Evaluation on Land at Healthlinc House, Cliff Road, Welton, Lincolnshire (WCR 03)* Archaeological Project Services Client Report **228/02**

Cameron, K, 1998 *A Dictionary of Lincolnshire Place-names*, English Place Name Society

Everson, PL, Taylor, CC Dunn, CJ, 1991 *Change and Continuity: Rural Settlement in North-West Lincolnshire*

Foster, CW, 1931 *The Registrum Antiquissitium of the Cathedral Church of Lincoln Pt. 1.*Lincoln Records Society

Hodge, CAH, Burton, RGO, Corbett, WM, Evans, R, and Seale, RS, 1984 *Soils and their use in Eastern England*, Soil Survey of England and Wales **13**

Hunt, A, *c.* 1925 *Welton-by-Lincoln*

Morris, J, 1986 *Domesday Book, Lincolnshire* History From the Sources, Phillimore

Pevsner, N, and Harris, J, 1989 *The Buildings of England: Lincolnshire*

Specification: Version 1, 28/02/08

Appendix 2

CONTEXT DESCRIPTIONS

No.	Description	Interpretation	Phase
001	Unstratified finds retrieval		
002	Friable dark grey clayey silt, 0.3m thick	Topsoil	VI
003	Friable mid greyish brown clayey silt, 0.4m thick	Subsoil	VI
004	Friable, slightly plastic, mid brown clayey silt with frequent burnt clay, charcoal	Fill of (005)	IV
005	Sub-rectangular feature, 3.14m long by 1.95m wide and 0.22m deep, stepped steep sides and flattish base	Pit	IV
006	Friable mid yellowish brown degraded limestone, >0.55m deep	Natural deposit	I
007	Friable, slightly plastic, mid brown clayey silt	Fill of (008)	IV
008	Linear feature, aligned east-west, 6.14m long by1.24m wide and 0.55m deep, steep sides and flat base	?pit	IV
009	*Same as (018)*	Fill of (008)	IV
010	Firm to friable mid yellowish brown clayey sand	Fill of (011)	IV
011	Oval feature, 0.72m long by 0.67m wide and 0.39m deep, steep sides and flat base	Pit	IV
012	Firm dark grey silty clay	Fill of (013)	VI
013	Linear feature, aligned east-west, 14.4m long by 0.34m wide and 0.33m deep, steep and vertical sides and sloping base, *same as (074)*	Ditch	VI
014	Firm mid to light grey silty clay	Fill of (015)	IV
015	Linear feature, aligned east-west, 5.7m long by 1.12m wide and 0.41m deep, steep near vertical sides and flat base	Ditch	IV
016	Friable mid brown clayey silt	Fill of (008)	IV
017	Friable to soft dark greyish brown silt	Fill of (008)	IV
018	Friable mid yellowish brown clayey silt	Fill of (008)	IV
019	Friable mid reddish brown sand with moderate burnt limestone	?fill of (024)	IV
020	Firm mid brownish grey silty sand	Fill of (024)	IV
021	Firm mid grey silty sand	Fill of (024)	IV
022	Firm mid grey silty sand with moderate limestone fragments	Fill of (024)	IV
023	Limestone structure, unfinished in regular coursing, not fully exposed	Well lining	IV
024	Oval feature, 4.1m long by 1.92m wide and >0.8m deep, shallow slope at north down to step, vertical elsewhere, well shaft appears vertical	Well	IV
025	Firm to friable dark yellowish brown clayey sand	Fill of (011)	IV
026	Linear feature, aligned north-south, 3.3m long by 0.8m wide and 0.42m deep, steep sides and rounded base (*Eval 007*)	Pit	IV
027	Loose dark greyish brown clayey silt (*Eval 006*)	Fill of (026)	IV
028	Friable mid yellowish brown clayey sand	Fill of (029)	IV
029	Sub-circular feature, 0.86m long by 0.76m wide and 0.29m deep, steep sides and rounded base	Pit	IV
030	Firm dark greenish brown clayey sand (*Eval 012*)	Fill of (031)	V
031	Linear feature, aligned north-south, >2.3m long by 0.68m wide and70mm deep, uneven sides and flattish base (*Eval 013*)	Gully	V
032	Firm dark yellowish brown clayey sand (*Eval 014*)	Fill of (033)	II
033	Linear feature, aligned east-west, 2.2m long by 0.73m wide and 70mm deep, moderate sides and sloping base (*Eval 015*)	Gully	II

No.	Description	Interpretation	Phase
034	Friable mid yellowish brown clayey sand	Fill of (035)	II
035	Sub-circular feature, 0.64m long by 0.55m wide and 70mm deep, steep sides and uneven base	Pit	II
036	Soft to firm mid to dark grey silty clay	Fill of (038)	IV
037	Firm mid greyish brown silty clay	Fill of (038)	IV
038	Linear feature, aligned east-west, ?1.73m long by 0.66m wide and 0.38m deep, steep to vertical sides and flat base	Ditch	IV
039	Firm mid grey silty clay	Fill of (040)	VI
040	Linear feature, aligned north-south, 15.4m long by 3.33m wide and >0.4m deep, steep to vertical sides	Ditch	VI
041	Firm to friable mid yellowish brown clayey sand	Fill of (042)	IV
042	Linear feature, aligned north-south, 4.9m long by 0.57m wide and 0.18m deep, gradual sides and rounded base	Gully	IV
043	Firm to friable mid yellowish brown clayey sand	Fill of (044)	II
044	Sub-circular feature, 0.27m long by 0.2m wide and 0.16m deep, near vertical sides and rounded blunt base	Posthole	II
045	Firm mid to dark yellow clayey sand with bands of fractured limestone	Natural deposit	I
046	Friable dark brown/black sandy silt with frequent limestone fragments	Fill of (040)	VI
047	Friable mid greenish brown silty sand	Fill of (040)	VI
048	Soft light to mid yellowish brown silty sand	Fill of (049)	IV
049	Sub-circular feature, 2.2m long by 1.51m wide and 0.43m deep, steep sides and flat base	Pit	IV
050	Firm mid grey silty clay with frequent limestone fragments	Fill of (051)	IV
051	Linear feature, aligned east west, >2.76m long by 1.25m wide and 0.3m deep, steep sides and flat base	Ditch	IV
052	Friable mid yellowish brown clayey sand	Fill of (053)	III
053	Linear feature, aligned northwest-southeast, 6.83m long by 0.52m wide and 0.21m deep, steep sides and flat base	Ditch	III
054	Firm, slightly plastic, dark greyish brown clayey sand	Fill of (055)	V
055	Linear feature, aligned north-south, >6.2m long by 1.33m wide and 0.14m deep, gradual and steep sides and flattish base	Ditch	V
056	Firm dark yellowish brown silty sand	Fill of (057)	IV
057	Linear feature, aligned north-south, >2.6m long by 0.77m wide and 0.35m deep, steep to vertical sides and flattish base	Ditch	IV
058	Firm mid brown sandy silt	Fill of (059)	IV
059	Linear feature, aligned east-west, >4m long by 0.85m wide and 0.28m deep, near vertical sides and flat base	Ditch	IV
060	Firm mid yellowish brown clayey silt	Fill of (062)	IV
061	Soft light to mid yellowish brown sandy silt with limestone fragments	Fill of (062)	IV
062	Linear feature, aligned east-west, >2.5m long by 0.87m wide and 0.45m deep, steep sides and flat base	Ditch	IV
063	Firm, slightly plastic, light to mid yellowish brown clayey sand	Fill of (065)	II
064	Firm, slightly plastic, light to mid yellowish brown clayey sand	Fill of (065)	II
065	Linear feature, aligned northeast-southwest, >6m long by 0.7m wide and 0.15m deep, gradual sides and flat base	Ditch	II
066	Soft mid yellowish brown sandy silt	Fill of (068)	V
067	Friable mid to dark brown sandy silt	Fill of (068)	V
068	Linear feature, aligned north-south, >2.93m long by 0.72m wide and 90mm deep, gradual sides and flat base	Ditch	V

No.	Description	Interpretation	Phase
069	Firm dark grey sandy silt	Fill of (070)	V
070	Linear feature, aligned north-south, >3.2m long by 0.48m wide and 0.15m deep, steep sides and flattish base	Gully	V
071	Firm mid grey silty clay	Fill of (072)	V
072	Linear feature, aligned east-west, >5.14m long by 0.31m wide and 0.43m deep, V-shaped profile	Ditch	V
073	Firm dark grey silty clay	Fill of (074)	VI
074	Linear feature, aligned east-west, 14.4m long by 0.76m wide and 0.29m deep, steep sides and flat base	Ditch	VI
075	Firm mid grey silty clay	Fill of (076)	V
076	Linear feature, aligned east-west, >3m long by 0.35m wide and 0.36m long, steep sides and rounded base	Gully	V
077	Firm light to mid grey silty clay	Fill of (078)	V
078	Linear feature, aligned north-south, 10.8m long by 0.45m wide and 0.25m deep, steep sides and flat base	Gully	V
079	Firm dark grey silty clay	Fill of (074)	VI
080	Firm light brown silty clay	Fill of (081)	
081	Linear feature, aligned north-south, 1.65m long by 0.5m wide and 0.31m deep, steep sides and flat base	Pit/ditch	IV
082	Firm mid brownish grey silty clay with moderate limestone fragments	Fill of (083)	II
083	Curvilinear feature, aligned east-west curving to north, >2m long by 0.56m wide and 0.27m deep, steep to vertical sides and flat base	Ditch	II
084	Friable mid brown silty sand	Fill of (085)	V
085	Linear feature, aligned north-south, 10m long by 0.7m wide and 0.29m deep, steep sides and slightly rounded base	Ditch	V
086	Friable mid yellowish brown silty sand	Fill of (087)	V
087	Oval feature, 0.51m long by 0.25m wide by 90mm deep, gradual sides and flat base	Pit	V
088	Firm dark grey sandy silt	Fill of (089)	V
089	Linear feature, aligned north-south, 2.42m long by 0.48m wide and 0.1m deep, steep sides and flat base	Gully	V
090	Firm to soft light to mid brown silty clay	Fill of (091)	II
091	Linear feature, aligned north-south, 1.6m long by 0.26m wide and 60mm deep, shallow sides and rounded base	Gully	II
092	Firm, slightly plastic, mid greyish brown sandy silt	Fill of (068)	V
093	Firm to soft mid to dark brown sandy silt	Fill of (094)	V
094	Curvilinear feature, 10m long by 0.7m wide and0.4m deep, aligned east-west curving south, gradual to near vertical sides and flat base	Ditch	V
095	Soft to firm mid brown sandy silt	Fill of (096)	II
096	Sub-circular feature, 0.8m long by 0.5m wide and 0.4m deep, undercut sides and rounded base	Pit	II
097	Firm mid yellowish brown sandy silt	Fill of (055)	V
098	Unused context		
099	Spoil from excavation area	Overburden	VII
100	Soft/loose mid brown sandy silt, 0.34m thick	Topsoil	VII
101	Soft mid brown organic silt, 0.26m thick	Dumped deposit	VII
102	Firm mid yellowish brown sandy silt, >0.17m thick	Subsoil	VII

Appendix 3

THE FINDS

INTRODUCTION
A large assemblage of artefacts, 415 items weighing a total of 15529g, was recovered during the investigations. Pottery and tile was particularly abundant, with tile providing over 60% by count of the total collection of finds. The majority of the artefacts are Late Saxon to medieval, though there is some Roman material and later, post-medieval to early modern items. Mollusc shells, 30 pieces weighing 70g, were also retrieved.

ROMAN POTTERY
By Anne Boyle and Barbara Precious

Introduction
All the material was recorded at archive level in accordance with the guidelines laid out by Darling 2004 and to conform to Lincolnshire County Council's *Archaeology Handbook*. The assemblage consisted of nine sherds from nine vessels, weighing thirty-five grams.

Methodology
The material was laid out and viewed in context order. Sherds were counted and weighed by individual vessel within each context. The pottery was examined visually and using x20 magnification. This data was then added to an Access database. An archive list of the pottery is included in Archive Catalogue 1; a summary of the pottery is included in Table 1.

Condition
The pottery is in poor condition, as indicated by the average sherd weight of four grams. All of the vessels are represented by single sherds.

Results
Table 1, Summary of the Roman Pottery

Cname	Full name	Fabric	NoS	NoV	W(g)
CR	Cream Flagon	Oxidised	1	1	4
GREY	Miscellaneous Grey ware	Reduced	5	5	25
OX	Miscellaneous Oxidised ware	Oxidised	2	2	3
SHEL	Miscellaneous undifferentiated shelll-tempered	Shell	1	1	3
		TOTAL:	9	9	35

Provenance
Roman pottery was recovered from six contexts. Four of these were the fills of ditches [015], [074], [085] and [053]. The latter was the only context to contain Roman pottery not associated with later material, although it is likely all of the material is re-deposited. The Roman pottery from well [024] and pit [029] is also residual.

Range
The pottery is in such poor condition that the range of forms is difficult to identify. However, it appears that jars, flagons and a possible jar/beaker are present. Possible examples of imported and early Lincoln fabrics are present alongside the more common Grey and Shell-tempered wares.

Potential
The assemblage is stable and poses no problems for long term storage. The pottery should be retained and reassessed in light of further work at the site.

Summary
A small group of re-deposited Roman pottery was recovered from the site. This assemblage suggests Roman activity in the vicinity, possibly during the 2nd century. The pottery is too abraded to draw any further conclusions about the nature of this activity.

POST ROMAN POTTERY
By Anne Boyle and Jane Young

Introduction
All the material was recorded at archive level in accordance with the guidelines laid out in Slowikowski *et al.* 2001 and to conform to Lincolnshire County Council's *Archaeology Handbook*. The pottery codenames (Cname) are in accordance with the Post Roman pottery type series for Lincolnshire, as published in Young *et al.* 2005. In total, 117 sherds from a maximum of 109 vessels, weighing 1,417 grams were recovered from the site.

Methodology
The material was laid out and viewed in context order. Sherds were counted and weighed by individual vessel within each context. The pottery was examined visually and using x20 magnification. This data was then added to an Access database. An archive list of the pottery is included in Archive Catalogue 2 and a summary is included in Table 2. The material ranges in date from the Early - Middle Saxon to the Early Modern period.

Condition
Over all, the pottery is in fair condition although much of the material is residual and consists of small sherds. This is reflected in the average sherd weight of 11 grams. Ninety-three percent of the vessels are represented by a single sherd, again indicating the pottery is re-deposited.

Thirty of the vessels have soot deposits and it is notable that 86 percent of these are shell-tempered, as coarser wares are more suitable for use over a fire or hearth than sandy vessels. Eight vessels, seven of which are Lincoln Kiln Type, are internally leached suggested they once held acidic contents. Two LKT vessels are red slipped on the inside; this is a common feature on larger vessel and may have been an attempt to make them watertight (Miles *et al,* 1989, 206).

Results
Table 2, Post Roman Pottery Archive

Cname	Full name	Earliest date	Latest date	NoS	NoV	W (g)
BERTH	Brown glazed earthenware	1550	1800	4	4	70
BL	Black-glazed wares	1550	1750	2	2	13
CIST	Cistercian-type ware	1480	1650	2	2	34
CREA	Cream ware	1770	1830	1	1	2
EMX	Non-local Early Medieval fabrics	1150	1230	1	1	5
ESAXLOC	Early Anglo-Saxon Local wares	450	650	1	1	1
LEMS	Lincolnshire Early Medieval Shelly	1130	1230	1	1	7
LFS	Lincolnshire Fine-shelled ware	970	1200	28	27	156
LHUM	Late Humber-type ware	1550	1750	2	2	69
LKT	Lincoln kiln-type shelly ware	850	1000	26	25	417
LLSW	Late Lincoln Glazed ware	1350	1500	1	1	19
LSH	Lincoln shelly ware	850	1000	3	3	17
LSLOC	Late Saxon Local Fabrics	850	1050	4	4	80
LSW	Lincoln Glazed Sandy Ware	970	1500	1	1	1
LSW1/2	12th-13th century Lincoln Glazed ware	1100	1300	1	1	2
LSW2	13th to 14th century Lincoln Glazed Ware	1200	1320	5	4	24
LSW2/3	13th to 15th century Lincoln Glazed Ware	1200	1450	1	1	4
LSW3	14th to 15th century Lincoln Glazed Ware	1280	1450	2	2	31
MISC	Unidentified types	-	-	1	1	5
NOTGL	Nottingham Light Bodied Glazed ware	1220	1320	1	1	4
NOTS	Nottingham stoneware	1690	1900	1	1	17
SLIP	Unidentified slipware	1650	1750	1	1	20
SNLS	Saxo-Norman Lincoln Sandy Ware	970	1080	4	3	78
SST	Early to mid Saxon sandstone-tempered	550	800	2	2	6
SSTCL	Central Lincolnshire Early to mid Saxon sandstone-tempered	450	750	1	1	6
ST	Stamford Ware	970	1200	1	1	4
STSL	Staffordshire/Bristol slipware	1650	1800	1	1	9
TORK	Torksey ware	850	1080	14	10	72
TORKT	Torksey-type ware	850	1100	2	2	12

TOY	Toynton Medieval Ware	1250	1450	1	1	105
WLSSQ	Wheelthrown Late Saxon Shell and Quartz	975	1100	1	1	127
			TOTAL:	**115**	**107**	**1299**

Provenance
Nine unstratified vessels were retrieved (001) and three small Post-medieval and Early Modern sherds came from a topsoil deposit (002).

Five pits produced pottery of late 9th to 11th century date (Table 3). Late Saxon pottery was retrieved from pit [005] and [008]; pits [011], [029] and [049] contained Late Saxon and Saxo-Norman material. Overall, the pottery from the pits is in varied condition and most vessels are represented by single sherds. This indicates the pottery is re-deposited in these features. However, the lack of any pottery or ceramic building material (Archive Catalogue 2) dating to the medieval period is worthy of note, perhaps suggesting the pits were backfilled sometime in the 12th century.

Table 3, The number of vessels from pits

Ceramic period	Cut	005	008			011		029	049	**Total**
	Context	004	007	009	016	010	025	028	048	
Late Saxon	LKT	4	1	1	1	1				**8**
	LSH		1							**1**
	LSLOC	1								**1**
Saxo-Norman	LFS							1	1	**2**
	TORK						1	1		**2**
Total		**5**	**2**	**1**	**1**	**1**	**1**	**2**	**1**	**14**

Material from the ditches (Table 4) was in a similar condition to that recovered from the pits, although the proportion of residual material is higher. The ditches contained pottery dating to the Early to Middle Saxon period through to the Post Medieval period. This may reflect the ditches being open for long periods of time, allowing a gradual accumulation of material.

Table 4, Number of vessels from Ditches

Ceramic period	Cut	013	015	040		051	055	059	062	068	072	074		085	094	**Total**
	Context	012	014	039	046	050	054	058	060	067	071	073	079	084	093	
Unknown	MISC							1								1
Early to Middle Saxon	ESAXLOC	1														1
	SST		1													1
Late Saxon	LKT	3		1		1	1	3	2				1			12
	LSH				1								1			2
	LSLOC	2														2
	SNLS													1	2	3
Saxo-Norman	LFS	1				3		2			1	1	2	5	5	20
	TORK		2					4							1	7
	TORKT				1										1	2
Early Medieval	LEMS	1														1
	LSW1/2												1			1
Medieval	LSW									1						1
	LSW2	1			3											4
	LSW2/3				1											1
	LSW3				1											1
	TOY				1											1
Late Medieval	LLSW				1											1
Post Medieval	BERTH				2								1			3
	BL				1											1
	CIST				2											2
	LHUM											1				1
Total		**9**	**3**	**1**	**14**	**4**	**1**	**10**	**2**	**1**	**1**	**2**	**6**	**6**	**9**	**40**

Pottery from other features on the site (Table 4) follows a similar pattern to that seen in the pits and ditches, with sherds in poor condition with vessels represented by a single sherd. The exception is the Wheel Thrown Late Saxon Shell and Quartz (WLSSQ) vessel from Linear [081]. A substantial proportion of this vessel is present and is in fresh condition.

Table 4, Number of vessels from other features

Ceramic period	Feature	Well	Gully		Linear			Total
	Cut	024	089	031	026	042	081	
	Context	022	088	030	027	041	080	
Early to Middle Saxon	SST			1				1
	SSTCL	1						1
Late Saxon	LKT	2	1		1			4
	LSLOC					1		1
	ST	1						1
Saxo-Norman	LFS	2			1		1	4
	WLSSQ						1	1
Medieval	LSW3			1				1
Total		6	1	2	2	1	2	

Range

Pottery dating from the 5th to the 19th centuries is present in the assemblage. A summary of the range of wares, shown by period, is included in Table 5.

Table 5, Range of ware types by period

Period	Cname	NoS	NoV	W (g)
Early to Middle Saxon	ESAXLOC	1	1	1
	SST	2	2	6
	SSTCL	1	1	6
Late Saxon	LKT	26	25	417
	LSH	3	3	17
	LSLOC	4	4	80
	SNLS	4	3	78
	ST	1	1	4
Saxo-Norman	TORK	14	10	72
	TORKT	2	2	12
	LFS	27	26	143
	WLSSQ	1	1	127
Early Medieval	EMX	1	1	5
	LEMS	1	1	7
	LSW1/2	1	1	2
Medieval	LSW	1	1	1
	LSW2	5	4	24
	LSW2/3	1	1	4
	LSW3	2	2	31
	NOTGL	1	1	4
Late Medieval	LLSW	1	1	19
Post Medieval	BERTH	4	4	70
	BL	2	2	13
	CIST	2	2	34
	LHUM	2	2	69
	NOTS	1	1	17
	SLIP	1	1	20
	STSL	1	1	9
Early Modern	CREA	1	1	2

Saxon and Saxo-Norman

The Early to Middle Saxon pottery from the site consists of types known to occur in this area. This material is abraded and re-deposited and may be associated with the inhumation cemetery located to the north of the site. The

Late Saxon assemblage is dominated by the products of Lincoln, which is not surprising given Welton is located six miles north of the City. Twenty-eight vessels (26% of the total assemblage) are Lincoln Kiln type (LKT) or Lincoln Shell-tempered ware (LSH) vessels. Not all of the Welton LKT fabrics can be paralleled with the kiln material from Silver Street, suggesting they may be from another production site located elsewhere in Lincoln. An unstratified LKT wide mouthed jar with diamond roller stamped decoration on the rim is unusual and in not common even in assemblages from Lincoln. This type is always decorated and can be directly paralleled with an illustrated vessel from the Silver Street kiln (Miles *et al,* 1989, Fig. 24.9, 209); such vessels date to the mid 10th century. Three LKT bowls came from Pit [005], one of which may have been socketed (Type 4/5 in Miles *et al*, 1989, Fig. 25, 4 & 5, 211).

Other Late Saxon fabrics from Lincoln are also present. These fabrics (LSLOC fabrics B, D and F) are probably associated with Lincoln's Late Saxon shell-tempered ware industries, although production site producing these have not yet been identified (Young 2005, 65-7). The Wheel Thrown Late Saxon Shell and Quartz (WLSSQ) vessel is particularly interesting as this is the first example found inland. Previously this ware has only been identified in assemblages from the East Coast; its presence at Welton suggests this type can be expected inland on Late Saxon sites.

Pottery dating to the Saxo-Norman and Early Medieval periods is also present in small amounts. A Lincoln Sandy ware (SNLS) in-turned rim bowl from (093) dates to the Late 10th to early 11th century. Torksey wares (TORK) and Lincolnshire Early Medieval Shell Tempered wares (LEMS) are common in assemblage of this date and are found across Lincolnshire.

The Late Saxon and Saxo-Norman pottery accounts for 70 percent of the WCR08 vessels; it is likely this assemblage is associated with the nearby 10th to 11th century activity identified by previous excavations.

Medieval to Modern
The Medieval period is dominated by the Lincoln sandy wares, although not all of these may have been made in the City itself; imitation industries are known at Fiskerton and Potterhanworth, and suspected in other areas. A large Toynton All Saints handmade vessel (046) may be a curfew or fish smoker. The pottery indicates activity domestic activity occurring on the site during this period. Post-medieval and Early Modern pottery is present in small amounts.

Potential
The assemblage poses no problems for long term storage and should be retained. The WLSSQ vessel is suitable for inclusion into a programme of ICPS or Thin Section analysis. No further work is required on the pottery, although the assemblage should be reconsidered in light of further excavation at the site.

Summary
This assemblage from Welton is not untypical, as similar material has been recovered from other excavations in the area. However, the presence of some of the rarer Shell-tempered fabrics from Lincoln indicates close trading links with the city. The Wheel Thrown Late Saxon Shell and Quartz (WLSSQ) and Toynton All Saints vessels indicate that Welton was not just dependent on Lincoln for its pottery. The assemblage indicates centuries of activity, stretching from the Early - Middle Saxon to the Early Modern periods.

CERAMIC BUILDING MATERIAL
By Anne Boyle

Introduction
All the material was recorded at archive level in accordance with the guidelines laid out in the ACBMG guidelines (2001) and to conform to Lincolnshire County Council's *Archaeology Handbook*. In total, 254 fragments of ceramic building material, weighing 13,906 grams were recovered from the site.

Methodology
The material was laid out and viewed in context order. Fragments were counted and weighed within each context. The ceramic building material was examined visually and using x20 magnification. A proportion of the assemblage was discarded and some of the tile was removed to the Kesteven Type Series. This data was then added to an Access database. An archive list of the ceramic building material is included in Archive Catalogue 2 and a summary of the brick and tile is included in Table 6.

Condition
The brick and tile is in variable condition, as indicated by the average fragment weight of 54 grams. A small amount of Roman brick and tile is present in the assemblage, although the majority dates to the Medieval period.

Results
Table 6, Ceramic Building Material Archive

Cname	Full name	NoF	W(g)
CBM	Ceramic building material	2	14
GPNR	Glazed peg, nib or ridge tile	4	187
NIB	Nibbed tile	10	1225
PNR	Peg, nib or ridge tile	81	7586
PNRDISC	Discarded peg, nib or ridge tile	151	4117
RBRK	Roman brick	2	327
RTMISC	Roman or post-Roman tile	3	100
	TOTAL	**253**	**13556**

Provenance
A small amount of tile is unstratified (001) or from subsoil layer (003). Well [024] produced a single Roman brick. The rest of the material came from ditches, with the largest group coming from the fill of Ditch [040].

Range
Roman brick and tile accounts for a small proportion of the ceramic building material; this material is abraded and re-deposited. The amount and condition of the Medieval roofing tile indicates a building once stood on or close to the site. A range of fabrics are present and most of the tile can be paralleled with types produced at Monk's Road and Monk's Abbey in Lincoln. A small number of fragments are from Beverley and remaining fabrics may have been manufactured locally. Three tiles are glazed, although all have different fabrics. Nibs are evident on a few examples, although not all could be typed due to their condition; those that can be identified are of 13th to early 14th century date. Some of the tile is highly vitrified and glassy over broken edges, suggesting it was misfired during production or was burnt in a fire whilst in use.

Potential
The assemblage poses no problems for long term storage. Those fragments discarded or removed to the Kesteven type series are noted in the archive. No further work needs to be undertaken but the assemblage should be reassessed in light of further excavation at the site.

Summary
The small amount of Roman building material shows activity of this date occurring in the vicinity. The large amount of Medieval roofing tile suggests at least one building of late 12th to early 14th century date once stood close to the site.

THE MOLLUSCS
By Gary Taylor

Introduction
A total of 30 (70g) fragments of mollusc shell were recovered from stratified contexts.

Provenance
All of the mollusc shells were recovered from ditch fills.

Condition
The overall condition of the remains was good, though the shells of the terrestrial snails are inherently fragile. The assemblage poses no problems for long term storage.

Results
Table 7, Fragments Identified to Taxa

Cxt	Taxon	Element	Number	W (g)	Comments
012	Garden snail	shell	2	5	Virtually complete
014	Mussel	shell	1	4	complete
039	Garden snail	shell	2	14	Virtually complete
	Banded snail	shell	1	1	complete

058	Mussel	shell	1	1	Fragment
060	Mussel	shell	2	3	Large fragments
066	Mussel	shell	2	4	1 complete, 1 fragment
080	Mussel	shell	5	11	4 virtually complete, 1 fragment
084	Mussel	shell	4	6	2 complete, 2 fragments
	Garden snail	shell	2	1	Fragments, 1 shell?
093	Mussel	shell	5	15	3 virtually complete, 2 fragments
097	Mussel	shell	3	5	fragments
Totals			30	70	

The marine mollusc shells, mussels, are probably food waste, though the absence of other marine species such as oyster or cockle is a little unusual. Terrestrial molluscs are represented by garden and banded snails. However, these species are widespread and synanthropic (associated with man) and do not provide useful environmental indicators, other than indicating dry land conditions. Small groups of terrestrial molluscs were found in some contexts. These groupings are typical of snails that have died in hibernation.

Potential
Other than providing some indications of potential food resources in the past, the mollusc shells are of limited potential and significance. No further work needs to be undertaken on the assemblage.

OTHER FINDS
By Gary Taylor

Introduction
A mixed assemblage of 32 items weighing a total of 521g was recovered from 8 separate contexts.

Condition
All of the artefacts are in good condition and present no long-term storage problems.

Results
Table 8, Other Materials

Cxt	Material	Description	NoF	W (g)	Date
001	glass	Colourless glass, burnt, 19th-20th century	1	7	19th-20th century
	iron	Oblong strip with rivet hole? blade?	1	64	
007	stone	Lava quern, probable topstone	1	73	
019	stone	Burnt stone	1	2	
	earth	Burnt earth	9	19	
022	stone	Lava quern, probable topstone	1	158	
	wood	wood	1	3	
037	stone	Flint, broken core	1	16	prehistoric
046	stone	Burnt stone	1	22	17th century
	cinder	cinder	1	1	
	Clay pipe	Stem, bore 8/64", 17th century	1	3	
	glass	Green? Bottle glass, iridescence, post-medieval	1	2	
	iron	nails	2	8	
	iron	Binding sheet? Thin rectangular sheet forming arc, post-medieval	1	27	
	coal	coal	7	18	
052	iron	Rectangular bar/strip, 17mm wide, 4mm thick, rounded end	1	23	
080	stone	Burnt stone	1	75	
Totals			32	521	

Provenance
The other finds were recovered from a pit fill (007), well fills (019, 022), ditch fills (037, 046, 052, 086) and as unstratified material (001).

Range
The collection of other artefacts was mostly comprised of stone, metal and fired earth. Pieces of quern made from

Rhenish lava were recovered from two contexts. However, querns of such material were imported into Britain from the Roman to medieval periods, and the pieces recovered do not retain any chronologically specific features to enable them to be dated more closely.

Potential
The collection of other finds is generally of limited potential, though the querns indicate food grinding at the site and associated artefacts may provide dating evidence for this activity.

SPOT DATING
The dating in table 9 is based on the evidence provided by the finds detailed above.

Table 9, Spot dates

Cxt	Date	Earliest Horizon	Latest Horizon	Comment
001	Unstratified	-	-	
002	19th	EMH	EMH	
003	Late 12th to 13th	ASH11	MH3	Date on single fragment of CBM
004	Late 9th to early/mid 10th	ASH7	ASH9	
007	Late 9th to late 10th	ASH7	ASH11	
009	Late 9th to late 10th	ASH7	ASH11	Date on a single sherd
010	Late 9th to late 10th	ASH7	ASH11	Date on a single sherd
012	13th to early/mid 14th	MH4	MH6	Includes residual ESAX
014	Late 9th to mid/late 11th	ASH7	ASH13	Includes residual Roman and ESAX
016	Late 9th to late 10th	ASH7	ASH11	Date on a single sherd
022	Roman	R	R	Date on single fragment of CBM
022	Mid 11th to 12th	ASH13	MH3	Includes residual ESAX and Roman
025	Late 9th to mid/late 11th	ASH7	ASH13	
027	Late 10th to 12th	ASH11	MH3	
028	11th to mid 12th	ASH12	MH2	Includes residual Roman
030	Mid 14th to mid 15th	MH7	MH9	Includes residual ESAX
037	prehistoric			Based on single piece of flint
039	Late 12th to 14th	ASH7	ASH11	Date on CBM; Includes residual Late Saxon
041	Late 9th to late 11th	ASH7	ASH13	Date on a single sherd
046	Mid 17th to mid/late 17th	PMH5	PMH7	
048	Late 10th to 12th	ASH11	MH3	Date on a single sherd
050	Late 12th to 13th	ASH11	MH3	Date on CBM; includes Saxo-Norman
052	2nd century AD	R	R	
054	Late 12th to 13th	ASH9	ASH11	Date on single fragment of CBM; includes Late Saxon
058	Late 10th to 12th	ASH11	MH3	
060	Late 9th to late 11th	ASH7	ASH11	
061	Roman	R	R	Date on single fragment of CBM
067	12th to 15th	MH1	MH10	Date on single sherd
071	11th to early 12th	ASH13	MH1	Date on single sherd
073	Mid 16th to 17th	PMH2	PMH7	
079	17th to 18th	PMH5	PMH9	Includes residual Roman and Medieval
080	Late 10th to 12th	ASH11	MH3	Includes possible later tile
084	Late 10th to 12th	ASH11	MH3	Includes residual Roman
088	Late 9th to late 10th	ASH7	ASH11	
093	Late 10th to 12th	ASH11	MH3	Includes possible later tile

ABBREVIATIONS

ACBMG	Archaeological Ceramic Building Materials Group
BS	Body sherd
CBM	Ceramic Building Material
CLAU	City of Lincoln Archaeology Unit
CXT	Context
LHJ	Lower Handle Join

NoF	Number of Fragments
NoS	Number of sherds
NoV	Number of vessels
NRFRC	National Roman Fabric Reference Collection
PCRG	Prehistoric Ceramic Research Group
TR	Trench
UHJ	Upper Handle Join
W (g)	Weight (grams)

REFERENCES

~ 2001, *Draft Minimum Standards for the Recovery, Analysis and Publication of Ceramic Building Material*, third version [internet]. Available from <http://www.geocities.com/acbmg1/CBMGDE3.htm>

~ 2003, *Lincolnshire Archaeological Handbook* [internet]. Available at <http://www.lincolnshire.gov.uk/section.asp?catId=3155>

Darling, MJ, 2004 'Guidelines for the Archiving of Roman Pottery', *Journal of Roman Pottery Studies* **11**, 67-74

Davey, PJ, 1981 Guidelines for the processing and publication of clay pipes from excavations, *Medieval and Later Pottery in Wales* **4,** 65-88

PCRG, 1997 *The study of Later Prehistoric Pottery: General Policies and Guidelines for Analysis and Publication*, Prehistoric Ceramic Research Group Occasional Papers **1** and **2**

Peacock, DPS, 1977 *Pottery and Early Commerce: Characterization and Trade in Roman and Later Ceramics* (London)

Slowikowski, AM, Nenk, B, and Pearce, J, 2001 *Minimum Standards for the Processing, Recording, Analysis and Publication of Post-Roman Ceramics*, Medieval Pottery Research Group Occasional Paper **2**

Young, J, Vince, AG and Nailor, V, 2005 *A Corpus of Saxon and Medieval Pottery from Lincoln* (Oxford)

Miles, P, Young, J. and Wacher, J, 1989 A Late Saxon Kiln Site at Silver Street, Lincoln, City of Lincoln Archaeological Unit report, The Archaeology of Lincoln **XVII-3**.

ARCHIVE CATALOGUES

Archive catalogue 1, Roman Pottery

Cxt	Cname	Draw	Form	Decoration	Vess	Alter	Comments	NoS	W(g)
014	CR		CLSD			VABR	BS; possible Flagon; South Carlton or early Lincoln Creamware	1	4
014	OX		F			VABR	BS; possible import?	1	2
022	GREY		J			VABR	BS; 2nd C	1	4
022	SHEL		J			VABR	BS	1	3
028	GREY		J			VABR	Flake; BS	1	2
052	GREY		J	GROOVE		VABR	BS; 2nd C	1	5
052	OX					VABR	BS	1	1
079	GREY		JB				BS	1	13
084	GREY		JBK			VABR	RIM	1	1

Archive catalogue 2, Post Roman Pottery

Cxt	Cname	Fabric	Form	NoS	NoV	W (g)	Decoration	Part	Description	Date
001	BERTH	Sandy oxidised	Small mug	1	1	1		BS		Late 16th to 17th
001	EMX	Reduced with oxidised surfaces; medium to coarse sandy	Jug	1	1	5		BS	Common mixed fine to coarse, sub round to round quartz + sparse ca + moderate fe + some clay pellets/shale	Mid 12th to early 13th

001	LFS		?	1	1	3		BS	Soot	Late 10th to 12th
001	LHUM		Jar	1	1	37		Base	Worn; internal glaze	Mid/late 16th
001	LKT		Wide mouth Jar	1	1	46	Diamond roulette on rim top	Rim	Soot	Late 9th to 10th
001	NOTGL		Jug	1	1	4		BS	Very abraded	Early 12th to early 13th
001	NOTS		Jar	1	1	17	Machine decoration	BS		18th to early 19th
001	SLIP	Near vitrified buff	Jar/ chamber	1	1	20		BS	Black glaze; red slipped; internal deposit	Late 17th+
001	TORK		Jar	1	1	10		BS		Mid 9th to Late 11th
002	BL	Fine red	Jug/ jar	1	1	3		BS	Crawled glaze	
002	CREA		Flat	1	1	2		Base		
002	STSL		Press moulded dish	1	1	9		Rim	Pressed rim	
004	LKT		?	1	1	1		BS	Flake	
004	LKT		Bowl	1	1	24		BS	Soot	
004	LKT		Bowl	1	1	32		BS		
004	LKT		Small bowl; type 4/5	1	1	9	Diamond roulette on rim top	Rim	Inturned rim; hammerhead rim; possibly socketed	Late 9th to mid 10th
004	LSLOC	D	Jar	1	1	33		Rim	?ID; patchy soot; EVER B3	
007	LKT		Jar	2	1	15		BS + base	Leached internally	
007	LSH		Small jar	1	1	4		BS	Soot	
009	LKT		Jar	1	1	9		BS	External soot; not Silver Street?	
010	LKT		Jar	1	1	1		BS		
012	ESAXLOC	Reduced	?	1	1	1		BS	Includes abundant round to sub round medium sized quartz and carb veg; abraded	
012	LEMS		Jar	1	1	7		Rim	Abraded	
012	LFS		Jar	1	1	4		Rim	Thin everted rim; abraded	Last quarter of 11th to 12th
012	LKT		Small jar	1	1	4		BS	Abraded; external soot; internally leached; red internal deposit	
012	LKT		Jar	1	1	14		Base	Abraded	
012	LKT		Bowl	1	1	6		Base?	Abraded; ?ID or inturned rim	
012	LSLOC	B	Large vessel	1	1	13		BS	Abraded; ?ID	
012	LSLOC	B	Bowl	1	1	11		Rim	Abraded; ?ID	
012	LSW2		Jug	1	1	4		BS		
014	SST	Fine	Jar?	1	1	4		BS	Internal and external soot; fabric includes fine aggregated sandstone and muscovite; possibly a fine SSTCL	
014	TORK		Jar	1	1	3		BS	Soot	
014	TORK		Small jar	1	1	4		Base		

016	LKT		Jar	1	1	92		Base	Internally leached	
022	LFS		?	1	1	1		Base		
022	LFS		?	1	1	2		BS		
022	LKT		Jar	1	1	25		BS	Internally leached	
022	LKT		?	1	1	1		BS		
022	SSTCL	Coarse/fine	Small bowl	1	1	6		Rim	?ID	
022	ST	B	Jar/ pitcher	1	1	4		BS	Glaze	
025	TORK		Jar/ bowl	1	1	9		BS	Soot	
027	LFS		Jar	1	1	7		BS	Soot	
027	LKT		Jar	1	1	5		BS	Soot	
028	LFS		Small bowl	1	1	2		Rim	Soot	
028	TORK		Jar/ bowl	2	1	23		Base	Internal and external soot	
030	LSW3		Jug	1	1	26		BS with LHJ	Not Lincoln product?	
030	SST	Fine	Small jar	1	1	2		BS	AS type	
039	LKT		?	1	1	4		Base	Abraded	
041	LSLOC	F	Jar	1	1	23		BS	Soot over break; perforated?	
046	BERTH	Fine Humber type	Bowl	1	1	14		Rim		Late 16th to 17th
046	BERTH	Coarse oxidised	Bowl	1	1	13		BS		Mid 17th to 18th
046	BL	Fine red	Jug?	1	1	10		BS		Mid 16th to Late 16th
046	CIST		Cup	1	1	9		Base		
046	CIST		Drinking vessel	1	1	25		BS		
046	LLSW		Small baluster jug	1	1	19		Base	Untrimmed; thick white slip; possible drinking jug	
046	LSH	E	Jar	1	1	10		BS	Very abraded	
046	LSW2		Jug	1	1	10	Cordon around neck	BS	CU glaze	
046	LSW2		Jug	2	1	7		BS		
046	LSW2		Jug	1	1	3		BS		
046	LSW2/3		Jug	1	1	4		BS		
046	LSW3		Jug	1	1	5		BS		
046	TORKT		Jar	1	1	5		BS		
046	TOY		Large vessel	1	1	105		BS	Handmade; white internal deposit	
048	LFS		Bowl	1	1	7		BS	Soot	
050	LFS		Jar/ bowl	1	1	4		Base		
050	LFS		?	1	1	3		Base?		
050	LFS		?	1	1	1		BS		
050	LKT		Small jar	1	1	6		Base	Abraded; internally leached	
054	LKT		Bowl	1	1	70		Rim	Inturned rim; soot up to rim angle	
058	LFS		Jar/ bowl	1	1	6		Base	Soot	
058	LFS		Jar	1	1	2		BS		
058	LKT		?	1	1	1		BS	Abraded	
058	LKT		?	1	1	1		BS		
058	LKT		Jar	1	1	33		BS	Soot; internal red slip; internally leached	
058	MISC	Reduced; fine to medium sandy	?	1	1	5		Rim?	Very abraded; fabric includes abundant fine	AS-SN

									to medium coarse round quartz + moderate shell or voids + moderate fe + grog?	
058	TORK		Jar?	1	1	2		BS		
058	TORK		Jar	1	1	2		BS		
058	TORK		Jar	1	1	2		BS		
058	TORK		Jar	3	1	13		BS		
060	LKT		Jar	1	1	10		Base		
060	LKT		Jar/ bowl	1	1	3		Base		
067	LSW		?	1	1	1		BS	Very abraded	
071	LFS		Jar	2	1	41		Base	Early	
073	LFS		Jar	1	1	2		BS		
073	LHUM		Jug/ jar	1	1	32		BS		
079	BERTH	Fine oxidised	Bowl	1	1	42		BS		
079	LFS		Jar	1	1	6		BS	Flake; soot	
079	LFS		Jar	1	1	13		Base		
079	LKT		Small jar	1	1	4		BS	Leached; soot	
079	LSH		Jar	1	1	3		BS		
079	LSW1/2		Jug	1	1	2		BS	Abraded	
080	LFS		Jar	1	1	1		BS	Soot	
080	WLSSQ		Small jar	12	1	127		Base + BS	Fresh condition; soot	
084	LFS		?	1	1	1		BS		
084	LFS		Jar/ bowl	1	1	14		Base	Internally leached	
084	LFS		Small bowl	1	1	4		Rim	Soot	
084	LFS		Small bowl	1	1	1		Rim	Soot	
084	LFS		Small bowl	1	1	8		Rim	High fired; upright rim	
084	SNLS	Sessions House?	Bowl	1	1	15		BS		
088	LKT		Jar	1	1	1		BS	Internal and external soot	
093	LFS		Jar	1	1	9		BS	Internal soot	
093	LFS		Jar/ bowl	1	1	4		Base	Soot; internal deposit	
093	LFS		Jar/ bowl	1	1	2		BS	Soot; flake	
093	LFS		Jar/ bowl	1	1	5		Base	Internal deposit; soot	
093	LFS		Jar	1	1	3		Rim	Slightly everted rim; early	11th
093	SNLS	Sessions House	Bowl	2	1	59		Rim	Inturned rim; possible spout	Late 10th to early 11th
093	SNLS		Jar	1	1	4		BS		
093	TORK		?	2	1	4		BS	Flake	
093	TORKT		Jar?	1	1	7		Base		

Archive catalogue 3, Ceramic Building Material

Cxt	Cname	Fabric	Subform	NoF	W (g)	Description	Date
001	PNR	Lincoln fabric 17		1	12	Flat roofer; flake	Late 12th to 14th
001	PNR	Lincoln fabric 15/16/17		2	218	Flat roofer; mortar	Late 12th to 14th
001	PNR	Lincoln fabric 16/17		2	90	Flat roofer; abraded	Late 12th to 14th
001	PNR	Vitrified		2	164	Flat roofer; mortar	Late 12th to 14th
001	RTMISC	Oxidised; medium sandy + fe		1	45		Roman
003	PNR	Lincoln fabric 15		1	9	Flat roofer	
012	NIB	Lincoln fabric 17		1	29	Flat roofer; nib possibly reapplied; abraded	

012	PNR	Near Vitrified		1	107	Flat roofer; salt surfaces	
012	PNR	Vitrified		1	46	Flat roofer; salt surfaces	
022	RBRK	Oxidised; medium sandy		1	237	Mortar; abraded	
039	PNR	Various		2	8	Flat roofer; flakes	
046	GPNR	Lincoln fabric 16/17		1	39	Flat roofer; brown glaze spots	
046	GPNR	Lincoln fabric 16/17		1	38	Flat roofer; thick burnt glaze; corner	
046	GPNR	Lincoln fabric 15/16/17		2	110	Flat roofer; same tile; glaze greeny/brown; corner	
046	NIB	Lincoln fabric 15	Nib type 4D/E	1	51	Flat roofer; upper right hand corner; nib possibly reapplied	
046	NIB	Lincoln Fabric 1?	Applied and cut back	1	87	Flat roofer; upper left hand corner; coarsely bedded	
046	NIB	Lincoln Fabric 1	Moulded	1	102	Flat roofer; upper right hand corner; finger impressions?; mortar	
046	NIB	Lincoln fabric 17	Moulded and cut back	1	88	Flat roofer	
046	NIB	Lincoln fabric 17	Moulded and cut back	1	177	Flat roofer; patchy mortar	
046	NIB	Lincoln fabric poor 1	Nib type 4D/E	1	224	Flat roofer; upper right hand corner; mortar; nib possibly reapplied	
046	NIB	Oxidised; medium sandy		1	130	Flat roofer; corner; salt surfaces	
046	NIB	Lincoln fabric 17		1	55	Flat roofer; flake	
046	NIB	Lincoln fabric 17	Small applied	1	282	Flat roofer	
046	PNR	Beverley		2	78	Flat roofer	
046	PNR	Beverley		1	69	Flat roofer; mortar; flake; finger struck	
046	PNR	Beverley		1	23	Flat roofer; flake; finger struck; removed to Kesteven Type Series	
046	PNR	Vitrified		2	292	Flat roofer; same tile; mortar; stacking scar/ strike mark	
046	PNR	Vitrified		1	137	Flat roofer; corner; late?	
046	PNR	Lincoln fabric 17		1	170	Flat roofer; thick; abraded	
046	PNR	Lincoln Fabric 1		3	209	Flat roofer; mortar	
046	PNR	Lincoln Fabric 1		7	1074	Flat roofer	
046	PNR	Lincoln fabric 17		1	89	Flat roofer; salt surfaces; organic impressions	
046	PNR	Lincoln fabric 17		1	39	Flat roofer; flake; corner; soot	
046	PNR	Vitrified		1	74	Flat roofer; salt surfaces; mortar; coarsely bedded	
046	PNR	Lincoln Fabric 1		4	433	Flat roofer; removed to Kesteven Type Series	
046	PNR	Lincoln Fabric 1		4	641	Flat roofer; corner; mortar	
046	PNR	Lincoln Fabric 1		1	67	Flat roofer; corner	
046	PNR	Lincoln fabric 15		5	492	Flat roofer; some mortar	
046	PNR	Lincoln fabric 16/17		3	295	Flat roofer; mortar	
046	PNR	Lincoln fabric 15/16/17		2	142	Flat roofer; salt surfacing	
046	PNR	Lincoln fabric 15/16/17		1	417	Flat roofer; mortar; salt surfacing; corner; claw	

						impression	
046	PNR	Lincoln fabric 17		3	407	Flat roofer; mortar; organic impressions; salt surfaces	
046	PNR	Near vitrified		1	160	Flat roofer; corner; thick mortar; coarsely bedded	
046	PNR	Near vitrified		1	83	Flat roofer; mortar	
046	PNR	Vitrified		1	22	Flat roofer; salt surfaces; mortar	
046	PNR	Vitrified		1	221	Flat roofer; slat surfaces; strike marks; mortar	
046	PNR	Oxidised; medium sandy		1	91	Flat roofer; glassy over break; mortar	
046	PNR	Vitrified		5	410	Flat roofer; mortar	
046	PNR	Oxidised; medium sandy		1	51	Flat roofer	
046	PNRDISC	Lincoln fabric 15/16/17		3	66	Flat roofer; mortar	
046	PNRDISC	Lincoln fabric 15/16/17		1	29	Flat roofer; corner	
046	PNRDISC	Lincoln fabric 15/16/17		3	160	Flat roofer; mortar	
046	PNRDISC	Lincoln fabric 16/17		4	202	Flat roofer	
046	PNRDISC	Lincoln fabric 15		5	275	Flat roofer; abraded	
046	PNRDISC	Lincoln fabric 17		7	306	Flat roofer; abraded	
046	PNRDISC	Lincoln fabric 17		1	45	Flat roofer; corner	
046	PNRDISC	Lincoln fabric 15		2	187	Flat roofer	
046	PNRDISC	Vitrified		12	516	Flat roofer; salt surfaces; overfired/burnt; some mortar and soot	
046	PNRDISC	Various		112	2304	Flat roofer; some flakes; some mortar	
046	PNRDISC	Lincoln fabric 17		1	27	Flat roofer; salt surfaces; organic impressions	
046	NIB	Lincoln fabric 1	Mamiform	1	95	Flat roofer; strike marks	
046	NIB	Lincoln fabric 1	Type 4D/E	1	38	Flat roofer	
046	NIB	Lincoln fabric 1	Applied and cut	1	83	Flat roofer	
046	NIB	Lincoln fabric 1	Type 4/A	1	134	Flat roofer; stacking scar	
050	CBM	Oxidised; medium sandy		1	13	Burnt; abraded	
050	PNR	Lincoln fabric 1/7		1	50	Flat roofer	
050	PNR	Lincoln fabric 17		1	53	Flat roofer; mortar	
052	CBM			1	1	Tiny frag	
054	PNR	Lincoln fabric 16/17?		1	10	Flat roofer; abraded	
061	RBRK	Oxidised; fine sandy + flint + ca		1	90	Abraded	
073	PNR	Lincoln fabric 15		1	133	Flat roofer; patchy soot	
073	PNR	Lincoln fabric 15		1	33	Flat roofer?; thin "finger" of tile 20mm wide; fe slipped; odd	
073	PNR	Lincoln fabric 1/7		1	31	Flat roofer; corner	
073	PNR	Beverley		1	81	Flat roofer; mortar; salt surfaces; ?ID	
073	PNR	Beverley		2	64	Flat roofer; same tile?; dark brown glaze; ?ID	
079	PNR	Vitrified		1	148	Flat roofer; corner	
079	PNR	Vitrified		1	72	Flat roofer; salt surfaces	
079	PNR	Lincoln fabric 17?		1	55	Flat roofer; salt surfaces	
079	PNR	Vitrified		2	16	Flat roofer	
080	RTMISC	Oxidised; medium		1	46	Abraded	Roman

		sandy + flint + fe					
093	RTMISC	Oxidised; fine sandy + fe + ca		1	9		Roman

Appendix 4

THE ANIMAL BONE

By Matilda Holmes

Methodology

Bones were identified using the author's reference collection, and further guidelines from Schmidt (1972). Due to anatomical similarities between sheep and goat, bones of this type were assigned to the category 'sheep/goat', unless a definite identification (Prummel and Frisch, 1986; Payne, 1985) could be made.

Bones that could not be identified to species were, where possible, categorised according to the relative size of the animal represented (small – rodent /rabbit sized; medium – sheep / pig / dog size; or large – cattle / horse size). Ribs and vertebrae were not identified to species with the exception of 1st and 2nd cervical vertebrae and sacral elements. Maxilla, zygomatic arch and occipital areas of the skull were identified from skull fragments.

Tooth wear and eruption were recorded using guidelines from Grant (1982) and Silver (1969), as were bone fusion (Amorosi, 1989 and Silver, 1969), metrical data (von den Driesch, 1976), anatomy, side, zone (Serjeantson 1996) and any evidence of pathological changes, butchery and working. The size of fragments was also noted within the following categories: 1 - <2cm; 2 – 2-5cm; 3 – 5-10cm; 4 – 10-15cm; 5 - >15 cm and the condition of bones, also on a scale of 1-5, where 1 is perfectly preserved and 5, the bone is so badly degraded to be unrecognisable (Lyman 1994). Other taphonomic factors were also recorded, including the incidence of burning, gnawing, recent breakage and refitted fragments.

A number of sieved samples were collected but because of the highly fragmentary nature of such samples a selective process was undertaken, whereby fragments were recorded only if they could be identified to species and / or element, or showed signs of taphonomic processing.

All fragments were recorded, although articulated fragments were entered as a count of 1, so they did not bias the relative frequency of species present. Details of articulated bones were recorded in a separate table.

Condition and Taphonomy

The bones were in good condition, and most fragments were over 2cm in length (table 1). However, there were a number of fragments that could be refitted together which, coupled with the occurrence of a number of fresh breaks noted in each phase suggests they were friable.

Table 1: Size and Condition of Recorded Fragments

	Condition			Size		
	Late Saxon	Medieval	Post Medieval	Late Saxon	Medieval	Post Medieval
1	18	3	14	3		
2	15	3	28	5	1	13
3	4	9	13	14	8	29
4				8	4	10
5				7	2	3

There was no evidence for burning, but a significant proportion of the assemblage (23%) showed signs of canid gnawing, suggesting that the bones were not buried immediately after being discarded, rather they were available for dogs to chew. Between 9% and 13% of bones from each period were recorded with butchery marks.

Species Representation

35% of the assemblage could be identified to species (table 2), of which the main domestic species predominated (cattle, sheep / goat, pig and horse). Dog and red deer were present in the medieval period and frog in the late Saxon phase. Unfortunately the assemblages from each period were too small to show any trends in economy or animal husbandry, and do not warrant further investigation.

Table 2: Species representation (fragment count)

Species	Late Saxon	Medieval	Post Medieval
Cattle	15	10	10
Sheep / Goat	11	2	38
Pig	4		1
Horse	3	1	5
Dog		1	
Red Deer		1	
Frog	2		
Total Identified	35	15	54
Unidentified Large Mammal	14	16	15
Unidentified Medium Mammal	35	9	65
Unidentified Mammal	9	6	21
Unidentified Bird	1		
Total	94	46	155

Bibliography

Amorosi, T, 1989. *A postcranial guide to domestic neo-natal and juvenile mammals.* BAR Int. series **533**.

Lyman, RL, 1994. *Vertebrate Taphonomy*. Cambridge, Cambridge University Press.

Payne, S, 1985. Morphological distinctions between the mandibular teeth of young sheep and goats. *Journal of Archaeological Science* **12**: 139-147.

Prummel, W and Frisch, H, 1986. A guide for the distinction of species, sex and body side in bones of sheep and goat. *Journal of Archaeological Science* **13**: 567-577.

Serjeantson, D, 1996 The animal bones. In *Refuse and disposal at area 16 East Runnymeade.* S Needham and T Spence (eds),. Runnymede bridge research excavations **2**

Schmid, E, 1972. *Atlas of Animal Bones*. Elsevier.

Silver, IA, 1969. The ageing of domestic animals. *Science and Archaeology*. DR Brothwell and ES Higgs. London, Thames and Hudson.

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

Context	Element	Species	Size	Conditio	Side	Z	Z	Z	Z	Z	Z	Z	Z	Butcher	Butcher	Burning	Gnawin	Wo	Pat	Se	Arti	Fres	Comments
12	MT1	OX	5	2	R	☑	☑	☑	☑	☑	☑	☐	☐	P	18		C	☐	☐	☐	☐	☐	
12	MT1	OX	3	2		☐	☐	☐	☐	☑	☑	☐	☐					☐	☐	☐	☐	☐	
14	RAD	S/G	2	1	L	☐	☐	☐	☑	☐	☐	☐	☐					☐	☐	☐	☐	☐	
16	MC1	S/G	4	2	R	☑	☐	☑	☑	☑	☑	☐	☐				C	☐	☐	☐	☐	☑	
16	MT1	OX	4	1	R	☑	☐	☑	☑	☑	☑	☐	☐				C	☐	☐	☐	☐	☑	
16	SCAP	OX	5	1	L	☐	☑	☑	☑	☑	☑	☑	☐					☐	☐	☐	☐	☑	
22	MC1	S/G	3	2		☑	☐	☑	☑	☑	☑	☐	☐				C	☐	☐	☐	☐	☐	
22	MT1	OX	4	2		☐	☐	☑	☑	☐	☑	☐	☐					☐	☐	☐	☐	☐	
22	SCAP	OX	4	2		☐	☐	☐	☐	☐	☐	☐	☐				C	☐	☐	☐	☐	☐	
27	RAD	HOR	5	1	R	☑	☑	☑	☑	☑	☑	☑	☑					☐	☐	☐	☐	☐	
27	ULF	FROG	1	1		☐	☐	☐	☐	☐	☐	☐	☐					☐	☐	☐	☐	☐	SIEVED
28	TIB	OX	5	2	R	☐	☐	☑	☐	☑	☑	☑	☐					☐	☐	☐	☐	☑	
28	CAL	OX	3	1	R	☑	☑	☑	☑	☑	☑	☐	☐				C	☐	☐	☐	☐	☐	
32	VC1	OX	3	2		☑	☐	☑	☐	☐	☐	☐	☐	S	10			☐	☐	☐	☐	☐	
34	ULN	OX	4	2	R	☐	☐	☑	☑	☑	☑	☐	☐				C	☐	☐	☐	☐	☐	SIEVED
34	ULN	S/G	2	1	R	☐	☐	☑	☑	☐	☐	☐	☐					☐	☐	☐	☐	☐	SIEVED
34	SKELE	FROG	1	1	B	☐	☐	☐	☐	☐	☐	☐	☐					☐	☐	☐	☑	☐	PARTIAL SKELE 20
34	RAD	S/G	4	2	R	☐	☐	☑	☑	☑	☐	☐	☐					☐	☐	☐	☐	☐	SIEVED

Context	Element	Species	Size	Conditio	Side	Z	Z	Z	Z	Z	Z	Z	Z	Butcher	Butcher	Burning	Gnawin	Wo	Pat	Se	Arti	Fres	Comments
34	AST	OX	3	2	L	☑	☑	☑	☑	☑	☑	☑	☑				C	☐	☐	☐	☐	☐	
34	VC1	DOG	3	1		☑	☑	☑	☑	☑	☑	☑	☑					☐	☐	☐	☐	☑	
34	FEM	FOW	1	4		☐	☐	☐	☐	☐	☐	☐	☐					☐	☐	☐	☐	☐	
37	VC1	OX	3	2		☑	☐	☐	☐	☐	☐	☐	☐					☐	☐	☐	☐	☐	
37	OC	S/G	3	1	R	☐	☐	☑	☑	☑	☑	☑	☐					☐	☐	☑	☐	☑	FEMALE
39	VC1	OX	3	1		☑	☐	☐	☐	☐	☐	☐	☐					☐	☐	☐	☐	☐	
4	ULF	UB	2	1		☐	☐	☐	☐	☐	☐	☐	☐					☑	☐	☐	☐	☐	POLISHED. ENDS S
4	ULF	FROG	1	2		☐	☐	☐	☐	☐	☐	☐	☐					☐	☐	☐	☐	☐	SIEVED
4	SCAP	S/G	3	1		☐	☐	☐	☐	☐	☐	☐	☐	S	31			☐	☐	☐	☐	☐	
41	FEM	S/G	2	2	R	☐	☐	☐	☐	☐	☐	☑	☐					☐	☐	☐	☐	☐	
46	OC	OX	5	1	L	☐	☐	☑	☑	☑	☑	☑	☐	P	5,13			☐	☐	☑	☐	☐	PROB FEMALE
46	FEM	S/G	2	3	R	☐	☐	☐	☐	☐	☐	☑	☑					☐	☐	☐	☐	☐	
46	FEM	S/G	2	3		☑	☐	☐	☐	☐	☐	☐	☐					☐	☐	☐	☐	☐	
46	OC	S/G	2	2	R	☐	☐	☐	☐	☑	☑	☐	☐					☐	☐	☐	☐	☐	
46	RAD	OX	4	2	L	☐	☑	☑	☐	☐	☐	☐	☐	P	16,3, 21			☐	☐	☐	☐	☐	
46	MT1	HOR	5	1	L	☑	☑	☑	☑	☑	☐	☐	☐					☐	☐	☐	☐	☑	
46	OC	S/G	2	2	L	☐	☐	☐	☐	☐	☐	☑	☐					☐	☐	☐	☐	☐	
46	TIB	S/G	3	3	R	☐	☐	☐	☐	☑	☑	☑	☑					☐	☐	☐	☐	☑	
46	FEM	OX	2	1		☐	☐	☐	☐	☐	☑	☐	☐					☐	☐	☐	☐	☑	
46	FEM	S/G	3	2		☐	☐	☐	☐	☐	☐	☐	☐					☐	☐	☐	☐	☐	
46	TIB	HOR	3	3	R	☐	☐	☐	☐	☐	☐	☑	☑					☐	☐	☐	☐	☐	

Context	Element	Species	Size	Conditio	Side	Z	Z	Z	Z	Z	Z	Z	Z	Butcher	Butcher	Burning	Gnawin	Wo	Pat	Se	Arti	Fres	Comments
46	TIB	HOR	4	2	R	☐	☐	☑	☑	☐	☐	☐	☐					☐	☐	☐	☐	☑	
46	TIB	S/G	4	2	L	☐	☐	☐	☑	☑	☑	☐	☐					☐	☐	☐	☐	☐	
46	TIB	S/G	3	2		☐	☐	☑	☐	☐	☐	☐	☐					☐	☐	☐	☐	☐	
46	TIB	S/G	3	1	L	☐	☐	☐	☐	☑	☑	☑	☑					☐	☐	☐	☐	☑	
46	OC	S/G	2	2	R	☐	☐	☐	☐	☑	☑	☐	☐					☐	☐	☐	☐	☐	
46	ULN	S/G	2	3	L	☐	☑	☑	☑	☐	☐	☐	☐					☐	☐	☐	☐	☐	
46	MC1	S/G	3	2		☐	☐	☑	☑	☐	☐	☐	☐				C	☐	☐	☐	☐	☐	
46	AST	HOR	3	3		☐	☐	☐	☐	☐	☑	☐	☑					☐	☐	☐	☐	☐	
46	PH3	OX	3	2		☑	☑	☑	☑	☑	☑	☑	☑				C	☐	☐	☐	☐	☐	
46	HUM	OX	4	3	L	☐	☐	☐	☐	☑	☑	☑	☐	P	38			☐	☐	☐	☐	☐	
46	FEM	S/G	2	2		☐	☐	☑	☐	☐	☐	☐	☐					☐	☐	☐	☐	☐	
46	RAD	S/G	4	1	R	☑	☑	☑	☑	☑	☑	☑	☑					☐	☐	☐	☐	☐	
46	FEM	OX	3	2		☐	☐	☐	☐	☐	☑	☐	☐					☐	☐	☐	☐	☐	
46	SCAP	UM	3	2		☐	☐	☐	☐	☐	☐	☐	☐				C	☐	☐	☐	☐	☐	
46	MT1	S/G	2	1		☐	☐	☐	☐	☐	☐	☐	☐				C	☐	☐	☐	☐	☐	
46	TIB	PIG	4	2	R	☐	☐	☐	☑	☐	☐	☐	☐				C	☐	☐	☐	☐	☐	
46	SZYG	S/G	2	3		☐	☐	☐	☐	☐	☐	☐	☐					☐	☐	☐	☐	☐	
46	RAD	S/G	3	3		☐	☐	☐	☑	☐	☑	☐	☐					☐	☐	☐	☐	☐	
46	SCAP	S/G	3	3	R	☑	☑	☑	☑	☐	☐	☐	☐					☐	☐	☐	☐	☐	
46	RAD	S/G	3	2	R	☑	☐	☑	☐	☐	☐	☐	☐					☐	☐	☐	☐	☐	
46	RAD	S/G	4	1	R	☐	☐	☑	☑	☑	☑	☐	☐					☐	☐	☐	☐	☐	

Context	Element	Species	Size	Conditio	Side	Z	Z	Z	Z	Z	Z	Z	Z	Butcher	Butcher	Burning	Gnawin	Wo	Pat	Se	Arti	Fres	Comments
46	RAD	S/G	3	1	R	☑	☑	☑	☑	☑	☑	☐	☐					☐	☐	☐	☐	☐	
46	SCAP	S/G	2	3	L	☑	☑	☑	☑	☐	☐	☐	☐					☐	☐	☐	☐	☐	
46	HUM	S/G	4	2	L	☑	☑	☑	☑	☑	☑	☑	☑					☐	☐	☐	☐	☐	
46	HUM	SHE	4	1	R	☑	☑	☑	☑	☑	☑	☑	☑					☐	☐	☐	☐	☐	
46	HUM	S/G	3	2	R	☐	☐	☑	☑	☑	☑	☑	☑					☐	☐	☐	☐	☐	
46	RAD	S/G	3	1	L	☐	☐	☐	☐	☑	☑	☑	☑					☐	☐	☐	☐	☐	
46	RAD	S/G	3	2	L	☐	☑	☐	☑	☐	☐	☐	☐					☐	☐	☐	☐	☐	
46	ULN	S/G	3	2	L	☑	☑	☑	☑	☐	☐	☐	☐					☐	☐	☐	☐	☐	
46	HC	SHE	2	1		☐	☐	☐	☐	☑	☑	☑	☑					☐	☐	☐	☐	☐	
46	ULN	S/G	3	1	R	☑	☑	☑	☑	☐	☐	☐	☐					☐	☐	☐	☐	☐	
47	CAL	S/G	2	2	L	☐	☑	☑	☑	☑	☑	☑	☑					☐	☐	☐	☐	☐	
48	MP1	OX	2	3		☐	☐	☐	☐	☐	☑	☐	☐					☐	☐	☐	☐	☐	
50	PH3	HOR	3	1		☑	☐	☑	☐	☑	☐	☑	☐					☐	☐	☐	☐	☐	
50	RAD	OX	3	1	R	☑	☑	☑	☑	☐	☐	☐	☐	P	25			☐	☐	☐	☐	☐	
50	RAD	OX	5	1	R	☑	☑	☑	☑	☑	☑	☑	☐					☐	☐	☐	☐	☐	
50	RAD	S/G	4	1	R	☑	☑	☑	☑	☑	☑	☐	☐					☐	☐	☐	☐	☐	
50	FEM	S/G	4	1	R	☑	☑	☑	☑	☑	☑	☑	☑					☐	☐	☐	☐	☐	
50	TIB	OX	3	1	R	☐	☐	☐	☐	☐	☐	☑	☑	PT	12,23			☐	☐	☐	☐	☐	
50	HUM	OX	3	1		☐	☐	☐	☐	☐	☐	☐	☐					☐	☐	☐	☐	☐	
50	HUM	OX	5	1	L	☐	☑	☑	☑	☑	☑	☑	☑					☐	☐	☐	☐	☐	
56	SCAP	S/G	1	2		☐	☑	☐	☐	☐	☐	☐	☐					☐	☐	☐	☐	☐	SIEVED

Context	Element	Species	Size	Conditio	Side	Z	Z	Z	Z	Z	Z	Z	Z	Butcher	Butcher	Burning	Gnawin	Wo	Pat	Se	Arti	Fres	Comments
56	MP1	OX	1	4		☐	☐	☐	☐	☐	☐	☑	☐					☐	☐	☐	☐	☐	SIEVED
56	ULF	FROG	1	2		☐	☐	☐	☐	☐	☐	☐	☐					☐	☐	☐	☐	☐	SIEVED
58	MP3	PIG	3	2		☑	☑	☑	☑	☑	☐	☐	☐				C	☐	☐	☐	☐	☐	
58	SCAP	S/G	3	1	R	☐	☐	☑	☑	☑	☐	☐	☐	P	12			☐	☐	☐	☐	☐	
58	SCAP	UM	2	2		☐	☐	☐	☐	☐	☐	☐	☐					☐	☐	☐	☐	☐	
58	FEM	S/G	3	2		☐	☐	☐	☐	☐	☑	☐	☐				C	☐	☐	☐	☐	☐	
58	MP1	S/G	1	3		☐	☐	☐	☐	☐	☐	☐	☑					☐	☐	☐	☐	☐	
60	SCAP	PIG	4	2	R	☑	☐	☑	☑	☑	☐	☐	☐				C	☐	☐	☐	☐	☐	
61	FIB	PIG	3	2		☐	☐	☐	☐	☐	☐	☐	☐					☐	☐	☐	☐	☐	
61	HC	S/G	3	1		☐	☐	☐	☐	☐	☐	☐	☐					☐	☐	☐	☐	☐	
61	RAD	HOR	5	2	L	☑	☑	☑	☑	☑	☑	☐	☐					☐	☐	☐	☐	☐	
61	SCAP	OX	5	3	L	☐	☐	☑	☑	☑	☑	☐	☐				C	☐	☐	☐	☐	☐	
67	HUM	OX	4	2		☐	☐	☑	☑	☐	☐	☐	☐				C	☐	☐	☐	☐	☐	
7	TIB	OX	4	3	R	☐	☐	☐	☐	☐	☑	☐	☑					☐	☐	☐	☐	☑	
7	SCAP	OX	3	2	L	☐	☐	☑	☑	☐	☐	☐	☐				C	☐	☐	☐	☐	☐	
73	OC	S/G	3	3	L	☑	☑	☑	☑	☐	☐	☐	☐				C	☐	☐	☐	☐	☐	
73	RAD	S/G	4	2	L	☐	☐	☐	☐	☑	☑	☑	☑					☐	☐	☐	☐	☐	
73	TIB	S/G	3	3	R	☐	☐	☑	☑	☐	☐	☐	☐					☐	☐	☐	☐	☐	
73	TIB	S/G	3	2		☐	☐	☐	☐	☑	☑	☐	☐					☐	☐	☐	☐	☐	
73	HUM	HOR	3	2		☐	☐	☐	☐	☑	☑	☐	☐				C	☐	☐	☐	☐	☑	
79	TIB	S/G	3	2		☐	☐	☐	☐	☑	☑	☐	☐				C	☐	☐	☐	☐	☑	

Context	Element	Species	Size	Conditio	Side	Z	Z	Z	Z	Z	Z	Z	Z	Butcher	Butcher	Burning	Gnawin	Wo	Pat	Se	Arti	Fres	Comments
79	HUM	S/G	3	2		☐	☐	☐	☐	☑	☑	☐	☐				C	☐	☐	☐	☐	☐	
80	ULN	PIG	3	2		☐	☐	☐	☐	☐	☐	☐	☐					☐	☐	☐	☐	☐	
84	TIB	S/G	3	3	R	☐	☐	☑	☑	☐	☐	☐	☐					☐	☐	☐	☐	☑	
84	MT1	RED	3	1	L	☑	☐	☑	☐	☐	☐	☐	☐				C	☐	☐	☐	☐	☑	
84	CAL	OX	3	1	L	☐	☑	☑	☑	☑	☑	☑	☑					☐	☑	☐	☐	☐	bony growth on lat pro
92	SCAP	OX	5	2	L	☐	☐	☑	☑	☑	☑	☐	☐				C	☐	☐	☐	☐	☐	
93	MC1	OX	4	3	R	☑	☑	☑	☑	☑	☑	☐	☐				C	☐	☐	☐	☐	☐	
93	TIB	OX	4	3	R	☐	☐	☑	☐	☐	☐	☐	☐	P	15		C	☐	☐	☐	☐	☐	
93	MP1	OX	4	3		☐	☐	☑	☐	☑	☐	☐	☐					☐	☐	☐	☐	☐	
93	HUM	DOG	3	3	R	☐	☐	☐	☐	☑	☑	☑	☑					☐	☐	☐	☐	☐	
93	SCAP	OX	3	3		☐	☐	☐	☐	☑	☐	☐	☐					☐	☐	☐	☐	☐	
93	MP1	HOR	5	3		☐	☐	☑	☑	☑	☑	☐	☐				C	☐	☐	☐	☐	☐	
93	OC	OX	3	1		☐	☐	☐	☐	☐	☐	☑	☐					☐	☐	☐	☐	☐	
93	TIB	OX	2	3	R	☐	☐	☐	☐	☐	☐	☑	☐				C	☐	☐	☐	☐	☐	
93	RAD	S/G	3	3		☐	☐	☑	☐	☐	☐	☐	☐					☐	☐	☐	☐	☐	
95	HC	OX	3	2		☑	☐	☑	☐	☑	☐	☐	☐					☐	☐	☐	☐	☐	SIEVED
95	OC	ULM	3	2		☑	☐	☐	☐	☐	☐	☐	☐					☐	☐	☐	☐	☐	SIEVED
95	HC	OX	4	1		☑	☑	☑	☑	☑	☑	☑	☑					☐	☐	☐	☐	☐	

Appendix 5

THE ENVIRONMENTAL DATA
By Val Fryer

Introduction and method statement

Excavations at Welton, undertaken by Archaeological Project Services, recorded pits, ditches and a possible well of Late Saxon date, with an apparent focus of activity in the ninth to tenth centuries. Samples for the retrieval of the plant macrofossil assemblages were taken, and fourteen were submitted for assessment.

The samples were processed by manual water flotation/washover and the flots were collected in a 300 micron mesh sieve. The dried flots were scanned under a binocular microscope at magnifications up to x 16 and the plant macrofossils and other remains noted are listed on Tables 1 and 2. Nomenclature within the tables follows Stace (1997). All plant remains were charred. The non-floating residues were collected in a 1mm mesh sieve and sorted when dry. All artefacts/ecofacts were retained for further specialist analysis.

Results

Cereal grains/chaff and seeds of common weeds were present at low to moderate densities in all fourteen assemblages. Preservation was generally quite poor, with a high proportion of the grains being severely puffed and distorted, probably as a result of combustion at very high temperatures.

Oat (*Avena* sp.), barley (*Hordeum* sp.), rye (*Secale cereale*) and wheat (*Triticum* sp.) grains were recorded, with wheat occurring most frequently. Although rachis nodes of bread wheat (*T. aestivum/compactum*) type were noted within five assemblages, other chaff elements were exceedingly rare. Cotyledon fragments of indeterminate large pulses (Fabaceae) were noted from samples 1 (pit [005]) and 3 (pit [008]), and the latter assemblage also contained a large, angular seed of probable field bean (*Vicia faba*) type.

Weed seeds were particularly scarce, with most occurring as single specimens within an assemblage. All were of common segetal taxa including fat hen (*Chenopodium album*), small legumes (Fabaceae), persicaria (*Persicaria maculosa/lapathifolia*), grasses (Poaceae) and dock (*Rumex* sp.). Individual sedge (*Carex* sp.) nutlets, recorded within the assemblages from samples 1, 5 (well [024]) and 12 (ditch [057]), were the sole wetland plant macrofossils noted. A single hazel (*Corylus avellana*) nutshell fragment was recovered from sample 3. Charcoal fragments were present throughout, although rarely at a high density. Other plant macrofossils included pieces of charred root/stem (including fragments of heather (Ericaceae) stem) and indeterminate culm nodes.

Although specific sieving for molluscan remains was not undertaken, a small number of shells were noted within all fourteen assemblages. Contemporaneity with the contexts from which the samples were taken was uncertain, although most specimens displayed some surface abrasion and a single burnt shell was also recorded (sample 14 from pit [096]). Three of Evans (1972) ecological groups were represented, with open country species occurring most frequently. A small number of freshwater obligate taxa were also represented, most notably within a fill from well [024] (sample 4) and from pit [096] (sample 14).

The fragments of black porous and tarry material, which were present within all but sample 12 (ditch [057]), were almost certainly all residues of the combustion of organic remains (including cereal grains) at very high temperatures. Other remains occurred infrequently, but did include fragments of bone and burnt or fired clay and vitreous globules. Coal fragments were present throughout, although all were probably intrusive within the contexts. A number of small, burnt organic concretions noted within sample 7, from a fill within pit [011], may possibly have been burnt animal dung, although accurate identification of the inclusions was not possible.

Discussion

Although the assemblages are from a range of features of apparently differing dates, their composition is somewhat uniform, possibly indicating that much of the material within them may have a common source. It is also of note that the preservation of the macrofossils is uniformly poor, again possibly suggesting either a common source or material derived from a singular activity. Although chaff and weed seeds are represented, the assemblages are essentially grain rich, possibly indicating that they are derived from either domestic hearth waste, where grains were accidentally spilled and charred during culinary preparation, or from burnt grain storage waste. However, it should be noted that many of the more delicate seeds and chaff elements would probably not have withstood the temperatures at which this material appears to have been burnt, and would have been destroyed. Whichever activity is represented, it would appear that the charred remains were either deliberately or accidentally spread across the site, becoming incorporated within most features, sometimes as intrusive or residual material within a context. With the exception of sample 5, from a fill within well [024], the highest concentrations of material appear within the contexts of ninth and tenth century date, and it is tentatively suggested that this is the period of occupation when most of the charred waste was generated.

Recommendations for further work

In summary, although plant remains are present within all fourteen samples, the assemblages are very small (<0.1 litres in volume), the density of macrofossils is generally very low (<200 specimens per assemblage) and preservation is poor. For these reasons, further analysis is not recommended. However, a written summary of this assessment should be included within any publication of data from the site.

References

Evans, J, 1972 *Land Snails in Archaeology*. London

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

Key to Tables

x = 1 – 10 specimens xx = 10 – 50 specimens xxx = 50 – 100 specimens
cf = compare b = burnt ss = sub-sample coty = cotyledon fg = fragment

Sample No.	**5**	**11**	**4**	**9**	**12**	**14**
Context No.	**022**	**052**	**019**	**034**	**056**	**095**
Feature No.	**024**	**053**	**024**	**035**	**057**	**096**
Feature type	**?Well**	**Ditch**	**?Well**	**Pit**	**Ditch**	**Pit**
Date	**9/10th**	**?Roman**	**9/10th**	**?**	**9/10th**	**?**
Cereals						
Avena sp. (grains)	x					x
Hordeum sp. (grains)	x		x	xcf	x	x
Triticum sp. (grains)	xx	x	x		x	xcf
T.aestivum/compactum type (rachis nodes)	xx		x			
Cereal indet. (grains)	xx	x	x	x	x	xx
Herbs						
Fabaceae indet.			xcf			
Persicaria maculosa/lapathifolia						x
Small Poaceae indet.						x
Wetland plants						
Carex sp.	x				x	
Other plant macrofossils						
Charcoal <2mm	x	x	xx	x	x	xxx
Charcoal >2mm	x		x			x
Charred root/stem	x	x	x		x	x
Ericaceae indet. (stem)	xcf					
Indet.culm node	x					
Mollusc shells						
Woodland/shade loving species						
Aegopinella sp.					x	
Oxychilus sp.			x			
Open country species						
Helicella itala					x	
Helicidae indet.				x		
Vallonia sp.	x	x	x		x	
V.costata			x	x		
V. pulchella						xb
Catholic species						
Cepaea sp.			x			
Cochlicopa sp.		x			x	
Trichia hispida group	x	x	x			x
Freshwater obligate species						
Anisus leucostoma			x			x
Lymnaea sp.	x		x			
Planorbis planorbis						x
Succinea sp.			x			x
Other remains						
Black porous 'cokey' material	x	x	xx			xx
Black tarry material	x	x	x	x		x
Bone	x	x	x	x		x
Burnt/fired clay	x	x				
Small coal frags.	x	x	x		x	x
Small mammal/amphibian bones	x	x	x			
Vitrified material			x			
Sample volume (litres)	**20ss**	**10**	**20ss**	**10**	**10**	**10**
Volume of flot (litres)	**<0.1**	**<0.1**	**<0.1**	**<0.1**	**<0.1**	**<0.1**
% flot sorted	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**

Table 1. Charred plant macrofossils and other remains from the possible Roman features and other un-dated contexts, Cliff Road, Welton, Lincolnshire.

Sample No.	**1**	**2**	**3**	**7**	**6**	**13**	**8**	**10**
Context No.	**004**	**007**	**018**	**010**	**027**	**084**	**028**	**050**
Feature No.	**005**	**008**	**008**	**011**	**026**	**085**	**029**	**051**
Feature type	**Pit**	**Pit**	**Pit**	**Pit**	**Linear**	**Ditch**	**Pit**	**Ditch**
Date	**9/10th**	**9/10th**	**9/10th**	**9/10th**	**10/12th**	**10/12th**	**11/12th**	**12/13th**
Cereals and other food plants								
Avena sp. (grains)	x	x	x	x		x		
Large Fabaceae indet.	xcoty		xcoty					
Hordeum sp. (grains)	x	x	x	xcf	x			x
(rachis nodes)	xcf							
Hordeum/Secale cereale type (rachis node)					x			
Secale cereale L. (grains)	xcf							
Triticum sp. (grains)	x	xx	xx		xx	x	xcf	x
(rachis internode frag)		x						
T.aestivum/compactum type (rachis nodes)		xx	x		x			
Vicia faba L.			xcf					
Cereal indet. (grains)	xx	xx	xx	x	xx	x		
(basal rachis node)		x			x			
Herbs								
Arrhenatherum sp. (tuber)		xcffg	xcffg					
Chenopodium album L.	x							
Fabaceae indet.	x	x	x		x			
Galium mollugo type			x					
Large Poaceae indet.						x		
Rumex sp.								x
Vicia/Lathyrus sp.			x					
Wetland plants								
Carex sp.	x							
Tree/shrub macrofossils								
Corylus avellana L.			x					
Other plant macrofossils								
Charcoal <2mm	xx	xx	xx	x	xx	xx	xcf	x
Charcoal >2mm	x	x		x	x	x		
Charred root/stem	x	x	x		x	x		
Ericaceae indet. (stem)	xcf		x	x	x			
Indet.culm node	x			x				
Indet.seeds		x						
Mollusc shells								
Woodland/shade loving species								
Aegopinella sp.	x				xcf			
Oxychilus sp.		x	x					
Zonitidae indet.							x	
Open country species								
Helicidae indet.							x	
Vallonia sp.	x	x	x		x		x	x
V. pulchella	x							
Catholic species								
Cochlicopa sp.		x						
Trichia hispida group	x	x	x	x	x	x		x
Freshwater obligate species								
Planorbis planorbis		x						
Succinea sp.					x			
Other remains								
Black porous 'cokey' material	xxx	xx	xx	x	x	x	x	x
Black tarry material	xx	xx	x		x	x	x	x
Bone		x				x	x	
Burnt/fired clay	x							
Charred organic concretion				xx				
Eggshell							x	
Small coal frags.	xx	xx	xx	x	x	x	x	
Small mammal/amphibian bones		x						
Vitrified material				x				
Sample volume (litres)	**20**	**20ss**	**20**	**10**	**20**	**10**	**10**	**10**
Volume of flot (litres)	**<0.1**	**<0.1**	**<0.1**	**<0.1**	**<0.1**	**<0.1**	**<0.1**	**<0.1**
% flot sorted	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**

Table 2. Charred plant macrofossils and other remains from the Late Saxon to early medieval contexts, Cliff Road, Welton, Lincolnshire.

Appendix 6

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).
Cropmark	A mark that is produced by the effect of underlying archaeological features influencing the growth of a particular crop.
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.
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.
Messuage	A dwelling and the land surrounding it.
Natural	Undisturbed deposit(s) of soil or rock which have accumulated without the influence of human activity.
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.
Toft	Elongated and parallel plots of land containing a dwelling.

Appendix 7

THE ARCHIVE

The archive consists of:

97	Context records
2	Photographic record sheets
33	Sheets of scale drawings (plans and sections)
12	Daily record sheets
1	Stratigraphic matrix
14	Environmental sample sheets
2	Boxes 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:

The Collection
Art and Archaeology in Lincolnshire
Danes Terrace
Lincoln
LN2 1LP

Accession Number: 2008.38

Archaeological Project Services Site Code: WCR 08

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.