TRIAL TRENCHING ON THE ROUTE OF THE LINCOLN EASTERN BYPASS, LINCOLNSHIRE: POST-FIELDWORK ASSESSMENT REPORT

(LNEB 08)

Work Undertaken For
Jacobs

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1. SUMMARY

An Environmental Statement is to be submitted for a revised alignment of the proposed Lincoln Eastern Bypass. A programme of archaeological works is required to contribute to the ES. In the first instance this comprised non-intrusive surveys, specifically fieldwalking and metal detecting and geophysical survey.

In the second instance, a programme of evaluation by trial trenching was undertaken, informed by the results of the preceding non-intrusive surveys.

This document presents the findings of the trial trenching along the proposed route. For the purposes of archaeological survey, the route was broken down into parcels corresponding to the current field layout.

Pits, ditches and post holes of Late Saxon date were identified in a cluster of trenches to the north of Heighington Road, in Parcel J. These remains appear to represent domestic activity, perhaps including a post-built building within the site itself.

Further archaeological features in Parcel J were restricted to an undated pit and a ditch of medieval to modern date.

The trial trenching confirmed the presence of a large boundary ditch in Parcel L, previously recorded in evaluation to the west and identified on aerial photographs as extending to the east. The dating of this feature is uncertain, but contained a sherd of possible Iron Age pottery.

Iron Age and Roman pottery and an Iron Age coin of the later 1st century BC were retrieved from a second trench in Parcel L, and associated with a possible ditch. This assemblage indicates activity in the immediate vicinity in these periods.

A pit in Parcel S contained possible Iron Age pottery, whilst an undated ditch in the same trench may also be of some antiquity.

A single undated pit was identified in Parcel U, although colluvium deposits in the vicinity contained Roman and possible Early to Middle Iron Age pottery, perhaps indicating the potential for remains of this period in the vicinity of Parcel U.

Two linear features in Parcel V represent former field boundarys and are potentially of Roman to post-medieval date.

A single possible ditch was identified in Parcel W, although as this is undated the potential significance of this is unclear.

2. INTRODUCTION

2.1 Definition of an Evaluation

An archaeological evaluation is defined as, '*a limited programme of non-intrusive and/or intrusive fieldwork which determines the presence or absence of archaeological features, structures, deposits, artefacts or ecofacts within a specified area or site. If such archaeological remains are present Field Evaluation defines their character and extent, quality and preservation, and it enables an assessment of their worth in a local, regional, national or international context as appropriate'* (IFA 1999).

2.2 Planning Background

An Environmental Statement is to be submitted for a revised alignment of the proposed Lincoln Eastern Bypass. A programme of archaeological works is required to contribute to the ES. In the first instance this comprised non-intrusive surveys, specifically fieldwalking, metal-detecting and geophysical survey. In the second instance, a programme of evaluation by trial trenching was undertaken, informed by the results of the preceding non-intrusive surveys.

This report presents the findings of the trial trenching which was undertaken between 8th December 2008 and 30th January 2009. This was carried out in accordance with a written scheme of investigation prepared by Jacobs and a method statement prepared by Archaeological Project Services (Appendix 1) and approved by the Historic Environment Team Leader, Lincolnshire County Council.

The work was undertaken in accordance with IFA standards and guidelines.

2.3 Topography and Geology

The study site is located to the east and southeast of Lincoln (Figure 1).

The proposed route consists of approximately 8km of dual carriageway from the A15/A158 Wragby Road roundabout running southwards to cross the Witham valley and then climbing again onto the valley side to join the A15 Sleaford Road (Figure 2). A previous route option has already been the subject of archaeological study. The present route diverges westwards south of Washingborough Road, rejoining the previous scheme at the southern end. The redesigned portion of the scheme is 4.5km long and is the subject of the current archaeological studies.

The revised route is confined to the rising ground of the valley side from about 10m to 65m O.D. up onto the dip-slope of the Limestone escarpment. Soils are well drained brashy calcareous fine loamy soils of the Elmton 1 Association developed on the Jurassic limestone (Hodge *et al* 1983, 179).

2.4 Archaeological and Historical Background

Many of the known archaeological sites in the area are of prehistoric date with artefact scatters identified by fieldwalking representing domestic/economic activity from the Neolithic to the late Bronze Age. A large barrow cemetery lies just to the north of the new alignment. Other sites identified by previous geophysical survey may represent field systems or settlements. The River Witham valley bottom was a major focus of prehistoric and later ritual activity and is famous for numerous finds of high status metal artefacts deposited as votive offerings.

The establishment of the Roman legionary fortress and subsequent *colonia* at Lincoln exerted an influence over a substantial rural hinterland containing a number of important villas, rural settlements, farmsteads and field systems. Sites of Roman date within 200m of the new alignment include several artefact scatters, individual findspots and a small number of features identified in previous trial trenching.

Lincoln ceased to be the centre of a large urban population in the post-Roman and early Anglo-Saxon period and evidence for continuing settlement in the hinterlands is sparse. By the mid-10th century the town was once again of national importance and archaeological evidence suggests that many of the nucleated villages around the town were established in this period with most major settlements in existence by the 11th or 12th centuries.

3. AIMS AND OBJECTIVES

The aim of the work was to identify the extent and character of known and unknown archaeological remains in order to inform the Environmental Statement (ES), to enable an assessment of the significance of the impact of the scheme on any archaeological remains present, and to allow further evaluation and/or mitigation measures to be designed.

References to sites with associated reference numbers within this document are derived from the List of Archaeological Sites produced by Jacobs

within the Written Scheme of Investigation for the Archaeological Evaluation Works, Volume 1: Specification (2008). The aims of the project are also outlined in the Written Scheme of Investigation:

The general aim of the trial trenching was "to gather sufficient information to establish the presence/absence, extent, condition, depth, character, quality and date of any archaeological deposits in order to establish the impact of the development on the archaeological resource" (IFA 1999).

More specific aims of the trial trenching were as follows:

- To identify, investigate and record any such archaeological remains to the extent possible by the methods put forward in the Specification.

- To clarify the date, character and extent of Sites 202, 250, 289, 320, 323 and 361 within the footprint of the new alignment.

- To examine a representative sample of the potential archaeological remains that were identified by the surface artefact collection, metal detecting and geophysical surveys and to clarify the results of that survey.

- To test the remaining 'blank' areas to assess the potential for unrecorded archaeological remains within the development area.

- To determine (so far as possible) the stratigraphic sequence and dating of the deposits or features identified.

- To establish any ecofactual and environmental potential of archaeological deposits and features.

4. METHODS

For the purposes of archaeological survey, the route has been broken down into parcels (A1, J-W) corresponding to the current layout of fields. Parcel A1 lies towards the northern end of the route, on the south side of Hawthorn Road. Parcels J-W constitute the southern part of the route, from Washingborough Road to the A15, Sleaford Road, at Bracebridge Heath. These are shown on Figure 2.

Evaluation along the route of the Lincoln Eastern Bypass was to comprise a total of 153 trenches. At the northern end of the bypass route 8 trenches in Parcel A1 were omitted due to access issues, whilst a further 3 trenches between Lincoln Road and Bloxholme Lane in Parcels S and T were omitted in order to avoid damage to ground cover crops. With the addition of 2 further trenches to the south of Heighington Road, in Parcel L, 144 trenches were excavated in total. Trenches 216 and 178 were extended at the request of the consultant, and with the agreement of curators.

Trenches 162-271, 274-285 and 287-309, located in Parcels J-W, (Figure 3) are the subject of this report. The trenches were largely located in order to determine the presence or absence of anomalies identified during the geophysical survey with a significant number to provide sample coverage.

Each trench was accurately positioned and located in three dimensions by Archaeological Project Services surveyors variously using a Global Positioning by Satellite (GPS) system and a Geodolite Total Station.

Removal of surfaces and other overburden was undertaken by mechanical excavator using a toothless ditching bucket. To ensure that the correct amount of material was removed and that no archaeological deposits were damaged, this work was supervised by Archaeological Project Services. On completion of the removal of the overburden, the nature of the

underlying deposits was assessed by hand excavation before any further mechanical excavation that was required. Thereafter, the trenches were selectively cleaned by hand to enable the identification and analysis of the archaeological features exposed. Mechanical excavation ceased at the first archaeologically significant horizon or when the absence of such horizon has been adequately demonstrated.

Investigation of features and deposits was undertaken as far as required to determine their date, form and function. The work consisted of half- or quarter-sectioning of features as required and, where appropriate, the removal of layers.

The archaeological features encountered were recorded on Archaeological Project Services pro-forma record sheets. Each deposit exposed during the evaluation was allocated a unique reference number (context number) with an individual written description. A photographic record was also compiled in both black and white and colour formats, whilst sections and plans were drawn at a scale of 1:10 and 1:20 respectively. Recording of deposits encountered was undertaken according to standard Archaeological Project Services practice

Finds and environmental samples collected during the fieldwork were packaged and labeled according to the individual deposit from which they were recovered ready for later processing and analysis.

5. RESULTS

Following fieldwork, the records were examined and a stratigraphic matrix produced. Phasing was assigned based on the nature of the deposits and recognisable relationships between them, supplemented by artefact dating.

The following account is a brief summary of the more significant results from the evaluation. A full summary of all trenches is provided in Appendix 2.

Natural deposits

Natural deposits along the bypass route comprise mainly Cornbrash of the underlying solid geology. The nature of Cornbrash is such that it weathers at its surface to reddish brown silts or clays usually with a sand component, perhaps as a result of glacial processes. In places, this weathering takes the appearance of archaeological features and where this occurred a sample were examined to ascertain their nature. All such features proved to be natural in origin. Occasionally intrusive artefacts were retrieved from the fills of these naturally-formed features, these inclusions almost certainly being the result of animal burrowing and other similar processes.

Prehistoric flints – residual material

Small quantities of worked flint were retrieved during the investigation, the majority of these being of Early Neolithic date (Appendix 3). These were widely spread along the evaluated route and the majority were retrieved from topsoil or the fills of later ditches.

Subsoil and colluvium deposits

Subsoil was largely absent from the trenches reported upon here, whilst deposits identified in a handful of trenches may be colluvial in nature.

Roman pottery was retrieved from colluvial deposits in Trenches 287, 289 and 294, whilst a fragment of prehistoric pottery, possibly of Early to Middle Iron Age date was retrieved from colluvium in Trench 288.

Parcel J – Trenches 167-177

A single amorphous pit [16703] was identified in Trench 167, cut into

colluvium deposit 16702. This amorphous feature was 1.50m by over 0.33m wide and 0.50m deep with moderately steep sides and a concave base (Figures 4-6, Plate 2). The single fill of this feature, 16704, was a loose mid orange-grey clayey sand with occasional stones, which contained a partial cattle skeleton (Appendix 4).

A ditch [16804] in Trench 168 corresponded to the location of a linear anomaly previously identified in geophysical survey. This east-west aligned ditch was 0.92m wide and 0.35m deep with steep sides and a concave base (Figures 4-6). The single fill of this linear comprised a mid greyish-red sandy silt with moderately frequent limestone, rare charcoal flecks and occasional shell flecks and fragments. This fill contained a single sherd of abraded late 13th to 15th century pottery and an undiagnostic fragment of ceramic building material (Appendix 3).

Possible pit or ditch terminus [17503] was amorphous in plan, over 1.60m by 1.40m wide and 0.32m deep, and had moderately steep sides and a concave base (Figures 4-6, Plate 3). Fill 17504 comprised a mid reddish-brown with grey mottles sandy silt with occasional limestone and rare burnt limestone, from which cattle and mole bones were retrieved in addition to a fragment of 13th to 15th century roof tile (Appendix 3).

An amorphous possible pit [17605] in Trench 176 was 1.30m by 4.40m wide and 0.24m deep with steep to gently sloping sides and an uneven base (Figures 4-6, Plate 4) with a fill of mid reddish to olive brown clayey silty sand with moderately frequent limestone 17604. A flake of ceramic building material, a selection of animal bones and a sherd of late 9th to 10th century pottery were retrieved from this deposit, in addition to a copper alloy pin head (Appendices 3 & 4).

A possible ditch [17603] was located just to the north of this feature, also within Trench 176 (Figures 4-6, Plate 3). This was east-west aligned, 1.30m wide and 0.22m deep, with steep to gently sloping sides and uneven base and filled with a mid olive-brown to reddish clayey silty sand with moderately frequent limestone 17602. Tile and pottery, each of possible 14th to 15th century date were retrieved along with flakes of 9th to 10th century pottery.

A single pit [17703] was identified in Trench 177, which was 4.40m by at least 1.30m and 0.64m deep with moderately steep sides and a concave base (Figures 4-6, Plate 5). This contained a single fill 17704 of soft mid orange-brown clayey silt with occasional limestone and rare burnt limestone fragments. Finds comprised mid 9th to 10th Century pottery and abraded ceramic building material in addition to various fragments of animal bone (Appendices 3 & 4). Medieval pottery was retrieved from the machined upper surface of this pit 17705, although the position of these finds directly beneath topsoil layer 17701 suggests that these are intrusive and do not provide a date for the pit (Appendix 3).

Parcel J – Trench 178

A ditch [17806], a post hole [17803] and possible post hole [17808] were identified in this trench. Subsequent extensions to this trench revealed a further two post holes [17815] and [17810] and possible post hole [17803], in addition to a further linear feature [17816] (Figure 5). Pottery of 9th to 10th century date was retrieved from each of the linear features in this trench [17806] and [17816], and also from post hole [17803]. The remaining four post holes and possible post holes were undated, but may well be contemporary with the dated Saxon features.

Ditch [17806] was northwest-southeast aligned, 1.38m wide and 0.15m deep with steepish to gently concave sides and a flattish base (Figures 4-6 Plate 8). This

contained a soft darkish brown slightly sandy clayey silt, 17807, with *c*. 20% limestone and moderately frequent burnt limestone, occasional charcoal flecks and occasional snail shells. Three sherds of mid 9th to 10th century pottery were retrieved from this deposit, in addition to a selection of animal bones, burnt stones and fragments of Niedermendig lava quern and the broken point of an iron blade (Appendices 3 & 4).

A more complete iron blade was retrieved from deposit 17804, the fill of post hole [17803]. This knife blade is of a form current from the Late Saxon period to about the 13th century, whilst pottery also retrieved from this fill was of late 9th to 10th century date (Appendix 3). Further artefacts retrieved from this deposit comprise a rectangular iron bar, and faunal remains including herring bone (Appendix 4). This fill 17804 was a darkish brown sandy clayey silt with *c.*20% limestone and occasional charcoal flecks. This oval post hole [17803] was 0.55m by 0.34m wide and 0.15m deep with steep to gently concave sides and a gently concave to flattish base. A broken piece of limestone at the base of this feature may have been deliberately placed to act as a post pad or packing material (Figures 4-6, Plate 7).

Ditch [17816] was identified in the southern extension to this trench, and was north-south aligned, 0.62m wide and 0.32m deep. This feature had steep to gently concave sides and a gently concave base (Figures 4-6, Plate 6). Fill 17817 comprised a loose darkish brown slightly clayey and sandy silt with frequent limestone, occasional burnt limestone, mussel shell and charcoal. Animal bones retrieved from this fill included horse, cattle and frog (Appendix 4), whilst a sherd of mid 9th to 10th century pottery was also present (Appendix 3).

Post hole [17810] was circular, 0.30m wide and 0.11m deep with concave sides and base and contained a mid brown silty clay 17811 with frequent limestone, some of these stones possibly serving as packing. Faunal remains from this feature included the scapula of a medium-sized mammal and an eel vertebra.

Animal bones were retrieved from the fills of each of two undated possible post holes [17808] and [17813]. Possible post hole [17808] was oval to amorphous in plan, 0.52m by 0.40m in diameter, and 70mm deep with moderately steep sides and a flattish base (Figures 4-6). The fill of this feature was a soft darkish brown slightly sandy and clayey silt 17809 with frequent limestone fragments and occasional mottles of redeposited natural, the animal bones from this deposit including a fish vertebra (Appendix 4). Feature [17813] was circular, 0.40m wide and 90mm deep with a concave base and was filled by a mid reddish-brown clayey silt 17812 with moderately frequent limestone and rare charcoal flecks.

A post hole was revealed in the southern extension of Trench 178, and although this was not fully exposed in plan seemed to be sub-circular, over 0.36m wide and 0.22m deep [17815] (Figures 4-6, Plate 9). This feature had steep to near-vertical sides and a flattish uneven base and was filled by a darkish brown slightly clayey sandy silt 17814 with moderately frequent limestone, and from which animal bone was retrieved (Appendix 4).

Parcel J – Trenches 181-185

Excavation of an east-west aligned linear feature at the northern end of Trench 181 revealed this to be two separate, parallel features [18103] and [18109] (Figures 4-6, Plate 10). The larger of these, [18103] was 0.80m wide and 0.19m deep with an uneven base, and contained a mid olive-brown clayey sand with frequent limestone and occasional charcoal 18102. Environmental sampling yielded pottery fragments of mid 9th to 10th century date (Appendix 3). Animal bone from this fill

included cattle, rodent, amphibian and sheep or goat remains (Appendix 4). The smaller of these two linears, [18109] was 0.40m wide and 0.10m deep with gently sloping sides and an uneven to flattish base (Figures 4-6, Plate 10). The mid olive-brown clayey sand fill of this feature 18108 produced only a single abraded sherd of Late Iron Age to Roman pottery (Appendix 3).

A third ditch in this trench [18105] was again east-west aligned, but located at the southern end of the trench. This feature was 1.30m wide and 80mm deep with steep sides and an uneven base (Figures 4-6, Plate 11). It contained a mid slightly olive-brown clayey sand with moderately frequent limestone and occasional charcoal flecks 18104. Pottery of mid 9th to 10th century date was retrieved from this deposit along with faunal remains including sheep or goat and fish bones (Appendices 3 and 4). A possible sub-circular post hole [18107] was located at the edge of this ditch, this being 0.24m wide and 80mm deep with steepish sides and a concave base (Figures 4-6, Plate 12). Its fill of mid olive-brown clayey sand with moderately frequent limestone was devoid of artefacts.

Pit [18204] extended beyond the edge of Trench 182, and was at least 0.30m by 2.15m wide and 0.15m deep with a gently concave base (Figures 4-6). Fill 18203 was a mid greyish brown clayey silt with moderately frequent limestone and rare charcoal flecks, producing various animal bone and early to mid 9th century pottery, along with further flakes dating to the mid 9th to 10th centuries (Appendices 3 & 4).

Two ditches were also identified in this trench. East-west aligned ditch [18205] was located close to the southern end of the trench, 0.48m wide and 0.10m deep with a concave profile (Figures 4-6, Plate, 13). Fill 18206, a mid reddish-brown silty clay with frequent limestone contained animal bone and mid 9th to 10th century pottery (Appendices 3 & 4).

Ditch [18207], near the centre of the trench, was also east-west aligned and was 1m wide, 0.36m deep and had steep sides and a flattish to gently concave base (Figures 4-6, Plate 12). The single fill of this ditch was a soft mid brown silty clay with moderately frequent limestone fragments. A group of middle and late Saxon pottery was retrieved from this deposit, these sherds being large and fresh, and indicating a possible 9th to mid 10th century date for this feature (Appendix 3). Animal bones from this deposit included cattle and pig remains (Appendix 4).

A single pit [18503] was identified in Trench 185, from which Roman pottery of the 2nd century or later was retrieved (Appendix 3). this elongated oval feature was over 0.85m by 0.50m and 0.10m deep with a gently concave base (Figures 4-6, Plate 14)., and contained a mid slightly pinkish- greyish-brown slightly sandy clayey silt 18504 with frequent limestone and occasional charcoal flecks.

Although Iron Age to Roman material was retrieved from features [18109] and [18503] it is possible that this material might be redeposited, as in each case this pottery was abraded. Given the several features of mid to late Saxon date in the vicinity, it is possible that both of these features might also date to this later phase.

Parcel L

An east-west aligned ditch was identified in this trench [21103]. This was 5.70m wide and 1.18m deep with steep sides, and contained a mid brownish-red silty sand with occasional clay and limestone (21102) (Figures 7 & 10 Plate 15). Only a small quantity of artefacts were retrieved from this deposit, unidentified animal bone and a fragment of possible Iron Age pottery (Appendices 3 & 4).

This ditch matched the location of a linear

geophysical anomaly (Figure 7), although a second parallel anomaly just to the north was apparently associated with a geological variation, an area of stoneless material at the northern end of the trench possibly being a patch of subsoil.

A single feature [21604=21608] was identified in Trench 216, the edges of which were extremely difficult to define due to the similarity of the fill to the surrounding natural deposits. This was apparently a north-south aligned curvi-linear feature, with steepish sides and a gently concave base (Figure 7 & 8, Plates 16 & 17). Fills 21603, 21606 and 21607 were mid orange to reddish-brown mixed sand, silt and clay with limestone. An Iron Age coin dating to the late 1st century BC was retrieved from this deposit, in addition to Iron Age pottery. However early and later Roman pottery was also retrieved from the fills of this feature, and it remains somewhat unclear why there should be such a range in the dating of this material. It may be that the earlier material is redeposited in a later feature, although it is equally possible, especially given the ephemeral nature of this feature, that it might represent a natural hollow or similar feature, in which Iron Age and Roman material has accumulated. In either case, the coin and pottery from this feature and further contemporary pottery retrieved from this trench indicate activity in the immediate vicinity in these periods.

Parcel S

A northeast-southwest aligned elongated oval feature [27610] was identified close to the centre of this trench, measuring 2.57m by 0.69m and 0.28m deep (Figures 8-10, Plates 19 & 18). The mid greyish-brown sandy silt (27609) with moderately frequent limestone and occasional charcoal flecks and shell which filled this feature produced a partial sheep or goat skeleton (Appendix 4). A piece of rabbit bone within this deposit may well be intrusive, perhaps as the result of burrowing. A single sherd of possible Iron Age pottery was retrieved from this fill, which may provide a date for this feature (Appendix 3).

North-south aligned ditch [27611] was 1.37m wide and 0.37m deep and had concave steep to moderately steep sides and a flattish irregular base (Figures 8-10, Plate 20). The primary fill 27612 was a mid brown clayey silt with occasional limestone, whilst the upper fill 27613 was a mid greyish-brown clayey silt with occasional limestone, containing animal bone, including some identified as wood mouse (Appendix 4). Although this ditch was undated, its fills were rather pale and comparable to those of neighbouring possibly Iron Age pit [27610], and this might tentatively be used as an indication that both features may be of some antiquity. However, the alignment of ditch [27611] closely parallels that of the modern field boundary, so the possibility of a much later date cannot be excluded.

An oval feature [27602] at the northeastern end of this trench may have been either a pit or ditch terminus, extending beyond the edge of the trench to the north (Figures 8-10, Plates 21 & 18). This feature was 0.80m wide by over 1.10m long and 0.23m deep, with steep to moderately steep irregular sides and a gently concave to irregular base. A post medieval iron hook and pottery of 17th to 18th and 18th to 19th century dates were retrieved from the fill of this feature, in addition to residual Roman pottery (Appendix 3). This fill 27603 comprised a dark brown with reddish brown slightly sandy and clayey silt with mottles of redeposited natural and occasional coal fragments.

Feature [27607] also extended beyond the northern limit of excavation, this sub-rectangular feature being 0.87m by over 0.62m and 0.51m deep with near-vertical sides and a flattish to gently concave base (Figures 8-10, Plate 18). A single fill of mid to dark brown sandy clay with

occasional limestone 27608 was recorded, which contained late 17th to 18th century pottery and a nail (Appendix 3).

A further feature [27604] was identified, lying between [27602] and [27606]. Although undated, the dark fill of feature [27604] was similar to those of these two post-medieval pits, and seems likely to be of comparable date. Pit or ditch terminus [27604] was amorphous to oval, again extending beyond the northern edge of the trench (Figures 8-10, Plate 21). Measuring 0.65m by over 0.56m and 100mm deep it contained a dark brown slightly sandy and clayey silt with mottles of redeposited natural and occasional coal fragments (27604).

Features [27607], [27604] and [27602] were all located close to or on an extant field boundary, marked by a change in vegetation atop an evident linear bank of thickened topsoil (Figures 8-10, Section 276-1, Plates 21 & 18). It seems that each of these three features relate to this boundary, and may represent a combination of former hedgeline, perhaps including tree planting pits, pitting for the disposal of waste along the field boundary and perhaps also some animal burrowing into the bank.

Parcel U

A single undated pit was identified in Trench 290, this oval feature [29004] extending beyond the southern edge of the trench (Figures 8-10, Plate 22). Measuring 0.75m by over 0.87m and 0.40m deep with a concave profile, it contained a single fill 29005 of mid greyish-yellow silty sand with occasional limestone. Artefacts retrieved from this deposit were restricted to a small quantity of burnt animal bone (Appendix 4).

Parcel V

A northeast-southwest aligned linear feature [29503] in Trench 295 probably represented a former hedgerow (Figures 8-10, Plate, 23). This 1.80m wide and 0.15m deep feature had an flattish uneven base and a fill of dark and mid reddish-brown clayey sand 29502.

Possible ditch [29803] was also northeast-southwest aligned, 1.20m wide and 0.36m deep and had moderately steep to convex sides and an irregular base (Figures 8-10, Plate, 24). Roman pottery was retrieved from its fill 29804 (Appendix 3), which was a mid orange-brown clayey sand with occasional charcoal flecks.

Parcel W

Just one possible ditch was identified in Parcel W, located in Trench 307. This was north-south aligned, 0.62m wide and 0.32m deep with a concave profile [30703] (Figures 8-10, Plate 25). Fill 30704 comprised a mid brown clayey sand with moderately frequent limestone, the only artefact retrieved from this being a flint flake of possible Neolithic date (Appendix 3).

6. DISCUSSION

The investigation has identified a remarkable paucity of archaeological material along the majority the bypass route. Given that this area was typically a heathland/moorland habitat, the lack of such material is less surprising. However, a number of sites were identified during the trenching.

Archaeological features were identified in a cluster of trenches, 175-178, 181-182 and 185, to the north of Heighington Road, in Parcel J. Many of these features closely matched the results of the geophysical survey, and mainly comprised pits and ditches, in addition to up to five post holes in Trench 178. Small quantities of Roman material were collected from some of these trenches, although the majority of the material was mid to late Saxon, the pottery

largely dating to the mid 9th to 10th centuries. The faunal remains from this area included a wide range of species, including domesticates and marine fish, whilst environmental sampling of this group of features also revealed something of a concentration of material in this area. These assemblages, along with the metal artefacts from the area, would seem to indicate domestic activity of 9th to 10th century date close at hand, perhaps including a building within the site itself. This area of activity seems to be concentrated in the western half of the route corridor, extending for approximately 115m along its length, no similar remains having been identified in trenches immediately to the north, east or south of this area (Figure 11). This site seems to be located on a slight plateaux on this hill, approximately bounded by the 35mOD and 40mOD contours.

Further archaeological features in Parcel J were restricted to an undated pit in Trench 167, along with a ditch in Trench 168. Whilst the pit may be of some antiquity, the linear feature corresponds to the location of a boundary depicted on recent OS maps (eg Figure 2) and as such is likely to be of recent date.

The trial trenching confirmed the presence of a large boundary ditch between Heighington Road and Lincoln Road, and the location of this ditch [21103] accords well with the large boundary ditch recorded in evaluation to the west (Rylatt 2004) and identified on aerial photographs as extending to the east. As just a single abraded sherd of possible Iron Age pottery was retrieved from this ditch, the dating of this feature is uncertain, pottery retrieved from the previous evaluation having included Romano-British types (Rylatt 2004, 91). This feature is typical of boundary ditches recorded throughout Lincolnshire which are commonly assigned a later prehistoric date, although dating of these features is notoriously difficult (eg Boutwood 1998). Further to the east this feature forms part of the modern parish boundary, similar longevity of use having been postulated at several comparable sites in the region.

A quantity of Iron Age and Roman pottery was retrieved from Trench 216, in addition to an Iron Age coin of the later 1st century BC. Although there is some doubt as to the interpretation of the possible ditch which contained much of this material, this assemblage certainly indicates activity in the immediate vicinity in these periods. The occurrence of further contemporary pottery within the ploughsoil around this trench could indicate the presence of further buried features surrounding this trench.

A pit in Parcel S [27610] contained possible Iron Age pottery, which may date this feature, whilst an undated ditch in the same trench may also be of some antiquity.

A single undated pit [29004] was identified in Parcel U. Colluvium deposits in Trenches 287, 289 and 294 contained Roman pottery, whilst pottery of possible Early to Middle Iron Age date was retrieved from colluvium in Trench 288. Whilst the colluvial deposits in themselves are of limited significance, this Roman and prehistoric pottery may indicate activity of this period in the vicinity of Parcel U. The findspot of an Iron Age beehive quern has previously been recorded a short distance to the northwest of Parcel U (Site 312), and it is possible that there may be further remains of this date in the area.

A hedgeline and a ditch were identified in Parcel V, the former being undated and the latter containing Roman pottery. Both of these linear features are perpendicular to the course of Bloxholme Lane, and represent former subdivision of this large field. As Bloxholme Lane follows the course of the Roman road Mareham Lane, the geography of the area provides little indication as to the likely date of these

features, which might be anything from Roman to post-medieval in date. Brief examination of the Ordnance Survey 1:10,560 map of 1889 indicates that no such boundaries were extant at that time (www.british-history.ac.uk).

A single possible ditch was identified in Parcel W, although as this is undated the potential significance of this is unclear.

7. POTENTIAL AND RECOMMENDATIONS

Recommendations for further finds work are detailed in Appendix 3. Some metal items will require X-raying, conservation and stabilisation and any necessary revisions made to identifications. A number of items are also recommended to be drawn, as is one sherd of Romano-British pottery. Chemical analysis of a possible Punctate Brachiopod fossil within a Dalesware fabric is also recommended as this may indicate a wider range of production for this fabric than previously suspected. Updated finds reports and illustrations will be incorporated into a revised final report and deposited along with the archive.

8. ACKNOWLEDGEMENTS

Archaeological Project Services wishes to acknowledge the assistance of Paul Bennett and Jonathon Dempsey of Jacobs Engineering UK Limited for commissioning the fieldwork and post-excavation analysis. Steve Malone coordinated this work and edited this report along with Tom Lane. Dave Start kindly permitted access to the library maintained by Heritage Lincolnshire.

9. PERSONNEL

Project Coordinator: Steve Malone
Project Officers: Paul Cope-Faulkner and Vicky Mellor
Excavation Supervisor: Chris Moulis
Excavation Team: Ross Kendall, Bob Garlant, Lavinia Green, Jim Robertson, Jon Smith, Kevin Trott, Fiona Walker
Surveying: Andy Failes, Steve Malone, Chris Moulis
Photographic reproduction: Vicky Mellor, Sue Unsworth
CAD Illustration: Paul Cope-Faulkner, Vicky Mellor, Sue Unsworth
Post-excavation analysis: Vicky Mellor

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11. ABBREVIATIONS

APS Archaeological Project Services
ES Environmental Statement

IFA Institute of Field Archaeologists

OD Ordnance Datum (height above sea level)

OS Ordnance Survey

WSI Written Scheme of Investigation

Figure 1 General location map

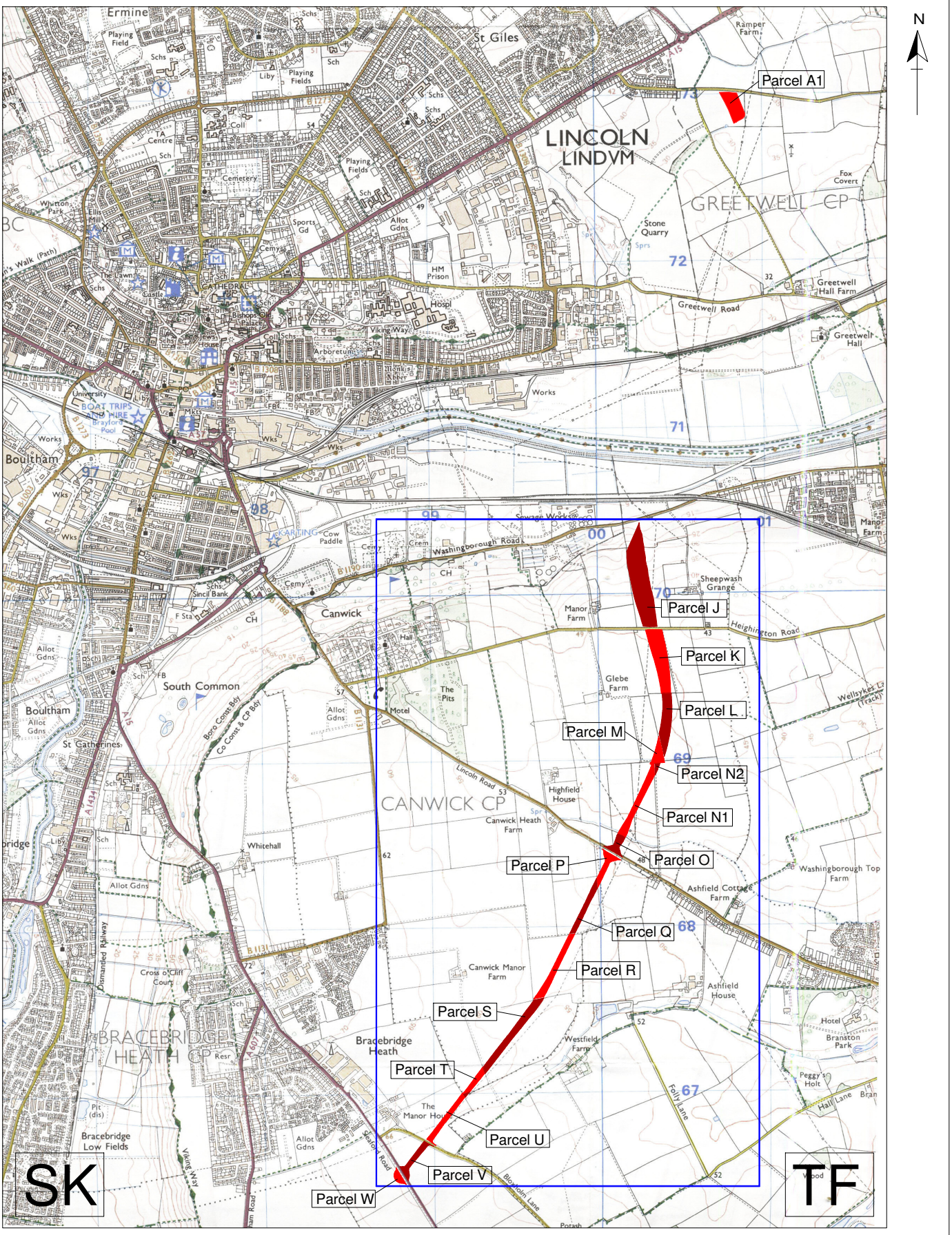


Figure 2 Site location map

Figure 3 Trench location plan

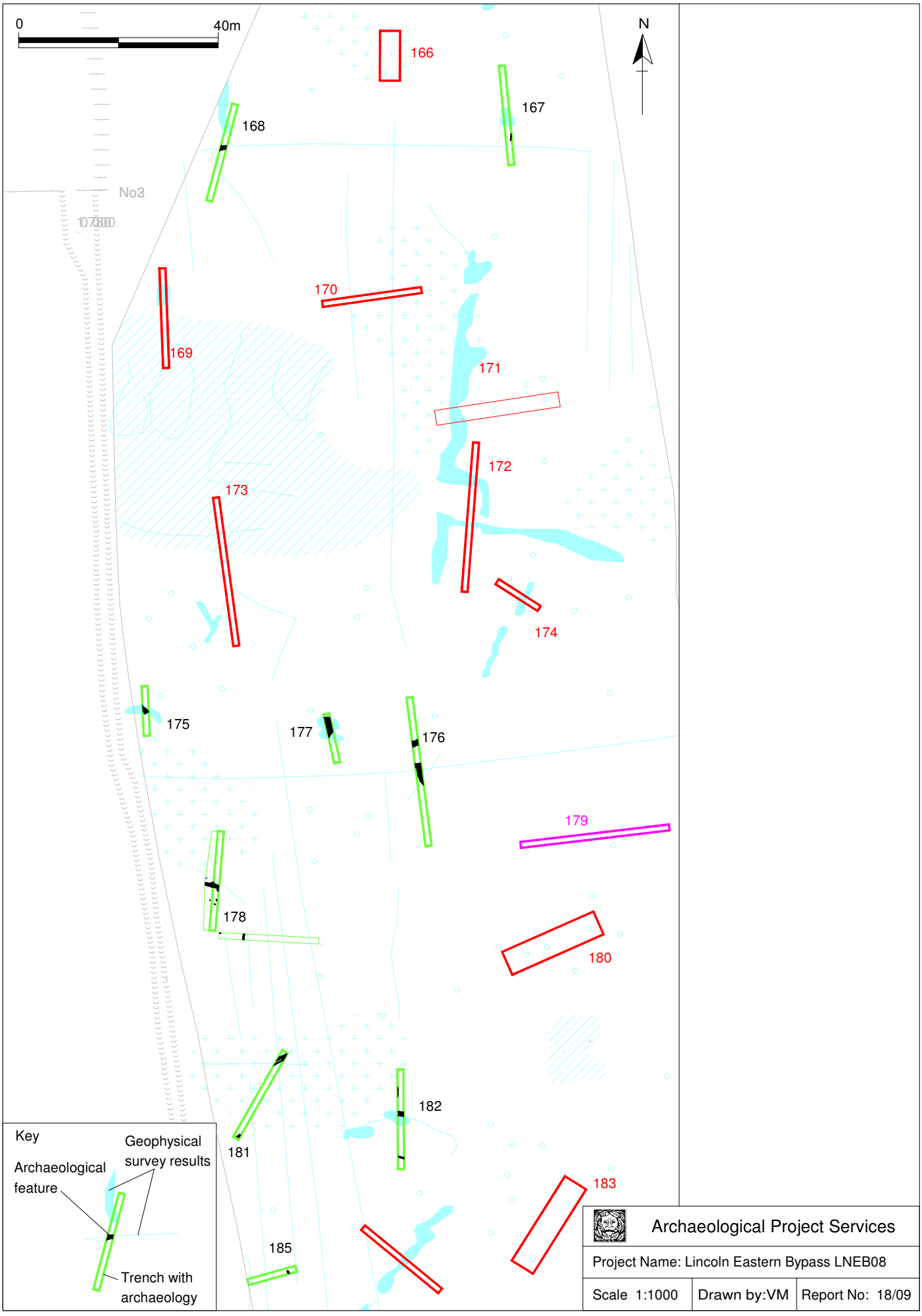


Figure 4 Archaeological features identified in trenching in Parcel J

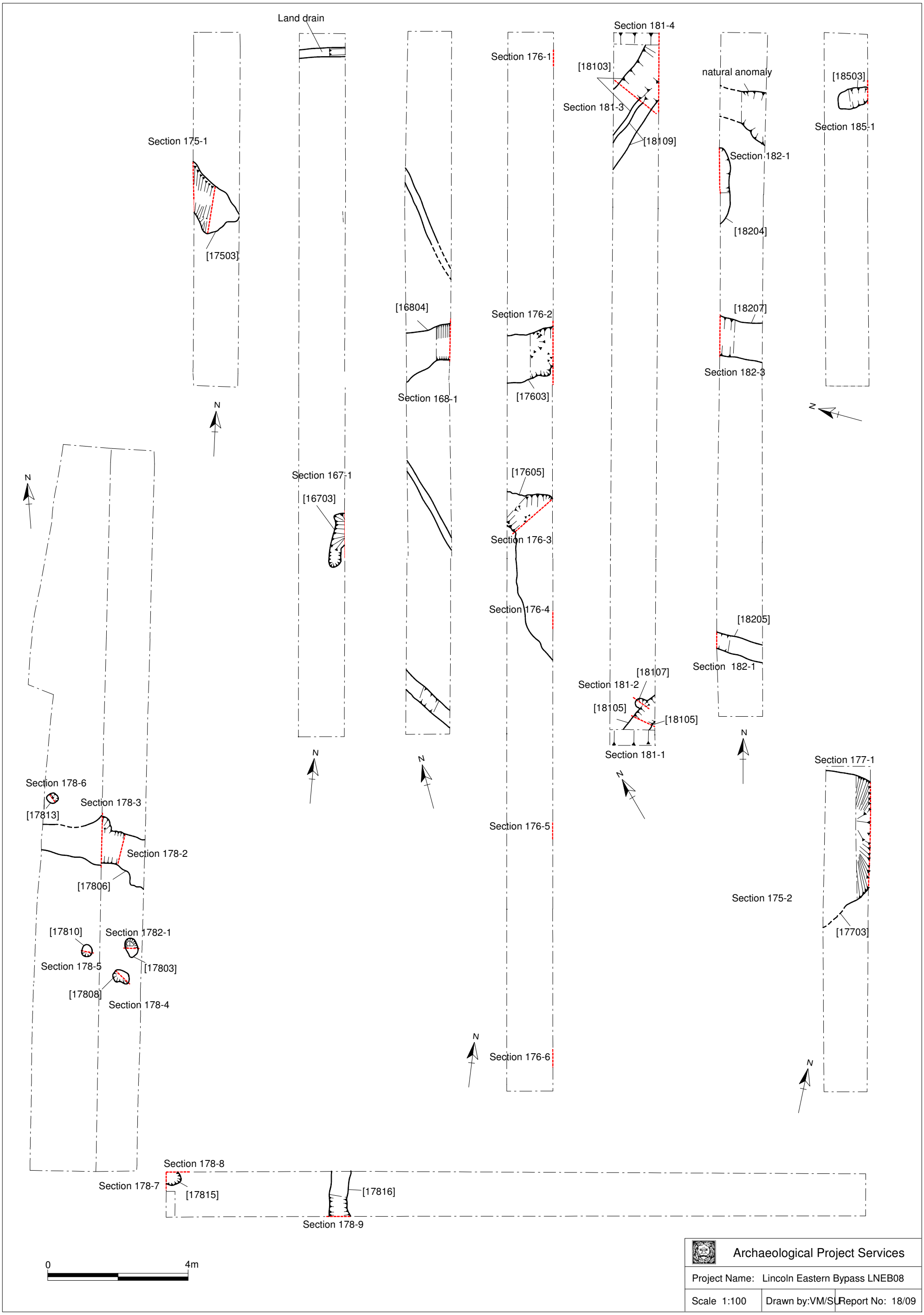


Figure 5 Plans showing archaeological features identified in trenching in Parcel J

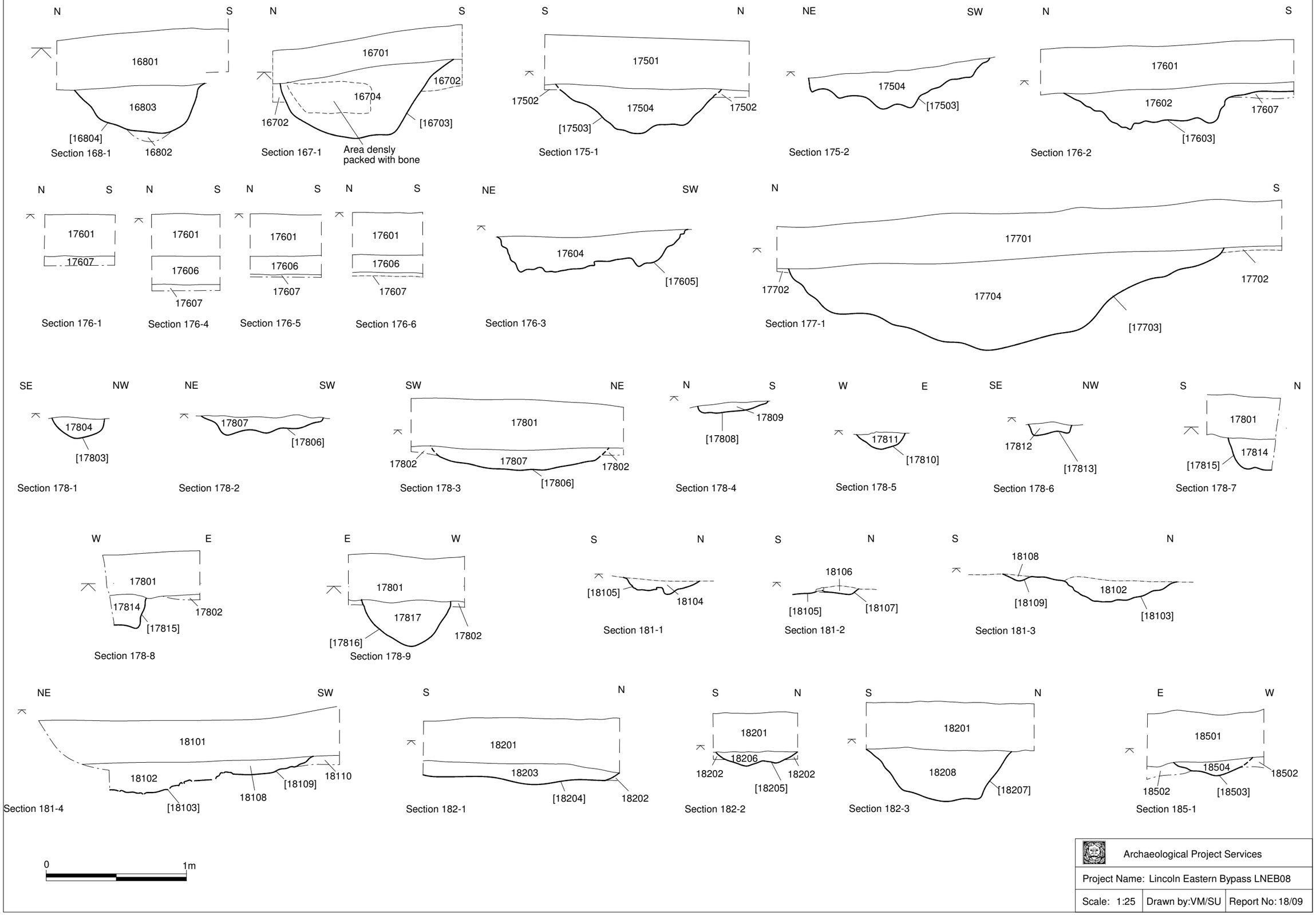


Figure 6 Sections showing archaeological features identified in trenching in Parcel J

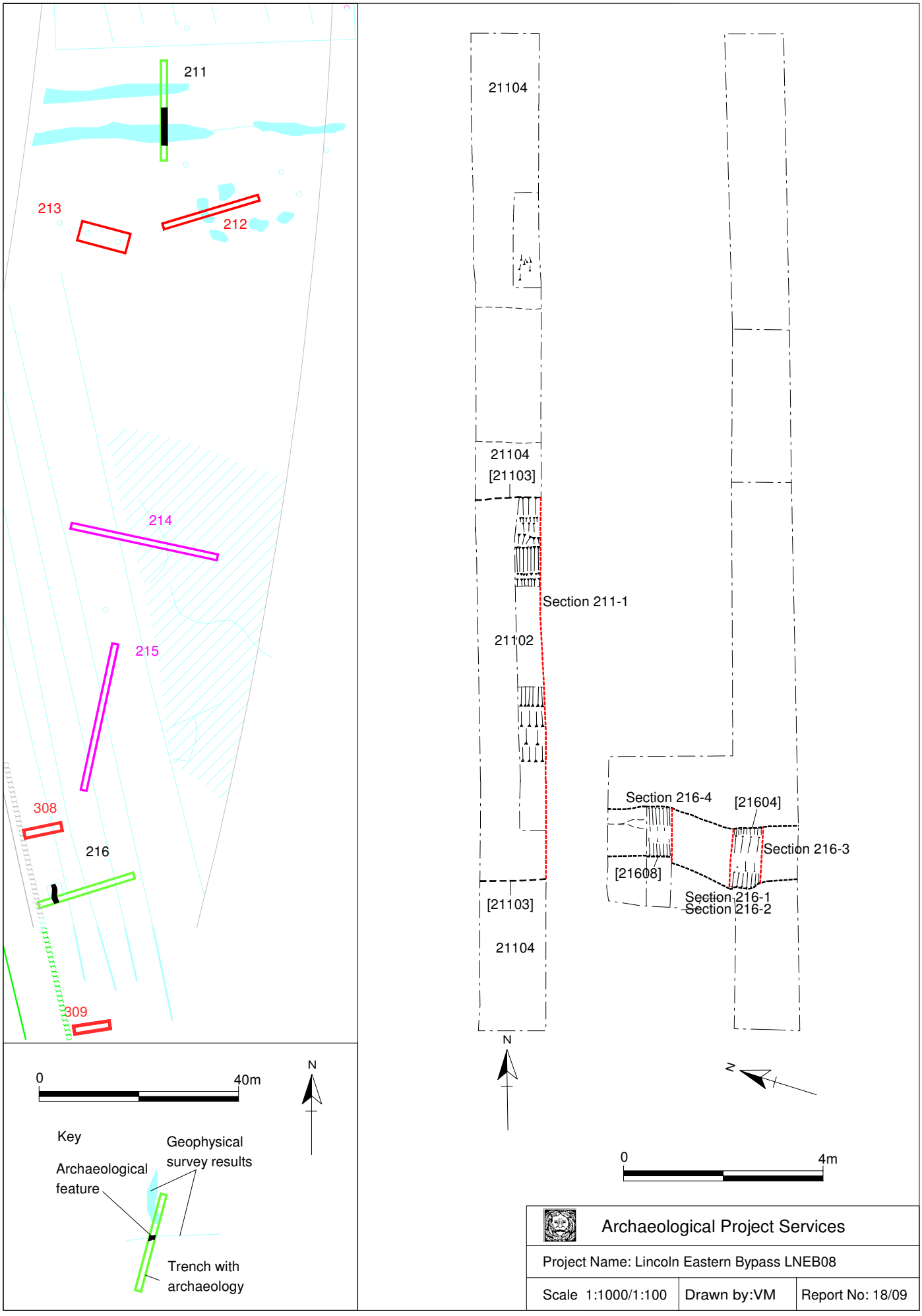
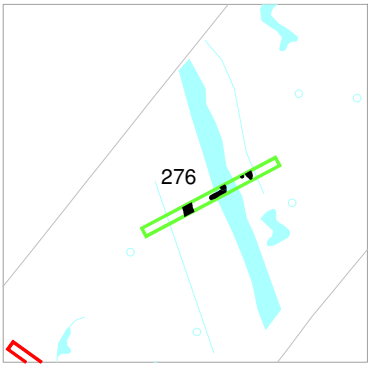
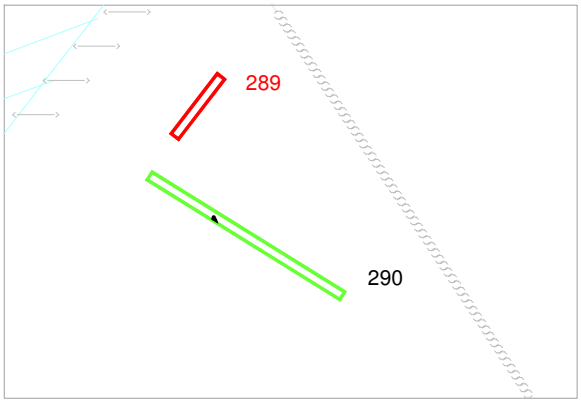


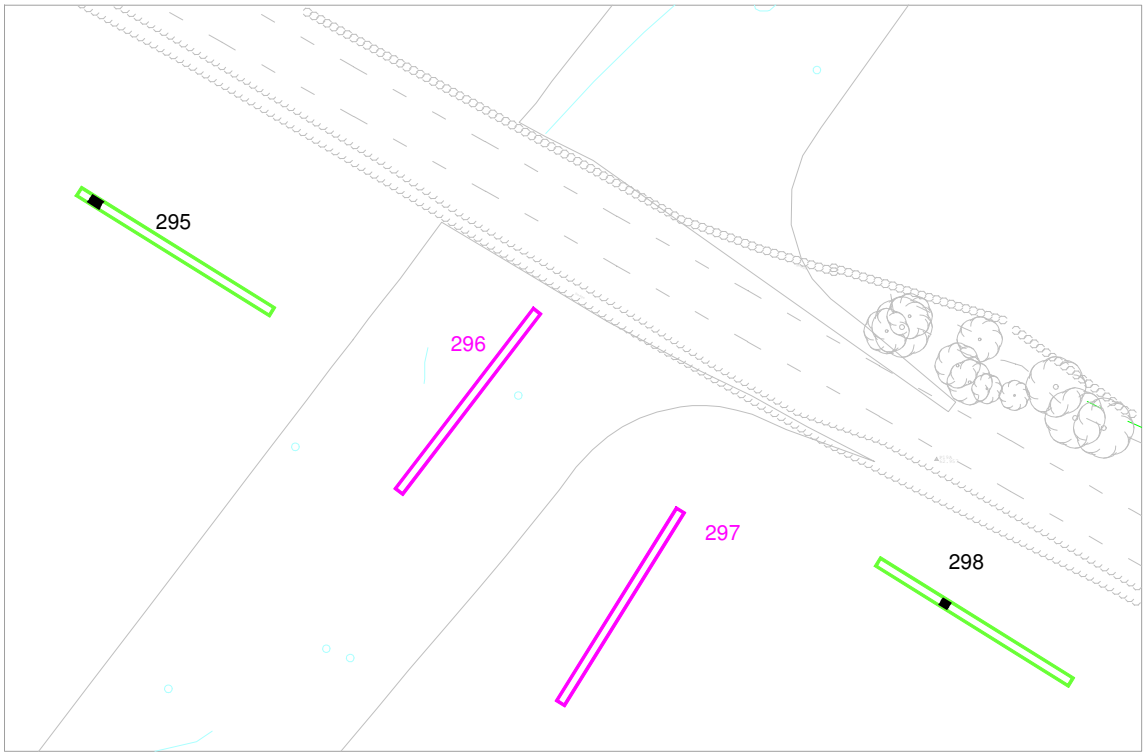
Figure 7 Archaeological features identified in trenching in Parcel L including trench plans



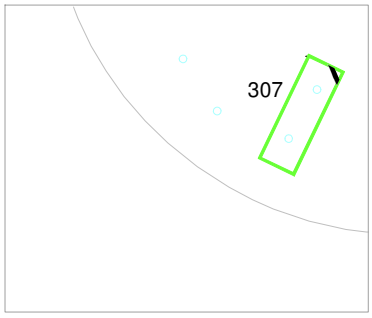
Parcel S detail



Parcel U detail



Parcel V detail



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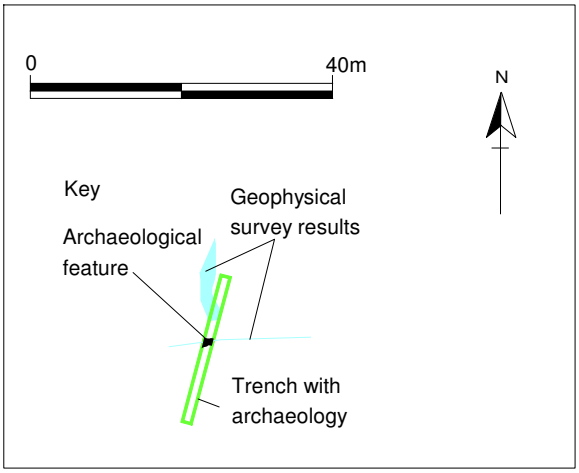

Archaeological Project Services		
Project Name: Lincoln Eastern Bypass LNEB08		
Scale 1:1000	Drawn by:VM	Report No: 18/09

Figure 8 Archaeological features identified in trenching in Parcels S, U, V and W

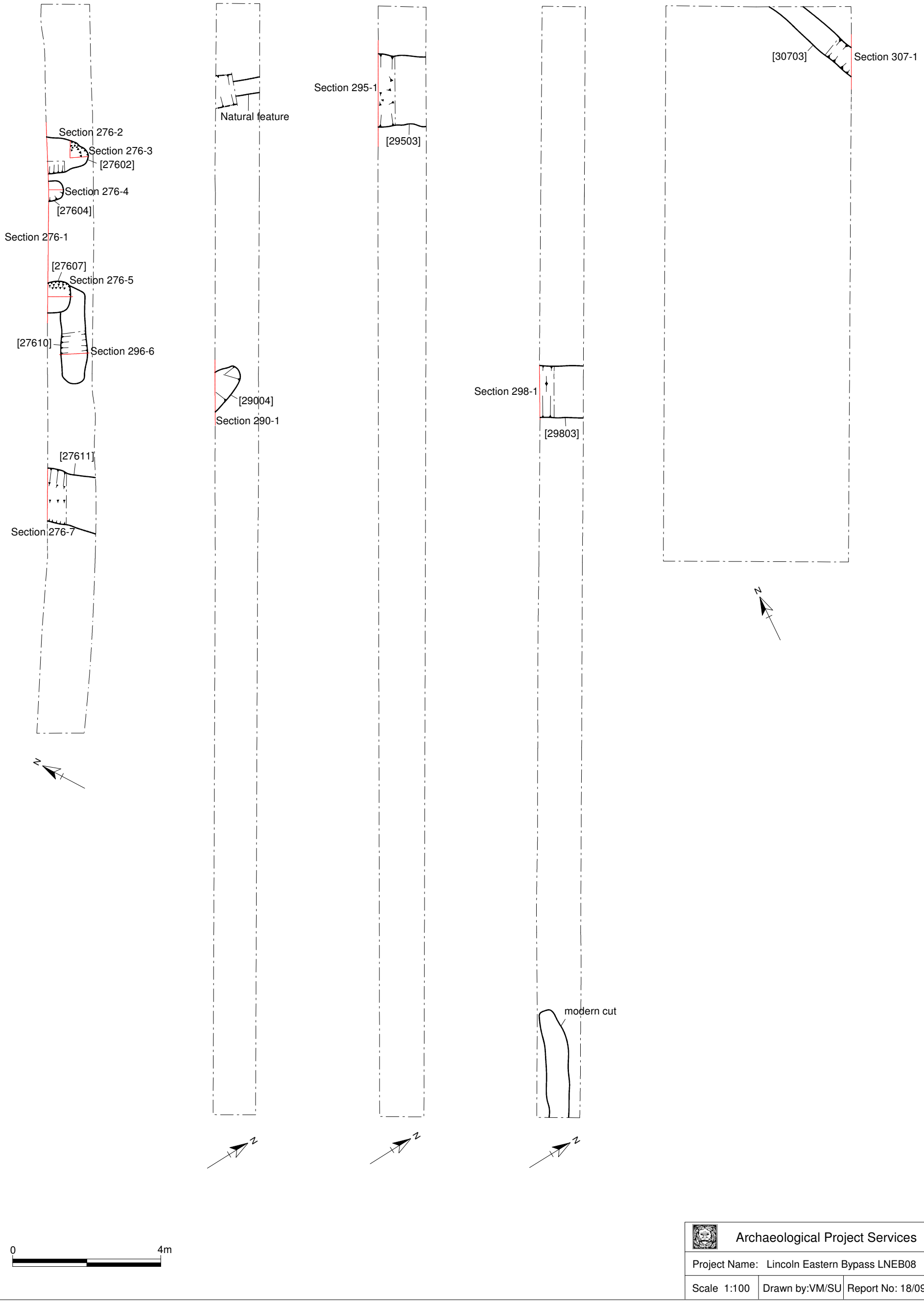

Figure 9 Plans showing archaeological features identified in trenching in Parcels S, U, V and W

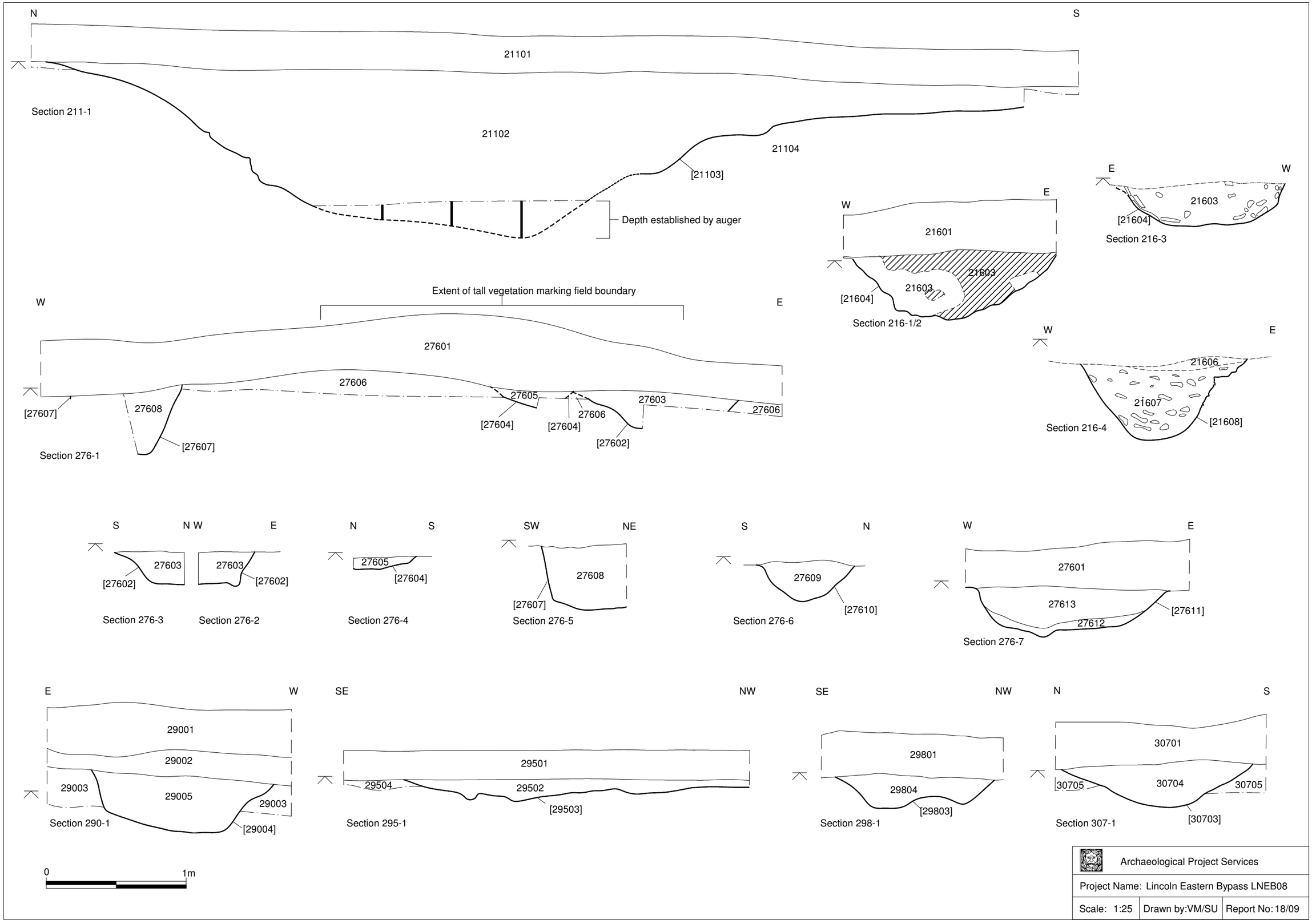

Figure 10 Sections showing archaeological features identifeid in trenching in Parcels L, S, U, V and W

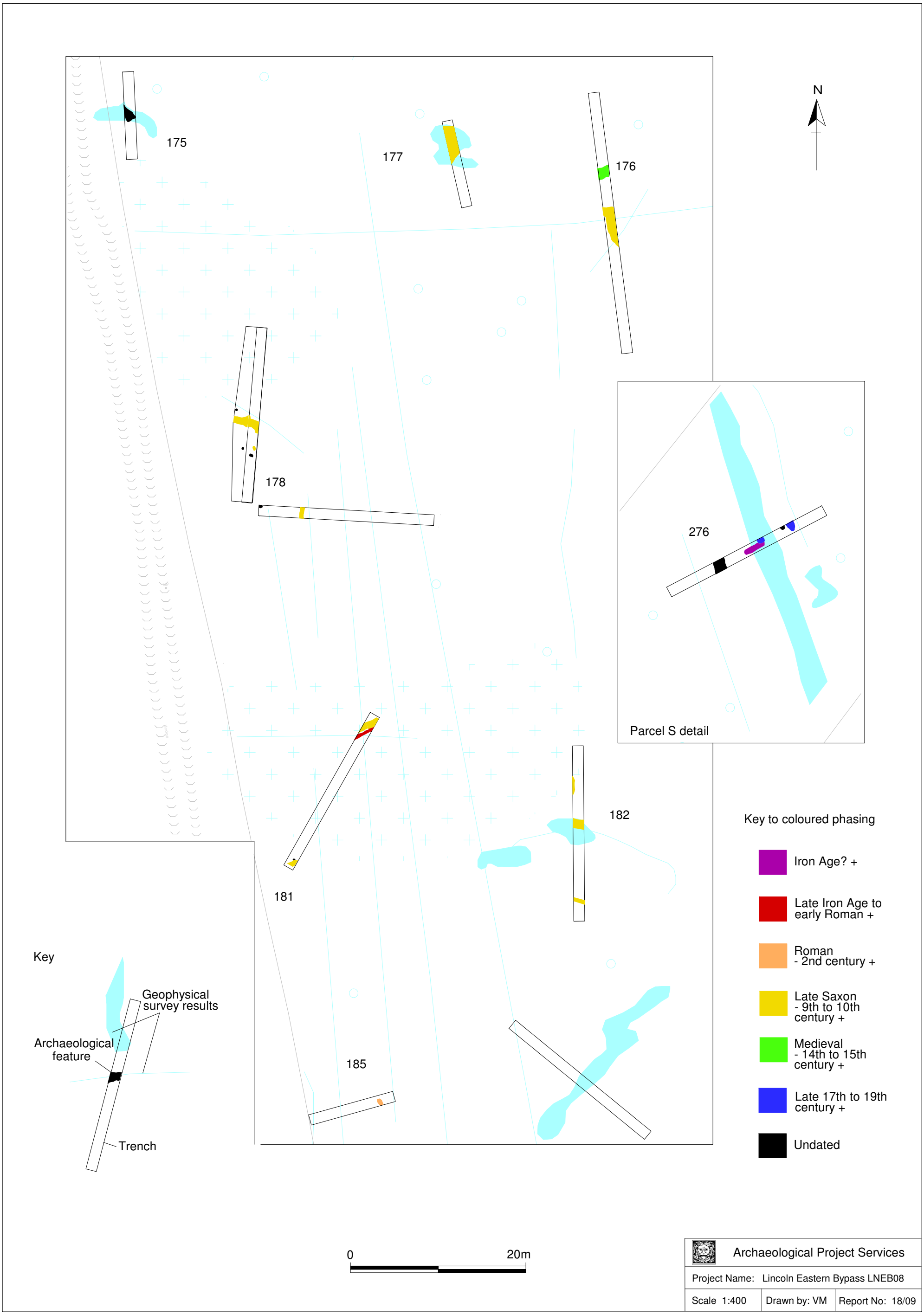

Figure 11 Dating of features in Trenches 175-178, 181, 182, 185 and 276

Plate 1 General view of site during works in Parcel L and pre-excavation view of Trench 211, looking south

Plate 2 Undated pit [16703], looking east

Plate 3 Undated possible pit or ditch [17503], looking northwest

Plate 4 Possible pit [17605] of 9th to 10th century date, looking southeast

Plate 5 Pit [17703] of 9th to 10th century date, looking southeast

Plate 6 Linear [17816] of 9th to 10th century date, looking south

Plate 7 Post hole [17803] of 9th to 10th century date, showing stone possibly used as post pad or packing, looking south

Plate 8 Ditch [17806] of 9th to 10th century date, looking northwest

Plate 9 Undated post hole [17815], looking northwest

Plate 10 Ditch [18103] of 9th to 10th century date and parallel ditch [18109], containing abraded late Iron Age to early Roman pottery, looking west

Plate 11 Ditch [18105] of 9th to 10th century date and undated possible post hole [18107], looking west

Plate 12 Ditch [18207] of 9th to 10th century date, looking west

Plate 13 Ditch [18205] of 9th to 10th century date, looking west

Plate 14 Pit [18503], containing Roman pottery of 2nd century or later date, looking southeast

Plate 15 Ditch [21103], of possible Iron Age or later date, looking southeast

Plate 16 Ditch [21604], containing Iron Age and Iron Age tradition pottery, 1st Century BC coin and later Roman pottery, looking north

Plate 17 Ditch [21608], probable continuation of ditch [21604], containing mid 3rd Century Roman pottery, looking south

Plate 18 Post-excavation view of Trench 276, looking west

Plate 19 Elongated pit [27610] containing partial sheep/goat skeleton and possible Iron Age pottery, looking west

Plate 20 Undated ditch [27611], looking north

Plate 21 Post medieval to modern pit [27602] and undated but probable modern feature [27604], looking northeast

Plate 22 Undated pit [29004], looking south

Plate 23 Undated probable hedge [29503], looking southwest

Plate 24 Possible ditch [29803], looking southwest

Plate 25 Possible ditch [30703], looking east

Appendix 1

METHOD STATEMENT FOR TRIAL TRENCHING
LINCOLN EASTERN BYPASS

1 SUMMARY

1.1 *This document comprises a method statement trial trenching on the proposed route of the Lincoln Eastern Bypass.*

1.2 *The route runs from the limestone plateau down into and across the valley of the River Witham within a rich archaeological landscape.*

1.3 *Evaluation of route options requires a programme of archaeological works, in the first instance comprising non-intrusive surveys – i.e. fieldwalking, metal-detecting and geophysical survey – followed by trial trenching.*

2 INTRODUCTION

2.1 This document comprises a method statement for trial trenching on the proposed route of the Lincoln Eastern Bypass.

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.

3 SITE LOCATION

3.1 The proposed route consists of approximately 8km of dual carriageway between the A15/A158 Wragby Road roundabout running southwards to cross the Witham valley and then climbing again onto the valley side to join the A15 Sleaford Road. A previous route option has already been the subject of archaeological study. The present route diverges westwards south of Washingborough Road, rejoining the previous scheme at the southern end. The redesigned portion of the scheme is 4.5km long and is the subject of the currently proposed archaeological studies.

4 SOILS AND TOPOGRAPHY

4.1 The revised route is confined to the rising ground of the valley side from about 10m to 65m O.D. up onto the dip-slope of the Limestone escarpment. Soils are well drained brashy calcareous fine loamy soils of the Elmton 1 Association developed on the Jurassic limestone (Hodge *et al* 1983, 179).

5 ARCHAEOLOGICAL AND HISTORICAL BACKGROUND

5.1 Many of the known archaeological sites in the area are of prehistoric date with artefact scatters identified by fieldwalking representing domestic/economic activity from the Neolithic to the late Bronze Age. A large barrow cemetery lies just to the

north of the new alignment. Other sites identified by previous geophysical survey may represent field systems or settlements. The River Witham valley bottom was a major focus of prehistoric and later ritual activity and is famous for numerous finds of high status metal artefacts deposited as votive offerings.

5.2 The establishment of the Roman legionary fortress and subsequent *colonia* at Lincoln exerted an influence over a substantial rural hinterland containing a number of important villas, rural settlements, farmsteads and field systems. Sites of Roman date within 200m of the new alignment include several artefact scatters, individual findspots and a small number of features identified in previous trial trenching.

5.3 Lincoln ceased to be the centre of a large urban population in the post-Roman and early Anglo-Saxon period and evidence for continuing settlement in the hinterlands is sparse. By the mid-10th century the town was once again of national importance and archaeological evidence suggests that many of the nucleated villages around the town were established in this period with most major settlements in existence by the 11th of 12th centuries.

6 AIMS AND OBJECTIVES

6.1 The aim of the work will be to identify the extent and character of known and unknown archaeological remains in order to inform the Environmental Statement (ES) to enable an assessment of the significance of the impact of the scheme on any archaeological remains present and to allow further evaluation and/or mitigation measures to be designed.

6.2 The objectives of the trial trenching will be to:

6.2.1 Establish the type of archaeological activity that may be present within the site;

6.2.2 Determine the likely extent of archaeological activity present within the site;

6.2.3 Determine the date and function of the archaeological features present on the site;

6.2.4 Determine the state of preservation of the archaeological features present on the site;

6.2.5 Determine the spatial arrangement of the archaeological features present within the site.

7 SITE OPERATIONS

7.1 <u>Reasoning for this technique</u>

7.1.1 Trial trenching enables the *in situ* determination of the sequence, date, nature, depth, environmental potential and density of archaeological features present on the site.

7.1.2 The full extent of trenching remains to be determined depending on results of initial surveys. It is envisaged that trial trenches will target known sites, features identified by non-intrusive surveys, topographical features and 'blank' areas identified within non-intrusive surveys. Trenches are likely to be 1.2m wide and 20-50m long.

7.2 General considerations

7.2.1 All work will be undertaken following statutory Health and Safety requirements in operation at the time of the evaluation.

7.2.2 The work will be undertaken according to the relevant codes of practise issued by the Institute of Field Archaeologists (IFA), under the management of a Member of the institute (MIFA). Archaeological Project Services is IFA registered organisation no. 21.

7.2.3 Any and all 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 promptly reported to the appropriate coroner's office.

7.3 Methodology

7.3.1 Removal of surfaces and other overburden will be undertaken by mechanical excavator using a toothless ditching bucket. To ensure that the correct amount of material is removed and that no archaeological deposits are damaged, this work will be supervised by Archaeological Project Services. On completion of the removal of the overburden, the nature of the underlying deposits will be assessed by hand excavation before any further mechanical excavation that may be required. Thereafter, the trenches will be cleaned by hand to enable the identification and analysis of the archaeological features exposed.

7.3.2 Mechanical excavation will cease at the first archaeologically significant horizon or when the absence of such horizon has been adequately demonstrated. Any further use of mechanical excavation or change to this methodology shall not be undertaken without the specific permission of the Consultant in consultation with the curator.

7.3.3 Investigation of the features will be undertaken only as far as required to determine their date, form and function. The work will consist of half- or quarter-sectioning of features as required and, where appropriate, the removal of layers. Should features be located which may be worthy of preservation in situ, excavation will be limited to the absolute minimum, (ie

the minimum disturbance) necessary to interpret the form, function and date of the features.

7.3.4 The archaeological features encountered will be recorded on Archaeological Project Services 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.

7.3.5 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 a larger scale.

7.3.6 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.

7.3.7 Throughout the evaluation a photographic record will be compiled in both black and white and colour. The photographic record will consist of:

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

7.3.8 Should human remains be located they will be left in situ and only excavated if absolutely necessary. If exhumation is required, the appropriate Home Office licences will be obtained before the excavation of such remains. In addition, the Local Environmental Health Department, coroner and the police will be informed.

7.3.9 The spoil generated during the investigation will be mounded along the edges of the trial trenches with the top soil being kept separate from the other material excavated for subsequent backfilling.

8 POST EXCAVATION

8.1 Stage 1

8.1.1 On completion of site operations, the records and schedules produced during the evaluation 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.

8.1.2 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.

8.2 Stage 2

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

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

8.3 Stage 3

8.3.1 On completion of stage 2, a report detailing the findings of the evaluation will be prepared.

8.3.2 This will consist of:

- A non-technical summary of the results of the investigation.
- A description of the archaeological setting of the evaluation.
- Description of the topography of the site.
- Description of the methodologies used during the evaluation.
- A text describing the findings of the evaluation.
- A consideration of the local, regional and national context of the evaluation 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 of the archaeological features exposed, and their chronology and setting within the surrounding landscape.
- Specialist reports on the finds from the site.

- Appropriate photographs of the site and specific archaeological features.

9 ENVIRONMENTAL ASSESSMENT

9.1 During the investigation specialist advice will be obtained from an environmental archaeologist. If necessary the specialist will visit the site and will prepare a report detailing the nature of the environmental material present on the site and its potential for additional analysis should further stages of archaeological work be required. The results of the specialist's assessment will be incorporated into the final report.

9.2 Samples will be taken from all waterlogged feature fills of pre-18th century date. Otherwise, samples will be taken from primary and secondary fills of ditches and pits, the level of sampling being appropriate to the content of the individual feature. Samples to characterise the survival of plant remains, molluscs and small faunal remains will be taken from suitable archaeological contexts. The samples will be extracted and recorded in accordance with Murphy & Wiltshire 1994. Bulk samples for small faunal remains will be wet-sieved through 0.5mm collecting meshes.

10 ARCHIVE

10.1 The documentation and records generated during the evaluation 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.

11 PUBLICATION

11.1 A report of the findings of the investigation will be submitted for inclusion in the appropriate local journal. If appropriate, notes or articles describing the results of the investigation will also be submitted for publication in the appropriate national journals: *Proceedings of the Prehistoric Society* for discoveries of prehistoric date; *Britannia* for discoveries of Roman date; and *Medieval Archaeology* and *Journal of the Medieval Settlement Research Group* for medieval and later remains.

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

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12 INSURANCES

12.1 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.

13 COPYRIGHT

13.1 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.

13.2 Licence will also be given to the archaeological curators to use the documentary archive for educational, public and research purposes.

13.3 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.

13.4 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.

14 BIBLIOGRAPHY

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**

Appendix 2

TRENCH AND CONTEXT SUMMARY

Trench	Dimensions	Depth	Notes	Topsoil	Subsoil	Natural	Archaeology
154	-	-	Not opened due to access difficulties	-	-	-	-
155	-	-	Not opened due to access difficulties	-	-	-	-
156	-	-	Not opened due to access difficulties	-	-	-	-
157	-	-	Not opened due to access difficulties	-	-	-	-
158	-	-	Not opened due to access difficulties	-	-	-	-
159	-	-	Not opened due to access difficulties	-	-	-	-
160	-	-	Not opened due to access difficulties	-	-	-	-
161	-	-	Not opened due to access difficulties	-	-	-	-
162	45m x 1.3m	0.30m	Sample trench	16201 Friable dark greyish brown sandy silt with occasional limestone fragments	Absent	16202 Loose mid yellowish red sand and Cornbrash, occasionally iron-rich	None
163	10m x 1.3m	0.55m	Pit like anomaly	16301 Friable dark greyish brown sandy silt with occasional limestone	16302 Mid brownish red sand with occasional limestone (colluvium)	16303 Firm mid greyish red sand and Cornbrash	None Colluvium absent in westernmost 4m of trench – variation may reflect geophysical anomaly
164	20m x 1.3m	0.36m	Ditch like anomalies	16401 Friable dark greyish brown sandy silt with occasional limestone	Absent	16402 Soft mid brownish red sand and Cornbrash	None Variation in composition of natural at 8m to 13m from southern end of trench may reflect geophysical anomalies
165	10m x 1.3m	0.65m	Pit like anomaly	16501 Dark greyish brown sandy silt with occasional limestone	16502 Soft mid brownish red sand with occasional limestone, occasionally iron-rich (colluvium)	16503 Soft mid reddish brown sand and Cornbrash	None No clear indication as to cause of geophysical anomaly
166	10m x 4m	0.30m	Pit like anomalies	16601 Friable dark greyish brown sandy silt	Absent	16602 Soft mid yellowish red silty sand and	None No clear indication as to cause of geophysical anomalies

Trench	Dimensions	Depth	Notes	Topsoil	Subsoil	Natural	Archaeology
				with occasional limestone		Cornbrash	
167	20m x 1.3m	0.43m	Pit like anomaly	16701 Soft mid greyish brown sandy silt	16702 Loose mid orange brown silty sand with occasional limestone (colluvium)	Due to pit cutting into colluvium natural not exposed	Pit 16703 – Amorphous feature,1.50m by >0.33m and 0.50m deep with moderately steep sides and concave base Fill 16704 – Loose mid orange grey clayey sand with occasional iron-rich stones. Environmental sample no. 159 Pit does not correlate closely to geophysical anomaly. No clear indication as to cause of linear geophysical anomaly.
168	20m x 1.3m	0.38m	Ditch and pit like anomalies	16802 Friable mid greyish brown sandy silt with occasional limestone	Absent	16801 Loose light brownish red sand and Cornbrash	Ditch 16804 – aligned east-west, 0.92m wide and 0.35m deep with steep sides and gently concave base. Fill 16803 – Friable mid greyish red sandy silt with moderately frequent limestone, rare charcoal flecks and occasional shell flecks and fragments. Environmental sample no. 3 Position of ditch matches location of linear geophysical anomaly. No clear indication as to cause of additional geophysical anomalies.
169	20m x 1.3m	0.35m	Pit like and natural anomalies	16901 Soft dark brown clayey sandy silt with *c.*15% limestone fragments	Absent	16902 Loose patchy mid reddish brown slightly clayey sand and mid reddish brown to yellowish brown and Cornbrash in clayey sand matrix	None Patches of stoneless natural correlates to position of pit like and natural geophysical anomalies.
170	20m x 1.3m	0.46m	Ditch like anomalies	17001 Soft dark greyish brown sandy silt with occasional limestone	Absent	17002 Soft mid reddish brown sandy silt and Cornbrash	None No clear indication as to cause of geophysical anomalies
171	25m x 3m	0.86m	Ditch and pit like anomalies Trench partially deepened at request of consultant and curator	17101 Soft dark greyish brown sandy silt with occasional limestone	Absent	17102 Soft mid reddish brown clayey sand and Cornbrash, increasingly stony to east end of trench and with increasing depth	None No clear indication as to cause of geophysical anomalies although decreased stoniness to west may reflect large ditch-like anomaly
172	30m x 1.3m	0.55m	Ditch like anomalies	17201 Soft dark greyish brown sandy silt	Absent	17202 Soft mid brownish red sandy silt and	None No clear indication as to cause of geophysical anomalies

Trench	Dimensions	Depth	Notes	Topsoil	Subsoil	Natural	Archaeology
			Trench partially deepened at request of consultant and curator	with occasional limestone		Cornbrash	
173	30m x 1.3m	0.57m	Ditch like and natural anomalies	17301 Soft dark greyish brown clayey silt with occasional limestone	Absent	17302 Soft mid yellowish red sandy silt and Cornbrash	None No clear indication as to cause of geophysical anomalies
174	10m x 1.3m	0.38m	Ditch like anomaly	17401 Soft dark brown sandy clayey silt with *.c.*15% limestone	Absent	17402 Loose mid reddish brown to light yellow Cornbrash in silty clay matrix with clayey patches	None Geophysical anomalies would appear to the be the result of variation in natural, although this variation was not clearly defined
175	10m x 1.3m	0.39m	Ditch/gully like anomaly	17501 Soft dark brown slightly sandy clayey silt with *c.*15% limestone	Absent	17502 Loose mid reddish brown Cornbrash in sandy silt matrix	Possible pit or ditch terminus 17503 – Amorphous feature >1.60m by 1.40m and 0.32m deep with moderately steep sides and concave base Fill 17504 – Soft mid reddish brown with occasional grey mottles and streaks sandy silt with occasional limestone and rare burnt limestone. Position of possible feature matches location of geophysical anomaly
176	30m x 1.3m	0.54m	Ditch like anomalies	17601 Soft dark greyish brown clayey sandy silt with frequent limestone	17606 Firmish mid reddish orange to olive brown clayey silty sand with moderately frequent limestone (subsoil or colluvium)	17607 Loose mid orange brown Cornbrash and clayey sand	Possible ditch 17603 – Linear feature, aligned east-west, 1.30m wide and 0.22m deep with steep to gently sloping sides and uneven base Fill 17602 – Firmish mid olive brown to reddish clayey silty sand with moderately frequent limestone. Environmental sample no. 41 Possible pit 17605 – Amorphous feature with possible linear trend, 1.30m by 4.40m and 0.24m deep with steep to gently sloping sides and uneven base Fill 17604 – Firmish mid reddish to olive brown clayey silty sand with moderately frequent limestone. Environmental sample no. 42 Unstratified finds from trench 17608 Positions of possible features seem to match location of geophysical anomalies.
177	10m x 1.3m	0.37m	Pit like anomalies	17701	Absent	17702	Pit 17703 – Feature not fully exposed in plan, 4.40m by >1.30m

Trench	Dimensions	Depth	Notes	Topsoil	Subsoil	Natural	Archaeology
				Soft mid grey silty clay with occasional limestone		Soft mid orange brown Cornbrash and sandy clay	and 0.64m deep with steepish sides and concave base Fill 17704 – Soft mid orange brown clayey silt with occasional limestone and rare burnt limestone. Environmental sample no. 4 Finds from surface of pit 17705 Position of pit matches location of geophysical anomalies.
178	20m x 1.3m	0.38m	Ditch like and ridge and furrow anomalies and area of magnetic debris Extended by a further 20m x 1.3m to west and 20m x 1.3m to south	17801 Soft dark brown slightly sandy clayey silt with *c.*20% limestone	Absent	17802 Loose mid reddish brown and light yellowish brown mottled Cornbrash in sandy clay matrix with clay patches containing chalk-like limestone fragments	Initial trench Ditch 17806 – aligned northwest-southeast, 1.38m wide and 0.15m deep with steepish to gently concave sides and flattish base Fill 17807 – soft darkish brown slightly sandy clayey silt with *c.*20% limestone and moderately frequent burnt limestone, occasional charcoal flecks and occasional snail shells. Environmental sample no. 120 Post hole 17803 – Oval feature 0.55m by 0.34m and 0.15m deep with steep to gently concave sides and gently concave to flattish base with stones apparently placed at base forming post pad Fill 17804 – soft darkish brown sandy clayey silt with *c.*20% limestone and occasional charcoal flecks. Environmental sample no. 119 Possible post hole 17808 – oval to amorphous feature, 0.52m by 0.40m and 70mm deep with moderately steep sides where evident and flattish base Fill 17809 – soft darkish brown slightly sandy and clayey silt with frequent limestone fragments and occasional mottles of redeposited natural. Environmental sample no. 121 Western extension Post hole 17810 – circular feature, 0.30m wide and 0.11m deep with concave sides and base Fill 17811- soft mid brown silty clay with frequent limestone, some possibly serving as packing stones Environmental sample no. 122 Possible post hole 17813 – circular feature, 0.40m wide and 90mm deep with concave base Fill 17812 – soft mid reddish-brown clayey silt with moderately frequent limestone and rare charcoal flecks.

Trench	Dimensions	Depth	Notes	Topsoil	Subsoil	Natural	Archaeology
							Environmental sample no. 123 Southern extension Post hole 17815- sub-circular feature, >0.36m wide and 0.22m deep with steep to near vertical sides and flattish uneven base Fill 17814 – firmish mid slightly olive brown clayey sandy silt with moderately frequent limestone Environmental sample no. 124 Ditch 17816 – aligned north-south, 0.62m wide and 0.32m deep with steep to gently concave sides and gently concave base. Fill 17817 – loose darkish brown slightly clayey and sandy silt with frequent limestone, occasional burnt limestone, occasional charcoal flecks and occasional mussel shell fragments. Environmental sample no.145 17805 unstratified finds from trench. Northeast-southwest ditch correlates to ditch like anomaly. North-south ditch correlates to linear anomaly previously interpreted as being of possible agricultural origin. Post holes not detected during geophysical survey, although may reflect area of magnetic debris.
179	30m x 1.3m	0.35m	Sample trench	17901 Soft dark brown slightly sandy clayey silt with *c.*20% limestone	Absent	17902 Loose mid reddish brown with yellowish brown mottles Cornbrash in sandy clay matrix	None
180	20m x 5m	0.40m	Pit like anomalies	18001 Soft dark brown slightly sandy clayey silt with *c.*20% limestone	Absent	18002 Loose mid reddish brown and light yellowish brown mottled Cornbrash in sandy clay matrix	None No clear indication as to cause of geophysical anomalies although variation in natural may be responsible
181	20m x 1.3m	0.41m	Ditch like and ridge and furrow anomalies and are of magnetic debris	18101 Soft to sticky dark brown clayey sandy silt with frequent limestone	Absent	18110 Loose mid orange brown Cornbrash with clayey sand	Ditch 18103 – aligned east-west, 0.80m wide and 0.19m deep with moderately to gently sloping sides and uneven base Fill 18102 – firmish mid olive brown clayey sand with frequent limestone and occasional charcoal flecks. Environmental sample no. 39 Ditch 18109 – aligned east-west, 0.40m wide and 0.10m deep with gently sloping sides and uneven to flattish base

Trench	Dimensions	Depth	Notes	Topsoil	Subsoil	Natural	Archaeology
							Fill 18108 – Firmish mid olive brown clayey sand with moderately frequent limestone and occasional charcoal flecks. Ditch 18105 – aligned east-west, 1.30m wide and 80mm deep with steep sides and uneven base Fill 18104 – firmish mid slightly olive brown clayey sand with moderately frequent limestone and occasional charcoal flecks. Environmental sample no. 40 Possible post hole 18107 – sub-circular feature , 0.24m wide and 80mm deep with steepish sides and concave base Fill 18106 – firmish mid olive brown clayey sand with moderately frequent limestone East-West ditch correlates to ditch like anomaly. Post hole and southern ditch not detected during geophysical survey, although may reflect area of magnetic debris.
182	20m x 1.3m	0.45m	Ditch like anomaly	18201 Soft mid greyish brown silty clay with occasional limestone	Absent	18202 Soft light brownish yellow silty clay and Cornbrash	Pit 18204 – feature extending beyond edge of trench, 2.15m by >0.30m wide and 0.15m deep with gently concave base Fill 18203 – soft mid greyish brown clayey silt with moderately frequent limestone and rare charcoal flecks Environmental sample no. 158 Ditch 18205 – aligned east-west, 0.48m wide and 0.10m deep with concave profile Fill 18206 – soft mid reddish brown silty clay with frequent limestone Ditch 18207 – aligned east-west, 1m wide and 0.36m deep with steep sides and flattish to gently concave base Fill 18208 – soft mid brown silty clay with moderately frequent limestone Environmental sample no. 157 Ditch at centre of trench correlates to ditch like anomaly. Further ditch to south not identified in geophysics. Pit to north not identified by geophysics but within area interpreted as magnetic debris.
183	20m x 5m	0.30m	Pit like anomalies	18301 Soft dark greyish brown clayey silt with moderately frequent limestone	Absent	18302 Loose light greyish yellow with red patches Cornbrash and clayey silt	None No clear indication as to cause of geophysical anomalies
184	20m x 1.3m	0.35m	Ditch like anomaly	18401	Absent	18402	None

Trench	Dimensions	Depth	Notes	Topsoil	Subsoil	Natural	Archaeology
				Mid greyish brown silty clay with occasional limestone		Soft light brown silty clay and Cornbrash	Ditch like anomaly correlates to position of stoneless band within natural
185	10m x 1.3m	0.48m	Ditch like and ridge and furrow anomalies	18501 Soft dark browns slightly sandy clayey silt with *c.*20% limestone	Absent	18502 Loose mid reddish brown with yellowish patches Cornbrash in silty sandy and clayey matrix	Pit 18503 – elongated oval feature, >0.85m by 0.50m and 0.10m deep with gently concave base Fill 18504 – soft, mid slightly pinkish greyish brown slightly sandy clayey silt with frequent limestone and occasional charcoal flecks Environmental sample no. 118 Excavated feature may correlate to position of geophysical anomaly interpreted as being of agricultural origin. No clear indication as to cause of ditch like anomaly at west of trench.
186	10m x 1.3m	0.30m	Ditch/gully like anomaly	18601 Mid greyish brown silty clay with occasional limestone	Absent	18602 Loose light brown silty clay and Cornbrash 18603 Loose mid reddish brown silty clay and Cornbrash	None Change in natural correlates to ditch/gully like geophysical anomaly.
187	30m x 1.3m	0.35m	Sample trench	18701 Soft mid greyish brown silty clay with occasional limestone	Absent	18702 Soft mid yellowish brown sandy clay and Cornbrash	None
188	10m x 1.3m	0.34m	Pit like and earthwork-like anomalies	18801 Soft dark brown slightly sandy clayey silt with *c.*20% limestone	Absent	18802 Loose mid reddish brown Cornbrash in silty clayey sand matrix	None No clear indication as to cause of geophysical anomaly
189	30m x 1.3m	0.35m	Sample trench	18901 Soft dark brown slightly sandy clayey silt with *c.*20% limestone	Absent	18902 Loose mid reddish brown Cornbrash in silty clayey sand matrix	None
190	30m x 1.3m	0.40m	Sample trench	19001 Soft mid greyish brown silty clay with occasional limestone	Absent	19002 Soft mid orange brown silty clay and Cornbrash	None
191	10m x 4m	0.40m	Pit like anomalies	19101 Soft dark brown slightly sandy clayey silt with *c.*15% limestone	Absent	19102 Loose mid reddish to yellowish brown Cornbrash with amorphous patches of	None Pit like geophysical anomalies seem to correspond to variation within natural

Trench	Dimensions	Depth	Notes	Topsoil	Subsoil	Natural	Archaeology
						reddish silty clayey sand	
192	10m x 1.3m	0.40m	Ditch/gully like anomaly	19201 Friable mid greyish brown clayey silt with occasional limestone	Absent	19202 Loose light brown silty clay and Cornbrash with patch of mid reddish brown clay	None Ditch/gully like geophysical anomaly likely to correspond to patch of stoneless material in natural
193	20m x 1.3m	0.34m	Ditch/gully like anomalies	19301 Soft dark brown slightly sandy clayey silt with *c.*15% limestone	Absent	19302 Loose mid reddish brown silty clayey sand and Cornbrash bands	None Ditch/gully like geophysical anomalies likely to correspond to patches of stoneless natural
194	30m x 1.3m	0.32m	Sample trench	19401 Soft dark brown sandy and silty clay with *c.*15% limestone	Absent	19402 Loose mid reddish brown silty clayey sand and Cornbrash	None
195	20m x 1.3m	0.35m	Sample trench	19501 Soft dark greyish brown clayey silt with occasional limestone	Absent	19502 Loose light brown sandy clay and Cornbrash	None
196	20m x 1.3m	0.35m	Ditch like, ridge and furrow and natural anomalies	19601 Soft dark brown slightly sandy clayey silt with *c.*15% limestone	Absent	19602 Soft mid reddish brown slightly sandy and clayey silt and Cornbrash patches	None Unstratified finds from trench 19601 No clear indication as to cause of geophysical anomalies
197	20m x 1.3m	0.35m	Ditch like anomalies	19701 Firm dark greyish brown sandy silt with occasional limestone	19702 Soft mid reddish brown silty sand with occasional coal and limestone	19703 Firm mid yellow silty sand and Cornbrash at south of trench 19704 Loose mid orange brown silty sand and Cornbrash at centre of trench 19705 Firm mid reddish brown clayey sand at north of trench	None Variation in natural may explain ditch like anomalies
198	25m x 1.5m	0.30m	Sample trench	19801 Soft dark brown clayey silt with	Absent	19802 Mid orange brown silty clay and	None

Trench	Dimensions	Depth	Notes	Topsoil	Subsoil	Natural	Archaeology
				occasional limestone		Cornbrash	
199	15m x 5m	0.46m	2 pit like anomalies	19901 Friable dark greyish brown sandy silt with occasional limestone	Absent	19902 Soft mid brownish orange sandy clay and Cornbrash	None No clear indication as to cause of geophysical anomalies
200	26m x 1.3m	0.33m	Sample trench	20001 Soft dark brown clayey silt with occasional limestone	Absent	20002 Mid brownish orange sandy clay and Cornbrash	None
201	26m x 1.3m	0.43m	Sample trench	20101 Loose dark greyish brown sandy silt with occasional limestone	Absent	20102 Loose mid brownish orange sandy clay and Cornbrash	None
202	18m x 1.3m	0.41m	Ditch like anomaly	20201 Soft mid greyish brown sandy silt with occasional limestone	Absent	20202 Loose mid brownish orange sandy clay and Cornbrash	None Somewhat stoneless band in natural probable cause of geophysical anomaly
203	30m x 1.3m	0.34m	Sample trench	20301 Soft dark brown slightly clayey silt with occasional limestone	Absent	20302 Soft mid orange-brown clayey sand with Cornbrash	None
204	10m x 1.4m	0.30m	Ditch/gully like anomaly	20401 Soft dark brown clayey silty sand with frequent limestone	Absent	20402 Soft mid orange-brown clayey sand and occasional limestone forming band close to centre of trench 20403 Loose mid brownish orange Cornbrash	None Natural band 20402 towards centre of trench probable cause of ditch like geophysical anomaly
205	20m x 5m	0.34m	Ditch/gully like anomaly	20501 Soft dark brown slightly clayey silt with frequent limestone	Absent	20502 Loose mid orange brown clayey sand and Cornbrash	None No clear indication as to cause of geophysical anomalies
206	30m x 1.3m	0.29m	Sample trench	20601 Soft dark greyish brown sandy silt with occasional	Absent	20602 Loose mid brownish orange sandy clay with Cornbrash	None

Trench	Dimensions	Depth	Notes	Topsoil	Subsoil	Natural	Archaeology
				limestone			
207	30m x 1.3m	0.35m	Ditch like anomalies	20701 Soft dark brown clayey silty sand with frequent limestone	Absent	20702 Loose orange brown Cornbrash with orange brown clayey sand patches	None No clear indication as to cause of geophysical anomalies although sandy band in natural may be the cause of the larger of the ditch like anomalies
208	30m x 1.3m	0.33m	Sample trench	20801 Soft dark greyish brown sandy silt with occasional limestone	Absent	20802 Loose mid brownish orange clayey sand with Cornbrash	None
209	15m x 5m	0.30m	Pit like anomaly	20901 Soft dark brown silty sand with frequent limestone	Absent	20902 Loose mid orange-brown Cornbrash with sand patches	None No clear indication as to cause of geophysical anomalies
210	30m x 1.3m	0.30m	Sample trench	21001 Soft dark greyish brown sandy silt with occasional limestone	Absent	21002 Loose mid brownish orange clayey sand with Cornbrash	None
211	20m x 1.3m	0.26m	Double ditch anomaly	21101 Soft dark greyish brown sandy silt with occasional limestone	Absent	21104 Firm mid brownish red clayey sand and Cornbrash	Ditch 21103 – aligned east-west, 5.70m wide and 1.18m deep (lower 0.26m not excavated, depth established by auger), with steep sides Fill 21102 – firm mid brownish red silty sand with occasional clay and occasional limestone Environmental sample no. 1 Ditch corresponds to southernmost of two linear anomalies. Reduced stone inclusion in natural at north of trench may correspond to the second anomaly
212	18m x 1.3m	0.35m	Pit like anomalies	21201 Soft dark greyish brown sandy silt with occasional limestone	Absent	21202 Loose mid brownish orange clayey sand with Cornbrash	None No clear indication as to cause of geophysical anomalies
213	10m x 3m	0.34m	Pit like anomalies	21301 Soft dark greyish brown sandy silt with occasional limestone	Absent	21302 Loose mid brownish orange clayey sand with Cornbrash	None No clear indication as to cause of geophysical anomalies
214	26m x 1.3m	0.34m	Sample trench	21401 Soft dark greyish brown sandy silt	Absent	21402 Loose mid brownish orange clayey sand	None

Trench	Dimensions	Depth	Notes	Topsoil	Subsoil	Natural	Archaeology
				with occasional limestone		and Cornbrash	
215	30m x 1.3m	0.32m	Sample trench	21501 Soft dark greyish brown sandy silt with occasional limestone	Absent	21502 Loose mid brownish orange clayey sand with Cornbrash	None
216	18m x 1.3m, later enlarged	0.30m	Ridge and furrow anomalies	21601 Soft dark greyish brown sandy silt with occasional limestone	Absent	21602 Loose mid brownish orange clayey sand with Cornbrash	Ditch 21604 – aligned roughly north south where excavated and curvilinear, continuing as 21608 to north with steep to steepish sides and gently concave base. Edges of ditch extremely difficult to define, especially at upper (machined) surface Fill 21603 – reddish brown sandy silt with rare charcoal flecks, frequent limestone and rare shell fragments Environmental sample no. 153 Fill 21606 – upper fill of ditch 21608 – Softish mid orange-brown clayey sand with moderately frequent limestone (largely indistinguishable from natural deposits) Fill 21607 – Soft mid orange brown limestone with clayey sand with occasional snail shell Unstratified finds from trench 21605 This ephemeral probable ditch was not identified in geophysical survey, although excavated portion follows similar alignment with anomalies identified as being agricultural in origin.
217	21m x 1.3	0.28m	Ridge and furrow anomalies	21701 Soft dark brown slightly clayey sandy silt with occasional limestone	Absent	21702 Loose mid reddish brown sand and Cornbrash with sandy patches	None No clear indication as to cause of geophysical anomalies
218	29.6m x 1.3m	0.30m	Sample trench	21801 Soft dark brown slightly clayey sandy silt with occasional limestone	Absent	21802 Loose light to mid reddish brown sand and Cornbrash	None
219	10m x 1.4m	0.40m	Pit like anomaly	21901 Soft dark to dark brown silt with occasional clay and limestone	Absent	21902 Loose light to mid reddish brown slightly silty sand and Cornbrash	None No clear indication as to cause of geophysical anomaly
220	20m x 1.3m	0.32m	Ditch like anomaly	22001 Soft dark brown slightly clayey sandy silt with occasional	Absent	22002 Loose light yellowish brown to reddish brown silty sand and	None No clear indication as to cause of geophysical anomaly

Trench	Dimensions	Depth	Notes	Topsoil	Subsoil	Natural	Archaeology
				limestone		Cornbrash	
221	30m x 1.3m	0.30m	Sample trench	22101 Soft dark brown clayey sandy silt with occasional limestone	Absent	22102 Loose mottled light grey and pinkish brown Cornbrash and clayey silt 22103 Loose light to mid reddish browm silty sand 22104 Loose light grey and reddish-brown mottled Cornbrash and sand	None
222	30m x 1.3m	0.22m	Sample trench	22201 Soft dark brown slightly clayey and sandy silt with occasional limestone	Absent	22202 Firm light to mid pinkish-brown slightly sandy Cornbrash 22203 Loose light to mid brown slightly clayey Cornbrash	None
223	10m x 3.6m	0.26m	Pit like anomalies	22301 Soft dark brown slightly clayey sandy silt with moderately frequent limestone	Absent	22302 Firm light to mid yellowish brown to reddish brown Cornbrash	None No clear indication as to cause of geophysical anomalies
224	8m x 1.3m	0.38m	Gully like anomaly	22401 Soft dark brown sandy and clayey silt	Absent	22402 Loose mid orange brown Cornbrash	None No clear indication as to cause of geophysical anomaly
225	30m x 1.3m	0.35m	Sample trench	22501 Firm dark brown silty clay with frequent limestone	Absent	22502 Loose mid orange brown clayey sand and Cornbrash	None
226	30m x 1.3m	0.30m	Sample trench	22601 Firm dark brown silty clay with occasional limestone	Absent	22602 Firm mid orange brown silty clay and Cornbrash	None
227	30m x 1.3m	0.30m	Sample trench	22701 Firm dark brown silty clay with moderately frequent	Absent	22702 Firm light yellowish brown Cornbrash 22703	None

Trench	Dimensions	Depth	Notes	Topsoil	Subsoil	Natural	Archaeology
				limestone		Soft mid orange brown clayey silt and Cornbrash 22704 Firm mid orange brown silty clay with frequent limestone	
228	20m x 1.3m	0.90m	Pit like anomalies	22801 Firm dark brown silty clay with occasional limestone	Absent	22802 Loose mid orange brown sandy silt and Cornbrash	None No clear indication as to cause of geophysical anomalies
229	30m x 1.3m	0.80m	Sample trench	22901 Firmish dark brown sandy clay with occasional limestone	22902 Mid reddish brown sandy clay with occasional limestone (colluvium)	22903 Calcareous gravel	None
230	5m x 5m	0.31m	Pit like anomaly	23001 Soft dark brownish grey sandy silt with occasional limestone	Absent	23002 & 23003 Soft mid brownish orange sandy clay and Cornbrash	None No clear indication as to cause of geophysical anomaly
231	30m x 1.3m	0.35m	Sample trench	23101 Soft dark brown clayey silt with moderately frequent limestone	Absent	23102 Soft mid brownish orange clayey sand and Cornbrash	None
232	30m x 1.2m	0.30m	Sample trench	23201 Soft mid to dark brown sandy silty clay with frequent limestone	Absent	23202 Loose mid reddish to yellowish brown Cornbrash with occasional clay and sand lenses	None
233	30m x 1.2m	0.35m	Sample trench	23301 Soft mid to dark brown sandy silty clay with frequent limestone	Absent	23302 Loose mid reddish yellowish brown Cornbrash with occasional sandy clay lenses	None
234	30m x 1.2m	0.35m	Sample trench	23401 Firmish mid to dark brown sandy silty clay with frequent limestone	Absent	23402 Loose mid orange Cornbrash with patches of mid orange sandy clay	None

Trench	Dimensions	Depth	Notes	Topsoil	Subsoil	Natural	Archaeology
						23403 Soft to firm mid orange sandy clay and clayey sand	
235	30m x 1.2m	0.40m	Sample trench	23501 Soft dark brown sandy silty clay with frequent limestone	Absent	23502 Loose mid reddish brown Cornbrash with sandy clay matrix	None
236	30m x 1.2m	0.35m	Sample trench	23601 Soft dark brown sandy silty clay with frequent limestone	Absent	23602 Loose mid reddish brown Cornbrash with sandy clay matrix	None
237	30m x 1.2m	0.40m	Sample trench	23701 Soft dark brown sandy silty clay with frequent limestone	Absent	23702 Loose mid reddish brown Cornbrash with sandy clay matrix	None
238	10m x 1.2m	0.40m	Ditch like anomaly	23801 Loose dark brown sandy clayey silt with frequent limestone	Absent	23802 Loose to firm mid orange to greyish brown Cornbrash with sandy clay patches	None No clear indication as to cause of geophysical anomaly
239	10m x 1.3m	0.40m	Gully like anomaly	23901 Soft dark brown sandy silty clay and limestone fragments	Absent	23902 Loose mid reddish Cornbrash in silty clay matrix	None No clear indication as to cause of geophysical anomaly
240	10m x 1.2m	0.35m	Gully like anomaly	24001 Soft dark brown sandy silty clay with limestone	Absent	24002 Loose mid reddish brown Cornbrash with silty clay matrix	None No clear indication as to cause of geophysical anomaly
241	30m x 1.3m	0.40m	Sample trench	24101 Soft dark brown sandy clayey silt with frequent limestone	Absent	24102 Cornbrash and orange sandy clay patches	None
242	10m x 1.2m	0.35m	Gully like anomaly	24201 Soft dark brown sandy silty clay and limestone	Absent	24202 Loose Cornbrash and mid red sandy clay patches	None No clear indication as to cause of geophysical anomaly
243	10m x 1.3m	0.30m	Pit like anomaly	24301 Soft dark brown	Absent	24302 Firmish mid greyish	None

Trench	Dimensions	Depth	Notes	Topsoil	Subsoil	Natural	Archaeology
				sandy clayey silt with frequent limestone		brown Cornbrash and orange brown sandy silt patches	No clear indication as to cause of geophysical anomaly, though possibly due to variation in natural
244	30m x 1.2m	0.40m	Sample trench	24401 Soft dark brown sandy silty clay with frequent limestone	Absent	24402 Loose mid reddish brown sandy clay with limestone	None
245	10m x 5m	0.40m	Pit like anomalies	24501 Soft dark brown sandy silty clay with frequent limestone	Absent	24502 Loose Cornbrash with reddish brown sandy clay matrix and patches	None No clear indication as to cause of geophysical anomaly, though possibly due to variation in natural
246	30m x 1.3m	0.36m	Sample trench	24601 Soft dark brown sandy silty clay with frequent limestone	Absent	24602 Loose Cornbrash with reddish brown sandy clay matrix and patches	None
247	30m x 1.2m	0.40m	Ditch like anomalies	24701 Soft dark brown sandy silty clay with frequent limestone	Absent	24702 Loose Cornbrash with mid red sandy clay matrix and patches	None Natural variation probable cause of ditch like geophysical anomalies
248	9m x 6m	0.40m	Pit and ditch like anomalies	24801 Friable dark brown sandy silt with frequent limestone	Absent	24802 Loose Mid yellowish brown Cornbrash	None No clear indication as to cause of geophysical anomalies
249	20m x 1.3m	0.45m	Gully like anomalies	24901 Soft dark brown silt with frequent limestone	24902 Soft mid greyish-brown silt with frequent limestone	24903 Loose light brown Cornbrash with silty sand	None Natural variation probable cause of ditch like geophysical anomaly at north of trench. No clear indication as to cause of ditch like geophysical anomaly at south of trench.
250	19m x 1.3m	0.30m	Sample trench	25001 Friable dark orange brown sandy clayey silt with frequent limestone	Absent	25002 Friable mid orange Cornbrash	None
251	10m x 5m	0.40m	Pit like anomalies	25101 Soft dark brown clayey silt with frequent limestone	Absent	25102 Loose mid reddish brown clayey silt and Cornbrash	None Natural variation probable cause of ditch like geophysical anomalies
252	15m x 1.3m	0.30m	Ditch like anomaly	25201 Friable dark orange brown sandy clayey	Absent	25202 Loose mid orange Cornbrash	None Natural variation probable cause of ditch like geophysical

Trench	Dimensions	Depth	Notes	Topsoil	Subsoil	Natural	Archaeology
				silt with frequent limestone			anomaly
253	10m x 5m	0.36m	Pit and gully like anomalies	25301 Soft dark brown clayey silt with frequent limestone	Absent	25302 Loose mid orange brown clayey silt and Cornbrash	None No clear indication as to cause of geophysical anomalies
254	20m x 1.3m	0.35m	Ditch like anomaly	25401 Friable dark orange brown sandy silt with frequent limestone	Absent	25402 Loose mid orange Cornbrash	None Natural variation probable cause of ditch like geophysical anomaly
255	15m x 1.3m	0.40m	Pit like anomaly	25501 Soft dark brown silty clay with occasional limestone	Absent	25502 Soft mid orange brown silty sand and Cornbrash patches	None No clear indication as to cause of geophysical anomalies, but may be due to natural variation.
256	20m x 1.3m	0.33m	Pit like anomaly	25601 Friable mid orange brown slightly clayey sandy silt with frequent limestone	Absent	25602 Friable mid orange Cornbrash	None No clear indication as to cause of geophysical anomaly
257	27m x 1.3m	0.30m	Gully like anomalies	25701 Soft dark brown clayey silt with moderately frequent limestone	Absent	25702 Loose mid orange brown sandy silt and Cornbrash	None No clear indication as to cause of geophysical anomalies
258	10m x 1.3m	0.30m	Pit like anomaly	25801 Firmish mid brown clayey sand with frequent limestone	Absent	25802 Firmish mid orange clayey sand with moderately frequent limestone 25803 Cornbrash	None Natural variation probable cause of ditch like geophysical anomaly
259	27m x 1.3m	0.30m	Ditch/gully like anomalies	25901 Soft dark brown clayey silt with moderately frequent limestone	Absent	25902 Soft mid orange brown silty clay and Cornbrash 25903 Soft light greyish brown sitly clay with moderately frequent limestone	None Natural variation probable cause of ditch/gully like geophysical anomalies

Trench	Dimensions	Depth	Notes	Topsoil	Subsoil	Natural	Archaeology
260	10m x 1.3m	0.30m	Gully like anomaly	26001 Firmish dark brown clayey sand with frequent limestone	Absent	26002 Loose mid orange brown Cornbrash with sand patches	None No clear indication as to cause of geophysical anomaly
261	27m x 1.3m	0.30m	Sample trench	26101 Soft dark brown clayey silt with moderately frequent limestone	Absent	26102 Soft mid orange brown silty clay and Cornbrash	None
262	30m x 1.3m	0.30m	Sample trench	26201 Firmish mid brown clayey sand with frequent limestone	Absent	26202 Firm orange clayey sand 26203 Loose Cornbrash	None
263	10m x 1.3m	0.35m	Pit like anomaly	26301 Soft mid brown clayey silt with occasional limestone	Absent	26302 Soft mid orange brown silty clay and Cornbrash. 26303 Soft mid orange brown silty sand with occasional limestone	None Natural variation probable cause of pit like geophysical anomaly
264	17m x 1.3m	0.35m	Ditch/gully like anomalies	26401 Friable mid brown sandy silt with occasional limestone	Absent	26402 Friable mid reddish brown clayey sand with moderately frequent limestone	None Natural variation probable cause of ditch/gully like geophysical anomalies
265	20m x 1.3m	0.30m	Ditch/gully like anomalies	26501 Soft mid brown clayey sand with frequent limestone	Absent	26502 Firmish mid orange clayey sand 26503 Loose yellowish brown Cornbrash	None Natural variation probable cause of ditch/gully like geophysical anomalies
266	15m x 1.3m	0.35m	Gully like anomaly	26601 Loose mid brown sandy silt with occasional limestone	Absent	26602 Friable mid reddish brown clayey sand and limestone	None No clear indication as to cause of geophysical anomaly
267	30m x 1.3m	0.30m	Ditch/gully like anomalies	26701 Soft dark brown clayey sand with frequent limestone	Absent	26702 Firmish mid orange clayey sand 26703 Loose mid orange Cornbrash	None Natural variation probable cause of ditch/gully like geophysical anomalies
268	10m x 5m	0.50m	Pit like anomaly	26801	Absent	26802	None

Trench	Dimensions	Depth	Notes	Topsoil	Subsoil	Natural	Archaeology
				Soft dark brown sandy silt with occasional limestone		Soft mid reddish brown clayey sand and limestone	No clear indication as to cause of geophysical anomaly
269	30m x 1.3m	0.40m	Sample trench	26901 Soft dark brown clayey sandy silt with frequent limestone	Absent	26902 Loose mid reddish brown Cornbrash with clayey sand patches	None
270	15m x 5m	0.30m	Pit like and ridge and furrow anomalies	27001 Soft darkish brown slightly clayey and sandy silt whit moderately frequent limestone	Absent	27002 Soft to loose mid reddish-brown Cornbrash with clayey sand matrix and patches	None No clear indication as to cause of geophysical anomaly
271	20m x 1.3m	0.70m	Ditch like and ridge and furrow anomalies	27101 Firm mid to dark brown clayey sandy silt	27102 Soft mid to light slightly reddish orange brown clayey sand with moderately frequent black mineral flecks (colluvium)	27103 Loose light yellow Cornbrash with clayey sand	None Ditch like geophysical anomaly possibly relates to field drain
272	-	-	Not opened to preserve cover crop	-	-	-	?
273	-	-	Not opened to preserve cover crop	-	-	-	?
274	30m x 1.3m	0.26m	Ditch/ gully like anomalies	27401 Soft dark brown slightly sandy and clayey silt with moderately frequent limestone fragments	Absent	27402 Soft to lose mid reddish-brown Cornbrash with clayey sand matrix and patches	None No clear indication as to cause of geophysical anomaly
275	15m x 5m	0.30m	Pit like anomalies	27501 Soft dark brown clayey sandy silt with frequent limestone	Absent	27502 Loose mid to light reddish brown Cornbrash and clayey sand patches	None No clear indication as to cause of geophysical anomaly
276	20m x 1.3m	0.58m	Ditch like and ridge and furrow anomalies	27601 Soft dark brown slightly sandy and	Absent	27606 Soft to loose mid reddish brown	Ditch 27611 – aligned north-south, 1.37m wide and 0.37m deep with concave steep to moderately steep sides and flattish irregular base

Trench	Dimensions	Depth	Notes	Topsoil	Subsoil	Natural	Archaeology
				clayey silt with occasional limestone		slightly clayey silty sand and Cornbrash	Primary fill 27612 – Soft mid brown clayey silt with occasional limestone Upper fill 27613 – Soft mid greyish brown sandy silt with occasional limestone Environmental sample no. 5 Pit 27610 – Elongated oval feature, 2.57m by 0.69m and 0.28m deep with steepish sides and concave profile Fill 27609 – Friable mid greyish brown sandy silt with moderately frequent limestone, occasional charcoal flecks and occasional shell Environmental sample no. 2 Pit 27607 – Sub-rectangular feature, extending beyond edge of trench, 0.87m by >0.62m and 0.51m deep with near-vertical sides and flattish to gently concave base Fill 27608 – Soft mid to dark brown sandy clay with occasional limestone Pit 27604 – Amorphous oval feature or linear terminus, extending beyond edge of trench, 0.65m by >0.56m and 100mm deep with flattish to gently concave base Fill 27605 – soft dark brown with reddish brown mottles of redeposited natural slightly sandy and clayey silt with occasional limestone and occasional coal fragments Pit 27602- Oval feature or linear terminus, extending beyond edge of trench, 0.80m by >1.10m and 0.23m deep with steep to moderately steep irregular sides and gently concave to irregular base Fill 27603- Soft dark brown with reddish brown mottles of redeposited natural slightly sandy and clayey silt with occasional limestone and occasional coal fragments Ditch like geophysical anomalies reflect extant field boundary with mound of deeper topsoil. Features 27602, 27604 and 27607 seem to relate to this boundary. Ditch 27611 may reflect linear anomaly previously interpreted as agricultural.
277	20m x 1.3m	0.30m	Ditch like anomaly	27701 Soft dark brown clayey sandy silt with frequent limestone	Absent	27702 Loose mid reddish Cornbrash with clayey sand patches	None No clear indication as to cause of geophysical anomaly
278	10m x 1.3m	0.30m	Ditch like anomaly	27801	Absent	27802	None

Trench	Dimensions	Depth	Notes	Topsoil	Subsoil	Natural	Archaeology
				Soft dark brown clayey sandy silt with frequent limestone		Loose mid reddish brown Cornbrash with clayey sand patches	No clear indication as to cause of geophysical anomaly
279	10m x 1.3m	0.30m	Ditch like and ridge and furrow anomalies	27901 Soft dark brown clayey sandy silt with frequent limestone	Absent	27902 Loose mid reddish brown Cornbrash with clayey sand patches	None No clear indication as to cause of geophysical anomaly
280	10m x 1.3m	0.30m	Ditch like anomaly	28001 Soft dark brown clayey sandy silt with frequent limestone	Absent	28002 Loose mid reddish brown patchy clayey sand with Cornbrash	None No clear indication as to cause of geophysical anomaly
281	30m x 1.3m	0.35m	Ditch/gully like anomalies	28101 Firm dark greyish brown sandy silt with occasional limestone	Absent	28102 Firm mid orange brown clayey sandy silt and Cornbrash	None No clear indication as to cause of geophysical anomaly
282	15m x 5m	0.40m	Pit like anomalies	28201 Firm dark brown clayey sandy silt with occasional limestone	Absent	28202 Firm mid orange brown Cornbrash and sandy silt	None No clear indication as to cause of geophysical anomaly
283	30m x 1.3m	0.35m	Sample trench	28301 Soft mid greyish brown sandy silt with occasional limestone	Absent	28302 Soft mid orange brown sandy silt and Cornbrash	None
284	30m x 1.3m	0.40m	Ditch like and ridge and furrow anomalies	28401 Soft dark brown clayey sandy silt with frequent limestone	Absent	28402 Loose mid reddish brown Cornbrash and clayey sand patches	None No clear indication as to cause of geophysical anomaly
285	30m x 1.3m	0.40m	Ditch like and ridge and furrow anomalies	28501 Soft dark brown clayey sandy silt with frequent limestone	Absent	28504 Loose mid reddish brown Cornbrash and clayey sand	Linear feature 28503 – North-south aligned, 1.20m wide and >0.80m deep with very steep irregular sides Feature of probable geological origin Fill 28502 – Soft mid reddish brown clayey sand with occasional limestone Linear feature matches location of ditch-like anomaly
286	-	-	Not opened to preserve cover	-	-	-	-

Trench	Dimensions	Depth	Notes	Topsoil	Subsoil	Natural	Archaeology
			crop				
287	20m x 1.3m	0.45m	Ditch like anomalies	28701 Friable dark brownish grey sandy silt with occasional limestone	28702 Firm mid orange brown sandy silt (colluvium)	28703 Firm mid orange brown sandy silt and Cornbrash	None No clear indication as to cause of geophysical anomaly
288	30m x 1.3m	0.40m	Sample trench	28801 Friable mid greyish brown sandy silt with occasional limestone	28802 Firm mid orange brown sandy silt (colluvium)	28803 Friable mid orange brown sandy silt with moderately frequent limestone 28804 Firm mid reddish brown sandy silt with frequent limestone 28805 Firm light brown clay with occasional limestone 28806 Friable mid brown sandy silt with moderately frequent limestone	None
289	10m x 1.3m	0.95m	Sample trench with possible continuation of ditch like anomaly	28901 Firmish mid brown sandy clayey silt with occasional charcoal, occasional tile and occasional limestone	28902 Softish mid orange brown silty sand (colluvium) overlying 28903 Soft mid orange brown clayey silty sand (colluvium)	28904 Firm light yellowish grey clay	None
290	30m x 1.3m	0.78m	Sample trench	29001 Firm dark greyish brown sandy silt with occasional limestone	29002 Loose mid orange brown silty sand (colluvium)	29003 Loose mid orange brown sandy silt and Cornbrash	Pit 29004 – Oval feature extending beyond edge of trench, >0.87m by 0.75m and 0.40m deep with concave profile Fill 29005 – Friable mid greyish yellow silty sand with occasional limestone Environmental sample no. 154 Linear feature 29006 of geological origin. Fill 29007 – Soft mid brown sandy silt with occasional limestone

Trench	Dimensions	Depth	Notes	Topsoil	Subsoil	Natural	Archaeology
291	30m x 1.3m	0.25m	Sample trench	29101 Friable dark brown clayey sandy silt	Absent	29102 Friable mid orange brown Cornbrash and sandy clayey silt patches	None
292	30m x 1.3m	0.23m	Sample trench	29202 Friable dark greyish brown clayey silt with moderately frequent limestone	Absent	29201 Soft mid yellowish red clayey sandy silt and Cornbrash	None
293	20m x 1.3m	0.35m	Ditch and pit like anomalies	29301 Soft dark greyish brown clayey silt with occasional limestone	29304 Soft mid reddish brown sandy silt (possible colluvium) 29306 Soft mid reddish-brown sandy silt with occasional limestone (possible colluvium) 29308 Soft mid reddish brown sandy silt (possible colluvium)	29310 Loose mid orange brown Cornbrash and sandy clayey silt patches	Features 29303, 29305 and 29307 investigated, all of which seem to be hollows in natural filled with subsoil or colluvium 29304, 29306 and 29308. These hollows seem to correlate to location of ditch and pit like anomalies. Unstratified finds from trench 29309
294	20m x 1.3m	0.70m	Ditch and pit like anomalies	29401 Soft dark brown clayey sandy silt with occasional limestone and very occasional coal fragments	29403 Firm mid reddish brown clayey silt (possible colluvium) 29405 Soft mid reddish to reddish brown clayey silt (possible colluvium) 29406	29408 Brownish red clayey silt and Cornbrash	Features 29402 and 29404 investigated, each of which seems to be hollow in natural filled with subsoil or colluvium 29403, 29405 and 29406. Hollow 29404 seems to correlate to location of pit like anomaly.

Trench	Dimensions	Depth	Notes	Topsoil	Subsoil	Natural	Archaeology
					Soft mid reddish brown clayey silt (possible colluvium) 29407 Soft mid reddish brown clayey silt (colluvium)		
295	30m x 1.3m	0.28m	Sample trench	29501 Soft dark brown clayey sandy silt with frequent limestone	Absent	29504 Loose mid reddish brown Cornbrash with clayey sand	Probable hedge line 29503 – aligned northeast-southwest, 1.80m wide and 0.15m deep with gently sloping sides and flattish uneven base Fill 29502 – Soft mixed dark and mid reddish brown clayey sand
296	30m x 1.3m	0.30m	Sample trench	29601 Soft dark greyish brown sandy silt with occasional limestone	Absent	29602 Loose mid orange brown clayey sand and Cornbrash	None
297	30m x 1.3m	0.40m	Sample trench	29701 Soft dark greyish brown silty sand	Absent	29702 Loose mid orange brown clayey sand and Cornbrash	None
298	30m x 1.3m	0.31m	Sample trench	29801 Soft dark greyish brown sandy clay with occasional limestone	Absent	29802 Firm mid reddish brown sandy clay and Cornbrash	Possible ditch 29803 – aligned northeast-southwest, 1.20m wide and 0.36m deep with moderately steep to convex sides and irregular base Fill 29804 – Firm mid orange brown clayey sand with occasional charcoal flecks
299	15m x 5m	0.31m	Pit and ditch like anomalies	29901 Friable dark brownish grey sandy silt with moderately frequent limestone	Absent	29902 Friable light brownish red to brownish yellow silty sand and Cornbrash	Feature 29903 of probable geological origin Fill 29904 – Friable mid brownish red silty sand with moderately frequent limestone and rare charcoal flecks. Environmental sample no. 77 Variations in natural, including probable geological feature 29903 seem to correlate to general area of pit and ditch like anomalies.
300	20m x 1.3m	0.30m	Ditch like anomaly	30001 Firm dark greyish brown sandy clay with occasional limestone	Absent	30002 Friable mid reddish brown clayey sandy silt and Cornbrash	None Natural variation probable cause of ditch like geophysical anomaly
301	20m x 1.3m	0.30m	Ditch/gully like anomaly	30101 Soft mid to dark	Absent	30102 Soft mid to light	None

Trench	Dimensions	Depth	Notes	Topsoil	Subsoil	Natural	Archaeology
				brown clayey sandy silt with frequent limestone		reddish brown clayey sand 30103 Soft mid to light reddish brown clayey sand 30104 Mid reddish brown Cornbrash	Natural variation probable cause of ditch like geophysical anomaly Unstratified finds 30105
302	10m x 1.3m	0.40m	Ditch/gully like anomaly	30201 Soft dark greyish brown sandy silt with occasional limestone	Absent	30202 Soft mid reddish yellow sandy silt and Cornbrash	None No clear indication as to cause of geophysical anomaly
303	20m x 1.3m	0.35m	Ditch like anomalies	30301 Soft dark brown slightly sandy and clayey silt with frequent limestone	Absent	30302 Soft to firm mid reddish brown Cornbrash and sandy clay with stoneless patches	None Natural variation probable cause of southernmost ditch like geophysical anomaly. No clear indication as to cause of second ditch like anomaly
304	30m x 1.3m	0.35m	Sample trench	30401 Soft dark brown slightly sandy and clayey silt with frequent limestone	Absent	30402 Soft to firm mid reddish brown Cornbrash and sandy clay with stoneless patches.	None
305	30m x 1.3m	0.50m	Sample trench	30501 Friable dark greyish brown sandy silt with moderately frequent limestone and occasional charcoal flecks	Absent	30502 Loose mid yellowish red silty sand and Cornbrash	None
306	30m x 1.3m	0.69m	Sample trench	30601 Soft dark brown slightly sandy and clayey silt with frequent limestone	Absent	30602 Soft to firm mid reddish brown Cornbrash and clayey sand with stoneless patches	None Single modern feature at northern end – geological trial hole or similar.
307	15m x 5m	0.50m	Pit like anomalies	30701 Soft dark brown clayey sandy silt with frequent limestone	Absent	30705 Loose mid to light reddish brown patchy clayey sand and Cornbrash	Possible ditch 30703 – aligned north-south, 0.62m wide and 0.32m deep with concave profile Fill 30704 – Firm mid brown clayey sand with moderately frequent limestone Environmental sample no. 117

Trench	Dimensions	Depth	Notes	Topsoil	Subsoil	Natural	Archaeology
						30702 Soft mid reddish brown clayey sand with occasional limestone	Natural variation probable cause of pit like geophysical anomalies
308	8m x 1.3m	0.40m	Excavated in vicinity of Trench 216	30801 Soft dark brown clayey silty sand with frequent pebbles	Absent	30802 Soft mid brownish orange clayey sand with occasional limestone 30803 Loose mid reddish brown Cornbrash	None
309	7m x 1.3m	0.40m	Excavated in vicinity of Trench 216	30901 Soft dark brown silty sand and clay with frequent limestone	Absent	30902 Loose mid reddish brown patchy clayey sand and Cornbrash	None

Appendix 3

THE FINDS

INTRODUCTION

A relatively small, mixed assemblage of artefacts, comprising 177 items weighing a total of 3335g was recovered from the trenching. Pottery was the most common artefact type, providing 77% by count of the assemblage. Fragments of ceramic building material, flintwork, stone, eight metal items and a single coin were also recovered.

ROMAN POTTERY

By Alex Beeby 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*. A total of 95 sherds from 65 vessels, weighing 746 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 1. Pottery from samples is included in the Archive Catalogue but not in the quantification tables below. A single sherd from context (21605), fabric DWSH, was removed for the Roman pottery type series held by the Heritage Trust of Lincolnshire.

Condition

This is a very fragmented assemblage. A high proportion of the vessels are abraded or very abraded, with 23 vessels (35% of the total number) falling into this category. This is also indicated by the very low average sherd weight of 8 grams. Eight vessels are represented by more than one sherd (12% of the total number). There are no cross-context vessels.

Three vessels have soot residues, two internally and one externally, suggesting they were used over a hearth or fire. Three vessels have leached fabric and one shows evidence of post-use burning. Eight vessels, all from trench 216, have an orangey-brown deposit occurring both internally, externally and over the breaks. This may have been caused by soil conditions.

Dating

A summary of dating listed by context is included in the table below (Table 1). The highly fragmented and undiagnostic nature of the assemblage makes much of the material only datable in the broadest terms. Most of the material probably dates to between the second and fourth centuries AD.

A single rim sherd from context (18108), Trench 181, is of a slightly earlier Late Iron Age / Early Roman type (IAGR). Ditch [21604 / 21608] in Trench 216 contained four rim sherds from two separate Dalesware (DWSH) jars dating to the mid 3rd-4th century AD. A number of handmade Iron Age or Iron Age tradition vessels were also recovered from ditch [21604 / 21608]. These include grog tempered ware (GROG), native tradition courseware (NAT) and native tradition grit tempered ware (IAGR).

Trenches 276 and 293 produced small abraded flakes of native tradition courseware (NAT), which may be Iron Age, whilst Trench 288 produced four highly abraded pieces of vesicular courseware (VESIC) which may possibly date to the early to mid Iron Age.

Table 1, date range of the pottery

Cxt	Date Range	NoS	W (g)	Sherd / Weight
18108	Late Iron Age to Early Roman	1	7	7
18504	2nd Century +	2	43	21.5
19601	Roman? / Post Roman	1	2	2
21102	Iron Age?	1	2	2
21301	Late Second to Mid 3rd Century	1	1	1
21601	3rd Century	10	79	7.9
21603	2nd to 3rd Century	35	254	7.3
21606	Mid 3rd Century +	3	25	8.3
22901	2nd Century +	1	26	26
27603	Roman/Post Roman	1	1	1
27609	Iron Age?	1	1	1
28702	Roman	1	5	5
28802	Prehistoric (Early to Mid Iron Age?)	4	2	0.5
28903	Roman	1	10	10
29306	Iron Age?	1	1	1
29407	2nd to 3rd Century	1	63	63
29804	Roman	1	3	3
30001	Roman	1	3	3
30402	2nd Century +	1	24	24
30501	Roman	1	1	1
30801	Roman	1	5	5

Results

A summary of the pottery types recovered from LNEB08 is included in the table below (Table 2). The pottery is almost entirely coarseware, with just a single, very small piece of Roman fineware (NVCC) recovered.

Table 2, Summary of Roman pottery archive

Fabric	Cname	Full name	NoS	NoV	W (g)
Fine	NVCC	Nene Valley colour-coated	1	1	1
Oxidised	OX	Miscellaneous Oxidized ware	2	2	10
Reduced	COAR	Miscellaneous Coarse ware	1	1	2
	GREY	Miscellaneous Grey ware	29	29	282
	GREY1	Grey ware variant - type 1	21	14	182
	GYBN	Grey with brown surface	6	5	43
	IAGR	Native tradition grit tempered ware	2	2	8
	NAT	Miscellaneous Native ware	6	3	8
Shell	DWSH	Late shell tempered ware	4	2	23
	IASH	Native tradition shell tempered	1	1	6
	SHEL	Miscellaneous undifferentiated shell tempered	1	1	8
	VESIC	Vesicular fabric	4	1	2

Fabric	Cname	Full name	NoS	NoV	W (g)
Grog	GROG	Grog tempered ware	17	3	171
		Total:	**95**	**65**	**746**

Provenance
Material was recovered from 19 trenches along the length of the evaluated area. These are detailed below. The first three digits of the context number relate to the trench number in which the deposits were recorded.

Trenches 176, 181, 185, 196, 211, 213
Single vessels were recovered from ditches [18109] and [21103], whilst two vessels were recovered from pit [18503]. All of these vessels were fragmented or abraded suggesting redeposition. Two vessels were recovered from unstratified deposits within trench 176 (assigned unstratified finds number 17608), whilst single vessels were recovered from topsoil deposits (19601) and (21301).

Trench 216
By far the largest number of vessels were recovered from ditch [21604 / 21608]. This feature yielded a total of 19 vessels representing 30% of the total assemblage. All of the pottery from this ditch is highly fragmentary and three vessels are abraded. This suggests this material is redeposited. The latest pottery from this feature dates to the mid 3rd to 4th century AD. In addition to this, 21 unstratified vessels were recovered from Trench 216 (assigned unstratified finds number 17605,) five of which are abraded. Three vessels were recovered from the topsoil (21601).

Trenches 229, 276, 287, 288, 289 and 293
Two vessels were recovered from the fills of pits [27602] and [27610], whilst a single vessel was recovered from the fill of natural feature [29303]. Single vessels were also recovered from topsoil deposit (22901) and colluvial deposits (28702), (28802) and (28903). All of the pottery from these deposits is abraded or very abraded suggesting redeposition.

Trench 294, 298, 300, 301, 304, 305 and 308
Single vessels were recovered from the fill of ditch [29804] and probable colluvial layer (29407). Single vessels were also recovered from topsoil deposits (30001), (30501) and (30801), whilst single unstratified vessels were recovered from Trenches 301 (assigned 30105), and 304, (assigned 30402). In common with all of the material within this assemblage, the pottery from these trenches is fragmentary in nature, strongly suggesting redeposition.

Range
The assemblage is almost entirely constituted of utilitarian reduced coarsewares, of which there is a good range of forms (see table 3 below). A single fineware (NVCC) and two miscellaneous Oxidized ware (OX) vessels are also represented.

The predominant types are closed forms; these represent 84% of the total assemblage by weight and 85% by sherd count. Of these, jars predominate, representing 64% by weight and 74% of the total assemblage by sherd count. A further 9% by weight and 16% by sherd count derive from uncertain closed forms, probably mostly jars. Open forms, although present, represent just 4% by sherd count or 12% by weight.

There is a broad range of coarseware types represented including a number of Iron Age or Iron Age/Early Roman types. These include miscellaneous courseware (COAR), native tradition grit tempered ware (IAGR), native tradition shell tempered ware (IASH), vesicular fabric (VESIC) and grog tempered ware (GROG). There are seven vessels in these fabrics representing around 11% of the total assemblage.

Miscellaneous Roman greywares (GREY) account for the largest fabric type present within the assemblage. There are 29 vessels in this fabric representing 45% of the total. In addition to this, an individual group of grey fabrics, (GREY1), was identified. GREY1 is a rough sandy greyware characterised by sparse to moderate iron-rich and sparse calcareous inclusions. There are 14 vessels in this fabric, representing 22% of the total.

Most of the pottery is probably manufactured locally. The vessels in GREY1 greyware variant fabric may be regional imports, as GREY1 is unlike typical known Lincoln fabrics. The vessels may equally, however, also be locally produced. It is of note that this fabric was found in trenches along the entire evaluated route and not in just one localised area. The shell tempered Dalesware jars (DWSH) from Trench 216 may be regional imports, this type normally thought to be produced in the north of the county. Even so, the apparent presence of a Punctate Brachiopod fossil in the fabric of one sherd may bring this into question. Punctate Brachiopods are usually found in clays from the south of the county, being rare in the north. Further scientific analysis of this sherd may help to indicate its origin.

Two handmade grog tempered (GROG) jars are decorated, one with lattice scoring and one with stabbed decoration. A further piece of NVCC has a rouletted zone.

Table 3, forms by function and percentage of sherd count and weight

Form	Code	NoS	% by NoS	W (g)	% by W (g)
Bowl with curved rim	BCUR	1	1.1	12	1.61
Flanged rimmed bowl	BFL	1	1.1	6	0.80
Beaker	BK	2	2.2	11	1.47
Closed form	CLSD	15	15.79	66	8.85
Native tradition cook pot	CPN	1	1.1	7	0.94
Curve-rim jar	JCUR	1	1.1	7	0.94
Jar	J	18	18.95	174	23.32
Jar or beaker	JBK	8	8.42	27	3.62
Jar with beaded rim	JBR	8	8.42	63	8.45
Dales ware jar	JDW	4	4.21	23	3.08
Jar with everted rim	JEV	1	1.1	8	1.07
Large jar	JL	19	20	226	30.29
Lug-handled jar	JLH	1	1.1	15	2.01
Open form	OPEN	2	2.2	69	9.25
Undiagnostic		13	13.68	32	4.29
Total:		**95**	**100**	**744**	**100**

Potential

The assemblage poses no problems for long term storage and should be retained. One vessel have been selected for illustration for its intrinsic value and is shown in table 4 below. Further chemical analysis of the possible Punctate Brachiopod fossil noted in the Dalesware fabric from Trench 216, may help to locate the origin of this vessel. Pottery from samples was viewed unwashed and therefore the identification and dating of this material is provisional.

Table 4, vessels for illustration

Draw	Cxt	Cname	Form
01	21606	GREY	Bowl with curved rim

Summary
This assemblage from LNEB08 is mixed in date and very fragmented. It is almost entirely domestic in nature, and has a wide range of dates, from the Iron Age to the mid 3rd-4th Century AD.

The only trench to produce a significant amount of pottery was Trench 216 from which Iron Age, Early Roman and Late Roman material was recovered from both stratified and unstratified deposits. Even though material from this area is probably redeposited, excavation may reveal further evidence of activity in the Roman and possibly Iron Age periods. Two pits in Trench 276 ([27604] and [27607]) yielded two small fragments of pottery, though these are almost certainly redeposited.

Though other material was recovered it does not seem have any clear concentration and appears to be redeposited; all of this material may be associated with a general manuring scatter.

POST ROMAN POTTERY

By Anne Boyle

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). A total of 41 sherds from 38 vessels, weighing 504 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, with a summary in Table 2. Pottery from samples is included in the Archive Catalogue but not in the quantification tables below. The pottery ranges in date from the middle Saxon to the post medieval period.

Condition

Most of the Saxon pottery is in fairly fresh condition whilst the later material is more often abraded. The average sherd weight is low at 12 grams. Fourteen vessels show signs of soot, indicating their use on a hearth or fire; all of these are Saxon bar a single example.

Results

Table 5, Summary of the Post Roman Pottery

Cname	Full name	Earliest date	Latest date	NoS	NoV	W (g)
BL	Black-glazed wares	1550	1750	2	2	21
CREA	Creamware	1770	1830	2	2	3
ELFS	Early Fine-shelled ware	780	950	1	1	53
ENGS	Unspecified English Stoneware	1690	1900	2	2	68

LEMS	Lincolnshire Early Medieval Shelly	1130	1230	1	1	4
LKT	Lincoln kiln-type shelly ware	850	1000	11	10	122
LLSW	Late Lincoln Glazed ware	1350	1500	2	2	37
LSH	Lincoln shelly ware	850	1000	4	4	21
LSLOC	Late Saxon Local Fabrics	850	1050	3	2	53
LSW	Lincoln Glazed Sandy Ware	970	1500	1	1	10
LSW2	13th to 14th century Lincoln Glazed Ware	1200	1320	2	2	19
LSW2/3	13th to 15th century Lincoln Glazed Ware	1200	1450	1	1	2
LSW3	14th to 15th century Lincoln Glazed Ware	1280	1450	1	1	13
LSWV	Lincoln Sandy ware variant	1280	1325	1	1	10
MISC	Unidentified types	-	-	1	1	1
NOTS	Nottingham stoneware	1690	1900	1	1	47
RMAX	Southern Maxey-type ware	650	950	1	1	3
TOY	Toynton Medieval Ware	1280	1500	4	3	17
			TOTAL:	**41**	**38**	**504**

Provenance

Trench 168

A single redeposited sherd of medieval Toynton ware (late 13th to 15th century) was recovered from ditch [16804].

Trenches 176, 177 and 178

Unstratified finds were issued with context number (17608). Late Saxon pottery, of 9th and 10th century date, was recovered from pits [17605], [17703], post hole [17803] and ditches [17806] and [17816]. A single fragment also occurred in topsoil (17801). Medieval material was associated with the upper surface of pit [17705] and possible Ditch [17603].

Trench 182

It is notable that only middle and late Saxon pottery was recovered from Trench 182. A rim sherd from a miniature Lincoln Shell tempered ware jar (LSH) came from topsoil deposit (18201). Pit [18204] and ditch [18205] produced an in-turned rim bowl (dating from the early/mid to mid 9th century) and a LSH body sherd from a jar or bowl respectively. It is possible both are redeposited. The largest group of pottery is associated with ditch [18207]; a group of middle and late Saxon pottery coming from fill (18208). This material is fresh and comprises large fragments; whilst this may not represent primary deposition it is clear that activity of this date was occurring in the vicinity.

Trench 196

A single late medieval sherd of Late Lincoln Glazed ware (LLSW) and an early modern stoneware vessel (ENGS) came from topsoil deposit (19601).

Trench 276

Miscellaneous, post medieval and early modern wares were recovered from pit [27602] and [27607]. All this pottery appears to be redeposited.

Trenches 293, 297 and 299

Medieval and early modern pottery was retrieved from topsoil (29701) in Trench 297 and two redeposited medieval sherds of mixed date were recovered from natural feature [29903] in Trench 299.

Range

Middle Saxon
One definite and one possible middle Saxon sherd were associated with late Saxon pottery in context (18208). A single sherd of what may be Southern Maxey ware (RMAX) is important as it is the only sherd of this type known in the area. A geographic cut-off for this type appears to be the River Witham, with the most northerly occurrences in the area of Sleaford, Quarrington and Fishtoft in the south of the county. The presence of this single sherd is therefore potentially significant. Equally, a large fragment from a bucket shaped vessel may be Early Fine Shelled ware of Northern Maxey ware (DR01). Whilst this ware is known in this area, the decoration on the rim top is somewhat unusual, consisting of single diagonal impressions instead of the usual cross-hatching. There is evidence for a small pre-firing piercing *ca.* 10mm below the rim which indicates the vessel was lugged.

Late Saxon
A small collection of late 9th to 10th century pottery comprises large fresh pieces. These are dominated by Lincoln products LKT and LSH, with two vessels of LSLOC which may also be produced in the city. Most are jars, including a miniature vessel. A single in-turned rim bowl with roller stamping can be dated to the early/mid to mid 10th century.

Medieval
Twelve vessels post-date the 12th century. These are in mixed condition and are abraded, suggesting they all represent redeposited material. A range of types, several of which were manufactured in Lincoln, are present.

Post medieval and early modern
Seven vessels date from the late 17th to mid 19th century. These include coarse- and finewares which are common in domestic assemblages of this date.

Potential
Further fabric work on the middle and late Saxon wares will help to confirm their identification, particularly for the middle Saxon vessels. Pottery from samples was viewed unwashed and therefore the identification and dating of this material is provisional. A single sherd is recommended for illustration as it has a usual decorative element for this ware type (DR01). The assemblage may require reassessment in light of further excavation at the site. None of the pottery poses any problems for long term storage and should be retained.

Summary
The presence of middle and late Saxon pottery in Trenches 176 to 178 and 182 is interesting, not just as a clear concentration of material of this date but also in terms of the forms and wares that are present. It is possible that further excavation in this area will reveal more evidence of middle and late Saxon activity; the nature of the pottery indicates domestic habitation although the assemblage is too limited to draw any firm conclusions. Pottery post-dating the 12th century has no clear concentration and appears to be redeposited; all of this material may be associated with a general manuring scatter.

CERAMIC BUILDING MATERIAL

By Anne Boyle

Introduction

All the material was recorded at archive level in accordance with the guidelines laid out by the ACBMG (2001) and to conform to Lincolnshire County Council's *Archaeology Handbook*. A total of 14 fragments of ceramic building material, weighing 354 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. This data was then added to an Access database. An archive list of the ceramic building material is included in Archive Catalogue 3, with a summary in Table 3. Material from samples is included in the Archive Catalogue but not in the quantification tables below.

Condition

Most of the material is abraded and a small number of unclassifiable flakes are also present (CBM). The general condition of the brick and tile is indicated by the low average fragment weight of 26 grams.

Results

Table 6, Summary of the Ceramic Building Material

Cname	Full name	NoF	W (g)
BRK	Brick	1	70
CBM	Ceramic Building Material	4	10
GRID	Glazed Ridge Tile	1	18
PNR	Peg, Nib or Ridge Tile	8	256
	TOTAL:	**14**	**354**

Provenance

Nearly all the brick and tile came from topsoil deposits in Trenches 213, 216, 228, 229 and 262 and is redeposited, possibly via manuring practices. Two small flakes of unclassifiable ceramic building material came from [21604] in Trench 216 and are probably intrusive in this feature. A single redepsoited fragment of medieval roofing tile was retrieved from the fill of pit or ditch terminus [17503] in Trench 175.

Range

Brick

A single early modern brick fragment occurred in (26201).

Roofing tile

The entire medieval roofing tile was classified in accordance with the fabrics established for the City. Types 1 and 7 are most common, as is often the case with groups from Lincoln. Eight flat roofing tiles, none with surviving nibs or pegs, are a single glazed ridge tile are present in the assemblage.

Potential

The material poses no problems for long term storage and should be retained. Material from samples was viewed unwashed and therefore the identification and dating of this material is provisional.

Summary
A small group of medieval and early modern brick and tile was recovered during the evaluation.

WORKED FLINT
By Tom Lane

Introduction
A small collection of worked flints were found during evaluation of a large number of trenches.

Condition
Many of the pieces are heavily abraded as might be expected of material out of its original context on limestone ground used for arable farming. None of the finds will present any problems of long—term storage.

Results
Table 8, Worked Flint Archive

Cxt	Description	No	Wt (g)	Date
16803	Broken irregular Flake. Grey flint. Lightly patinated but with some later removal, possibly plough damage. 26 x 23 x 7mm.	1	2	undated
19601	Heavily patinated blade flake. Pronounced Dorsal ridge. Severely abraded. 30 x 22 x 9	1	7	Neolithic
21603	Natural unworked flint (discarded)	1		
29701	Heavily patinated blade flake. Some cortex on one side. Abraded. 34 x 14 x 3mm	1	1	Neolithic
30001	Heavily patinated flake. Pronounced dorsal ridge. Breaks on edges indicate heavy abrasion. 31 x 20 x 2mm	1	<1	Neolithic
30001	Blade flake with narrow blade removal scars on dorsal surface. 40 x 16 x 5mm	1	3	Neolithic
30105	Blade Flake. Patinated . Blade removal scars on dorsal surface. 36 x 15 x 5mm	1	2	Neolithic
30704	Heavily patinated broken Flake. 14 x 13 x 2mm	1	<1	Neolithic?

Provenance
Three of the pieces came from ditch fills (including the natural piece from the fill of Ditch 21604. The remainder were classed as unstratified or from Topsoil. None of the pieces were in-situ.

Range
The majority of the finds were blade based and heavily patinated. The majority were of Early Neolithic date. No tools were among the collection.

Potential
There is little potential for further work on this collection. It indicates a presence in the Neolithic period, chiefly early Neolithic, but the quantities are low and the pieces well spread out. They imply nothing more that a low-level presence.

Summary
A small number of chiefly Early Neolithic flints was collected during Evaluation. No further work on the collection is recommended.

IRON-AGE COIN
By Steve Malone

Introduction
A single coin was recovered from feature fill 21603.

Condition
The copper core is corroded; silver plating survives at the edges.

SF	Cxt	Type	Catalogue	
1	21603	Corieltavi plated silver unit – copper core	Van Arsdell Type: 855/857 Allen Type: COR F/G	Diameter: 13-15mm Wt: 1.2g

Corrosion prevents certainty as to type, but a left-facing horse with ring and dot motifs is clear and a boar can just be discerned on the obverse. From the size, and remains of silver plating, it would appear to have been intended as a silver unit and would fall into this general class. Only five other plated examples of these types are recorded in the Oxford Celtic Coin Index, recovered by metal-detector in the north and east of the county from Caistor (2), Ludford and Bonby (one example unlocated).

Provenance
The coin came from the fill of Ditch 21604.

Recommendations
The item should be X-rayed (although the thin flan may make it difficult to disentangle the superposed images). After X-radiography the coin should be re-examined and the identification revised if necessary. The corroded nature of the find is such that photographic record is uninformative; it is recommended that the coin be drawn. Stabilisation to prevent further corrosion will be necessary.

Potential
The coin was found redeposited in a feature of late Roman date. It would be unlikely for it have been extant at that date and may derive from Iron Age settlement in the vicinity (Iron Age pottery was recorded nearby).

OTHER FINDS
By Gary Taylor

Introduction
Eighteen other finds weighing a total of 1713g were recovered.

Condition
Most of the items are in good condition, though the iron objects are rusted.

Results

Table #, Other Materials

Cxt	Material	Description	NoF	W (g)	Date
17604	Copper alloy	Pin head, spherical	1	1	
17804	Iron	Blade, whittle tang mostly broken off; tang set just below back, straight shoulder, Late Saxon-13th century	1	25	Late Saxon-13th century
	Iron	Unidentified. Rectangular bar, 64mm long, 3mm thick, tapering from 10mm to 6mm wide along length. At widest end are indications of a hole, perhaps for suspension, broken across	1	6	
17805	Copper alloy	Button, illegible makers' name on rear	1	2	19th century
17807	Iron	Blade, broken, point only	1	2	
	Stone	Niedermendig lava, quern?	2	75	
	Stone	Burnt stone	4	965	
21102	Glass	Window glass, tiny fragments	1	1	Medieval
21603	Stone	Burnt stone	1	540	
21605	Iron	Unidentified, possible machinery part. Rectangular or D-sectioned rod, one end bifurcating to form a small Y-shape. Opposite end spays out at an angle to the rod and shows signs of having been welded to another object	1	37	Post-medieval?
27603	Iron	Hook; hook at right angles to suspension loop, which is open, post-medieval	1	50	Post-medieval
	Coal	Coal	1	1	
27608	Iron	Nail, rectangular section	1	7	
27609	Iron	Nail	1	1	

Provenance

The other finds were recovered from the fill of a posthole (17804), ditch fills (17807, 21102, 21603), the fills of pits (17604, 27603, 27608, 27609), and as unstratified finds (17805, 21605)

Range

The other finds are predominantly of metal and stone, though there is also a small piece of glass.

All bar two of the small number of metal items are of iron, the other pieces being copper alloy. In date the pieces range from the Late Saxon period to the 19th century. Parts of two knives were recovered from the same trench. The more complete knife is of a form current from the Late Saxon period to about the 13th century (cf, Cowgill *et al*. 1987, 81; Goodall 1993, 126-7).

There are also a couple of pieces of Niedermendig lava. Imported from the Rhineland from the Roman period to late medieval times, this stone was used for querns for grinding food. There are no surviving surfaces on either of the two fragments to confirm they were parts of querns, though it seems very likely that they were.

Several burnt stones were also retrieved, with a group from the same trench that yielded the lava and Saxon-medieval knives.

Potential

In general, the metal items are of limited potential, though the two fragmentary knives from the same trench are of note and provide some functional evidence indicating the use of small bladed tools at that location in the Late Saxon period, or slightly later.

Recommendations
The iron items should be X-rayed and the knife, and possibly the unidentified item, drawn. After X-radiography the finds should be re-examined and the identifications revised if necessary. Otherwise no further work is required.

SPOT DATING

The dating in Table 10 is based on the evidence provided by the finds detailed above.

Table 10 Spot dates

Cxt	Date	Earliest Horizon	Latest Horizon	Comments
16803	Late 13th to 15th	MH5	MH9	Date on a single sherd
16805	-			Only contains undiagnostic material
17504	13th to 15th	MH4	MH9	Date on single fragment of CBM
17601	13th to 14th+	MH4	MH7	Date on a single sherd
17602	13th to 15th?	MH4	MH9	Date on single fragment of CBM
17604	Late 9th to 10th	ASH7	ASH11	Date on a single sherd
17608	Unstratified			
17704	Mid 9th to 10th	ASH7	ASH11	Date on a single sherd
17705	Late 13th to 15th	MH5	MH9	
17801	Mid 9th to 10th	ASH7	ASH11	Date on a single sherd
17804	Late 9th to late 10th	ASH7	ASH11	Date on a single sherd
17805	Unstratified			
17807	Mid 9th to 10th	ASH7	ASH11	
17817	Mid 9th to 10th	ASH7	ASH11	Date on a single sherd
18102	Mid 9th to 10th	ASH7	ASH11	Date on a single sherd
18104	Mid 9th to 10th	ASH7	ASH11	Date on a single sherd
18108	Late Iron Age to Early Roman			Date on a single sherd
18201	Mid 9th to 10th	ASH7	ASH11	Date on a single sherd
18203	Early/mid to mid 10th	ASH9	ASH10	Date on a single sherd
18206	Mid 9th to 10th	ASH7	ASH11	Date on a single sherd
18208	9th to mid 10th?	ASH7	ASH11	
18501	Late 13th to mid 15th	MH5	MH9	Date on a single sherd
18504	2nd Century+			
19601	19th to 20th	EMH	EMH	
21102	Iron Age?			Date on a single sherd
21301	13th to 15th	MH4	MH9	Date on single fragment of CBM
21601	3rd Century			
21603	2nd to 3rd			
21605	Unstratified			
21606	Mid 3rd+			
22801	13th to 15th	MH4	MH9	Date on CBM
22901	13th to 15th	MH4	MH9	Date on CBM
23001	13th to 15th	MH4	MH9	Date on CBM
26201	19th to 20th	MH4	MH9	Date on single fragment of CBM
27001	19th to 20th	EMH	EMH	Date on a single sherd
27603	18th to mid 19th	PMH8	EMH	
27608	Late 17th to 18th	PMH7	PMH9	Date on a single sherd
27609	Iron Age?			Date on a single sherd
27613	19th	EMH	EMH	Date on a single sherd
28702	Roman			Date on a single sherd
28802	Prehistoric (Poss Early to Mid Iron Age)			
28903	Roman			Date on a single sherd
29303	Unstratified			
29306	Iron Age?			Date on a single sherd

Cxt	Date	Earliest Horizon	Latest Horizon	Comments
29407	2nd to 3rd			Date on a single sherd
29701	Late 18th to 19th	PMH9	EMH	Date on a single sherd
29804	Roman			Date on a single sherd
29904	Late 13th to 15th	MH5	MH9	Date on a single sherd
30001	Roman			Date on a single sherd
30105	Unstratified			
30402	2nd Century+			Date on a single sherd
30501	Roman			Date on a single sherd
30801	Roman			Date on a single sherd

ABBREVIATIONS

ACBMG	Archaeological Ceramic Building Materials Group
BS	Body sherd
CBM	Ceramic Building Material
CXT	Context
LHJ	Lower Handle Join
NoF	Number of Fragments
NoS	Number of sherds
NoV	Number of vessels
PCRG	Prehistoric Ceramic Research Group
TR	Trench
UHJ	Upper Handle Join
W (g)	Weight (grams)

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ARCHIVE CATALOGUES

Archive catalogue 1, Roman Pottery

Cxt	Cname	Form	Decoration	Vess	Alter	Draw	Comments	Join	NoS	W (g)
17608	GREY	JCUR		1			RIM		1	7
17608	SHEL			1	ABR		BS; RO?		1	8
18108	IAGR	CPN	HM	1			RIM		1	7
18504	GREY	J		1	ABR		BS BASAL; RO?		1	32
18504	GYBN	CLSD	HM	1			BS; RO?		1	11
19601	GREY	JBK		1	ABR		BS		1	2
21102	COAR		HM?	1	VABR		BS; POSS L1 - 2C		1	2
21301	NVCC	BK	ROUZ	1	ABR		BS; EFAB		1	1
21601	GREY	BK		1	ABR; SOOT B		NRW BASE; MOD FE ORE		1	10
21601	GREY1	JBR		1	STAIN		NRW BASES; FLAKE		8	63
21601	GYBN	JBK		1			BASE		1	6
21603	IAGR			1	ABR		FRAG; IA		1	1
21603	NAT		HM?	1	ABR		BSS; IA		4	6
21603	IASH	CLSD	HM	1			BS; IA		1	6
21603	GROG?	JL		1	FE DEP		RIMS; BSS		5	65
21603	GREY1	J		1	STAIN		BS		1	17
21603	GREY1	JBK		1			BS		1	2
21603	GREY	CLSD		1			BS		1	3
21603	GREY	J		1			BS		1	3
21603	GREY	J	BDL	1			BS		1	5
21603	GROG	JL	SCRL; HM	1	ABR		BSS; IA		11	92
21603	GREY	OPEN		1			BASE		1	6
21603	GREY	CLSD		3			BSS		3	12
21603	GREY	J		1	STAIN		BASE; PALE GREY		1	6
21603	GREY			1	V ABR		BS; SAMP 153		1	1
21603	GYBN	CLSD		1			BASE; BS		2	15
21603	GREY1	JLH		1			HANDLE		1	15
21603	SHEL			1	V ABR		BSS; SAMP 153		2	1
21603	MISC			1	V ABR		BS; SAMP 153		1	1
21605	GREY1	J		4	ABR		BSS		4	17
21605	GYBN	JBK		1			BS		1	5
21605	GYBN	CLSD		1			BS		1	6
21605	GREY1	JBK		1	ABR		BS; HORIZ GROOVE		1	6
21605	GREY			1			BS		1	2
21605	GREY	J		1			BS		1	7

Cxt	Cname	Form	Decoration	Vess	Alter	Draw	Comments	Join	NoS	W (g)
21605	GREY	JEV		1			RIM		1	8
21605	GREY	J		1			BS		1	3
21605	GREY	JBK		2			BSS		2	5
21605	GREY1	BFL		1			RIM; L1-2C		1	6
21605	GREY	J		1			BS NECK		1	11
21605	GREY	JL		1			RIM		1	29
21605	GREY	J		1			BASE		1	28
21605	OX	CLSD		1			BS; RO?		1	5
21605	OX			1	ABR		BS; RO?		1	5
21605	DWSH	JDW		1	LEACHED; SOOT INT		RIM; BS; Sherd removed to type series	AS 21606	2	10
21605	GROG	JL	HM; STAB	1			BS; IA?		1	14
21606	GREY	BCUR		1		1	RIM TO SHLDR; SMALL VESS		1	12
21606	DWSH	JDW		1	LEACHED; BURNT		RIMS	AS 21605	2	13
22901	GREY1	JL		1	ABR		BS		1	26
27603	GREY			1	V ABR		FRAG		1	1
27609	NAT			1	ABR		FRAG; IA?		1	1
28702	GREY	J		1	ABR		BS		1	5
28802	VESIC	CLSD	HM; WIPED; STAB?	1	FRIABLE; LEACHED		BS; FRAGS; PROB SHEL; wiping faint reg horiz lines; thin wall; small vessel			
28903	GREY	J		1	ABR		BS		1	10
29306	NAT			1	V ABR		FRAG; IA?		1	1
29407	GREY	OPEN		1			BASE		1	63
29804	GREY1	J		1			BS		1	3
29904	VESIC			1	V ABR; SOOT EXT		BS; SAMP 77		2	1
30001	GREY1	J		1			BS		1	3
30105	GREY	CLSD		1			BASE		1	6
30402	GREY1	J		1			BASE		1	24
30501	GREY	JBK		1			BS		1	1
30801	GREY			1			BS		1	5

Archive catalogue 2, Post Roman Pottery

Cxt	Cname	Fabric	Form	NoS	NoV	W (g)	Decoration	Part	Description	Date
16803	TOY		Jug/ jar	1	1	9		BS	Abraded	Late 13th to 15th
16805	MISC			1	1	1		BS	Flake; Samp 3	-
17602	LKT			2	1	1		BS	Flakes; Samp 41	Late 9th to 10th

Cxt	Cname	Fabric	Form	NoS	NoV	W (g)	Decoration	Part	Description	Date
17602	LSWV		Jug	1	1	10		Rim	Flat rim with concave neck; reduced green glaze; reduced fabric with oxidised surfaces; worn	14th to 15th?
17604	LKT		Jar	1	1	3		BS	Soot; abraded	Late 9th to 10th
17604	MISC			2	2	1		BS	Flakes; Samp 42	-
17608	LLSW		Jug/ jar	1	1	14		BS	Abraded	Mid 14th to 15th
17704	LKT		Jar	2	1	25		BS + base	Soot demarcation line ca. 5mm above base	Mid 9th to 10th
17705	LSW2/3		Jug	1	1	2	Applied scales; cordon	BS		13th to 14th
17705	TOY		?	1	1	3		BS	Abraded	Late 13th to 15th
17801	LSH	E	?	1	1	1		BS	Flake	Mid 9th to 10th
17804	LKT		Jar	1	1	35		Rim	EVERB3; abraded; soot	Late 9th to late 10th
17804	LKT			4	4	1		BS	Flakes; Samp 119	Mid 9th to 10th
17807	LKT		Jar	1	1	6		Base		Mid 9th to 10th
17807	LKT		Jar	1	1	5		Rim	Soot; EVERA1	Mid 9th to 10th
17807	LKT			1	1	1		Rim	?ID; Samp 120	Mid 9th to 10th
17807	MISC			1	1	1		BS	Abraded; Samp 120	-
17817	LKT		Jar	1	1	4		Rim	Soot	Mid 9th to 10th
18102	LKT			2	2	1		BS	Abraded; Sample 39	Mid 9th to 10th
18104	LKT			1	1	1		BS	Abraded; Sample 40	Mid 9th to 10th
18201	LSH	E	Tiny jar	1	1	16		Rim	EVERA3; soot	Mid 9th to 10th
18203	LKT		Bowl	1	1	27	Square roller stamping on rim top	Rim	In-turned rim; patchy soot	early/mid to mid 10th
18203	LKT			1	1	5		Base	Sample 158	Mid 9th to 10th
18206	LSH		Jar/ bowl	1	1	3		BS		Mid 9th to 10th
18208	ELFS		Jar	1	1	53	Diagonal nail impressions on rim top	Rim	Upright flat top rim; internal soot; pre firing lug piercing ca. 10mm below rim; abraded; ?ID or MAX U.4	Late 8th to mid 10th
18208	LKT		Jar	1	1	3		Rim	Soot; ?ID	Mid 9th to 10th
18208	LKT		?	1	1	2		BS		Mid 9th to 10th
18208	LKT		Jar/ bowl	1	1	12		Base	Soot	Mid 9th to 10th
18208	LKT			2	2	1		BS	Abraded; Samp 157	Mid 9th to 10th
18208	LSH	E	Jar?	1	1	1		BS	Soot	Mid 9th to 10th
18208	LSLOC		Jar	2	1	47		Rim	EVERB3; soot; common sub round to round quartz	Late 9th to 10th
18208	LSLOC		Jar	1	1	6		BS	Common sub round to round quartz	Late 9th to 10th
18208	RMAX		Jar?	1	1	3		BS	Soot; small amount punctate brachiopod	Mid 7th to mid 10th
18501	LSW3		Jug	1	1	13		BS	Abraded	Late 13th to mid 15th
19601	ENGS		Jar/ bottle	1	1	54	Stamped "KNIGHT… LINCOLN"	Base		19th to 20th

Cxt	Cname	Fabric	Form	NoS	NoV	W (g)	Decoration	Part	Description	Date
19601	LLSW		Jar/ bowl	1	1	23		Base	Very abraded; soot; ?ID	Mid 14th to 15th
27001	ENGS	Bristol glaze	Hollow	1	1	14		BS with HJ		19th to 20th
27001	LSW2		Jug	1	1	13		Rim	Rounded cuff rim; abraded	Mid/late 13th?
27603	BL		Hollow	1	1	8		BS		Late 17th to 18th
27603	CREA		Small jar?	1	1	1		Rim		19th
27603	CREA		Small jar?	1	1	2		Base	Footring	Mid 18th to 19th
27603	MISC		?	1	1	1		BS	Flake	-
27608	BL	Oxidised	Bowl	1	1	13		BS		Late 17th to 18th
27613	CREA			1	1	1		BS	Flake; Samp 5	Mid 18th – Mid 19th
29303	LSW2		Jug?	1	1	6	Painted cu strip?	BS	Abraded	13th to 14th
29701	LSW		?	1	1	10		BS	Abraded	12th to 14th
29701	NOTS		Open	1	1	47		Base	Worn footring	Late 18th to 19th
29904	LEMS		?	1	1	4		BS	Leached; ?ID	12th to early 13th
29904	TOY		?	2	1	5		BS	Flakes	Late 13th to 15th

Archive catalogue 3, Ceramic Building Material

Cxt	Cname	Fabric	Sample No	NoF	W (g)	Description	Date
16805	CBM		3	3	1	Very abraded	-
17504	PNR	Lincoln fabric 1/7		1	13	Flat roofer	13th to 15th
17602	RTMISC		41	1	41	Abraded	13th to 15th?
17602	CBM		41	12	2	Flakes	-
17604	CBM		42	1	2	Flake	-
17704	CBM		4	1	1	Very abraded	-
18102	CBM		39	2	1	Flakes	-
21301	PNR	Lincoln fabric 7		1	49	Flat roofer	13th to 15th
21603	CBM			2	2	Flakes	-
22801	CBM			2	8	Very abraded; flakes	-
22801	PNR	LSWA		1	34	Abraded; flat roofer	13th to 15th
22801	PNR	Lincoln fabric 7		1	15	Abraded; flat roofer	13th to 15th
22801	PNR	Lincoln fabric 1/7		1	78	Strike marks; finger impressions?; worn; flat roofer	13th to 15th
22901	GRID	Lincoln fabric 7		1	18	Abraded; reduced green glaze	13th to 15th
22901	PNR	Lincoln fabric 7		1	41	Abraded; flat roofer	13th to 15th ?
23001	PNR	Lincoln fabric 1?		1	9	?ID; dark reduced core; flat roofer	13th to 15th
23001	PNR	Lincoln fabric 1/7		1	17	Abraded; flat roofer	13th to 15th
26201	BRK			1	70	Extruded?	19th to 20th

Appendix 4
The Faunal Remains
By Jennifer Wood

Introduction

A total of 290 (2488g) refitted fragments of animal bone were recovered by hand, during archaeological trial trenching undertaken on the route of the Lincoln eastern bypass, Lincolnshire. A further 269 (90g) fragments of bone were recovered from environmental samples.

Methodology

Identification of the bone was undertaken with access to a reference collection and published guides. All the animal remains were counted and weighed, and where possible identified to species, element, side and zone (Serjeantson 1996). Also fusion data, butchery marks (Binford 1981), gnawing, burning and pathological changes were noted when present. Ribs and vertebrae were only recorded to species when they were substantially complete and could accurately be identified. Undiagnostic bones were recorded as micro (mouse size), small (rabbit size), medium (sheep size) or large (cattle size). The separation of sheep and goat bones was done using the criteria of Boessneck (1969) and Prummel and Frisch (1986). Where distinctions could not be made, the bone was recorded as sheep/goat (s/g).

The condition of the bone was graded using the criteria stipulated by Lyman (1996). Grade 0 being the best preserved bone and grade 5 indicating that the bone had suffered such structural and attritional damage as to make it unrecognisable.

The quantification of species was carried out using the total fragment count, in which the total number of fragments of bone and teeth was calculated for each taxon. Where fresh breaks were noted, fragments were refitted and counted as one.

Tooth eruption and wear stages were measured using a combination of Halstead (1985), Grant (1982) and Levine (1982), and fusion data was analysed according to Silver (1969). Measurements of adult, that is, fully fused bones were taken according to the methods of von den Driesch (1976), with asterisked (*) measurements indicating bones that were reconstructed or had slight abrasion of the surface.

Results

Condition

The overall condition of the bone was relatively uniform within the assemblage (Tables 1 & 2). The majority of both hand and sieve collected assemblages occurs within grade 3 (66% Hand) (83% Sieved) of the Lyman Criteria (1996), which is generalised to a moderate overall condition.

Table 1, Summary of Condition of the Hand Collected Assemblage, by Trench

	Trench										
Condition	**167**	**175**	**177**	**178**	**181**	**182**	**216**	**276**	**289**	**290**	**Total**
2		100%	4%	27%	40%						5%
3			79%	61%	60%	91%		88%	67%	100%	66%
4	100%		17%	12%		9%		12%	33%		29%
5							100%				<1%
N=	57	2	24	26	10	11	1	150	3	6	290

Table 2, Summary of Condition of the Sieve Collected Assemblage, by Trench

	Trench													
Condition	**167**	**168**	**176**	**177**	**178**	**181**	**182**	**185**	**211**	**216**	**276**	**293**	**298**	**Total**
1					4%									2%
2	11%	47%	11%	50%	8%	11%	8%		100%					10%
3	89%	47%	42%	50%	86%	89%	92%	100%			100%	100%	100%	83%
4		6%	47%		2%					100%				5%
N=	9	15	19	2	103	44	25	20	1	2	27	1	1	269

Pathology
No evidence of pathological conditions was noted within the assemblage.

Butchery
A single cattle astragalus recovered from the undated ditch [18103] displayed evidence of butchery. The cut marks were consistent with disarticulation of the carcass.

Gnawing
A fragment of cattle calcaneus recovered from mid 9th-10th century ditch [18207] and a fragment of rabbit innominate recovered from possible Iron Age pit [27610] displayed evidence of carnivore gnawing, suggesting the remains were exposed to scavengers as part of or after the disposal process.

Burning
A total of 12 fragments of bone displayed evidence of burning. Half of the burnt assemblage was recovered from the sieved assemblage. Six fragments were recovered from undated pit [29004], four fragments were recovered from ditch [17816] and postholes [17813] and [17815] with in Trench 178. Single fragments of burnt bone were also recovered from late 13th- 15th century ditch [16804] and 19th century ditch [27611]. The burnt remains probably represent hearth sweeping and incidental burning events.

Species Representation

Tables 3 and 4 display the identified taxa for both hand and sieve collected assemblages by date and trench.
Cattle are the most abundant species identified within the assemblage, followed by sheep/goat and equid. Small numbers of rabbit *(Oryctolagus cuniculus)*, pig, domestic fowl (*Gallus sp.)* and mole (*Talpa europaea*) were also identified within the hand collected assemblage. The sieve collected assemblage yielded further species. Small numbers of frog *(Rana temporaria),* Herring *(Clupea harengus),* common eel (*Anguilla anguilla)* and wood mouse (*Apodemus sylvaticus)* were also identified.

As can be seen in Table 3, the majority of cattle and sheep/goat remains were recovered from two partial skeletons from ditch [16703] and Pit [27610], greatly enhancing the abundance of these species within the assemblage. Removing the bias of the two partial skeletons, the number of animal remains recovered from the entire scheme of works is rather limited, providing very little information, save the presence and possible utilisation of the animals on site.

Possible Iron Age Pit [27610]
Pit [27610] contained a partial burial of a sheep/goat aged approximately 20-34 months. No evidence of butchery was noted on any of the remains. Commingled with the sheep/goat remains were two rabbit bones. Rabbits are an introduced species, some evidence suggests that the animals were very occasionally imported into Britain during the Roman period, but did not colonise until the Norman period. As a burrowing species the remains of rabbits can become intrusive into earlier deposits. As there has been no evidence to date of Iron Age rabbit, the presence of these remains in the assemblage for pit [27610] could cast slight doubt on the date of the feature, or may have been a late intrusion.

Discussion

The animal bone assemblage recovered from the scheme of works is relatively small in size when compared to the extensive area covered by the bypass route, therefore providing limited information, save the presence of the identified species. However, the provenance of the remains appears to be clustered to a small number of trenches, creating areas of focus; late Saxon possible settlement activity predominantly within trenches 177, 178 and 182 and Iron Age and Roman in trenches 211, 216 and 298.

The sieved assemblage especially from the area of Anglo Saxon settlement activity show good preservation of small mammals, amphibians and fish. Many small mammals and amphibians are commensual species and can provide a good indication of the immediate environment to the settlement. The preservation of fish remains provides more in depth information of the diet economy and trade. Herring are a marine fish, and therefore would have had to have been traded from the coast.

Although the assemblages are small, the focus of activity for these areas suggest that in the event of further work there is a very good potential for further bone of moderate condition to be recovered, with good potential for providing further information on animal utilisation, husbandry practices and diet economy.

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Table 3, Summary of Identified Taxa from the Hand Collected Assemblage, by Trench

	Trench														
	167	175	177		178			181	182		216	276	289	290	Total
Taxon	Undated	Undated	Late13th-15th Century	Mid 9-10th Century	Late 9-Late10th Century	Mid 9-10th Century	Undated	Undated	Early-Mid 10th Century	Mid 9-10th Century	Iron Age	Iron Age?	Undated	Undated	
Equid (Horse Family)				1		1							3		5
Cattle	8*	1		2		9		1		1					22
Sheep/Goat				1		1		2				7*			11
Pig										1					1
Fowl (*Gallus Sp.)*				1											1
Rabbit (*Oryctolagus cuniculus)*												2			2
Mole (*Talpa europaea)*		1													1
Large Mammal	27*		1	11		9		6	2						56
Medium Mammal					1	3	2	1		7	1	116*		6	137
Unidentified	22			7								25			54
N=	57	2	1	23	1	23	2	10	2	9	1	150	3	6	290

*Partial skeleton

Table 4, Summary of Identifed Taxa from the Sieved Assemblage, by Trench

	Trench																		
	167	**168**	**176**		**177**	**178**			**181**	**182**		**185**	**211**	**216**	**276**		**293**	**298**	**Total**
Taxon	**Undated**	**Late 13th-15th C**	**Late 9-10th C**	**13th-15th C?**	**Mid 9-10th C**	**Mid 9-10th C**	**Late 9-Late 10th C**	**Undated**	**Undated**	**Mid 9-10th C**	**Early-Mid 10th C**	**2nd C +**	**Iron Age?**	**Iron Age**	**Iron Age?**	**19th C**	**13th-14th C**	**Roman**	
Sheep/Goat		1				1													2
Pig						1													1
Eel (*Anguilla anguilla)*								1											0
Herring (*Clupea harengus*)		1					1					1							3
Fish		1					4	1	5										11
Wood Mouse (*Apodemus sylvaticus)*																1			1
Mouse		1																	1
Rodent	1	1							1							1			4
Frog (*Rana temporaria)*		1		3		2													6
Amphibian			1						1										2
Large Mammal	7		1			1		2	3	2		2							18
Medium Mammal						7		2	2	2	2	2			1				18
Small Mammal		1																	1
Micro Mammal		3	4	1	1	8	1	4		1		1				6	1		31
Unidentified	1	5	5	4	1	27	5	32	32	9	9	14	1	2	17	1		1	166
N=	9	15	11	8	2	47	14	42	44	14	11	20	1	2	18	9	1	1	269

Key:

Codes and references used in cataloguing animal bone

Taxon: Species, family group or size category.
Non-species specific codes: -
: Equid- Horse Family
: Gadidae- Cod Family
: Passer- *Passerine,* Small songbirds i.e. Sparrow or Finches
: Turdid- *Turdidae,* Blackbird/Thrush family
: Corvid- *Covidae*, Crow family i.e. Crow, Rook or Jackdaw
: Galliform- Fowl or Pheasant
: Large Mammal – Cattle, Horse, Red Deer size
: Medium Mammal- Sheep/Goat, Pig, Dog, Roe Deer size
: Small Mammal- Cat, Rabbit size
: Micro Mammal- Mouse sized
: Unidentified- Not identified to species

Element: Skeletal element represented.
: Unidentified- Not identified to element

Side: L-Left, R- Right, B- Both

Zones: Records presence/absence of individual areas of the bone.
Based on Zone illustrations in Serjeantson, D, 1996 The Animal Bones, in *Refuse and Disposal at Area 16, East Runnymede: Runnymede Bridge Research Excavations,* Vol. 2, (eds) E S Needham and T Spence, British Museum Press, London.

Prox & Dist: Fusion of proximal and distal epiphyses
: X- Not present, F- Fused, U- Unfused, B- Unfused diaphysis and epiphysis present, V- Fusion Line visible.

Age Range: Age range based on age at fusion. Based on
Silver, I, A, 1969, The Ageing of Domestic Animals*,* in D. Brothwell and E.S. Higgs*, Science in Archaeology*, Thames and Hudson.

Path: Presence of pathology, details in notes column.

Butch: Presence of butchery, details in notes column.

Burnt: Presence of burning, details in notes column.

Gnaw: Presence of gnawing, details in notes column.

Worked: Fragment shows evidence of working, details in the notes column.

Fresh Break: Fresh break noted, fragments re-fitted as one bone.

Associated: Articulating or adjoining bones.

Measured: Measurements taken as according to Von den Driesch, A, 1976 *A Guide to the Measurement of Animal Bones from Archaeological Sites*, Peabody Museum.

Tooth Wear: Tooth wear score for aging data, taken as according to:

- Grant, A, 1982 'The Use of Tooth Wear as a Guide to the Age of Domestic Ungulates', in B Wilson *et al. Ageing and Sexing Animal Bones from Archaeological Sites*, BAR British Series 109, 91-108, Oxford
- Halstead, P, 1985 A Study of Mandibular Teeth from Romano-British Contexts at Maxey, in F Pryor, *Archaeology and Environment in the Lower Welland Valley*, East Anglian Archaeology Report 27:219-224

- Levine, M A, 1982 The Use of Crown Height Measurements and Eruption-Wear Sequences to Age Horse Teeth. In Wilson, B et al. *Ageing and Sexing Animal Bones from Archaeological Sites*. BAR British Series 109. 223 – 250

Surface: Taphonomies noted on the bone surface:
W- Weathered
A- Abraded
R- Rootlet etched
D- Chemical etching from digestion

Condition: Grades 0-5, where 0 = pristine and 5= indicating that the bone had suffered such structural and attritional damage as to make it unrecognisable. Based on Lyman, R L, 1996 *Vertebrate Taphonomy*, Cambridge Manuals in Archaeology, Cambridge University Press, Cambridge

No.: Number of individual bones/fragments

(g): Weight in grams

Notes: Notes on observed taphonomies, differences and associations.

Ctxt No	Sample No	Taxon	Element	Side	Z1	Z2	Z3	Z4	Z5	Z6	Z7	Z8	Prox	Dist	Path	Butch	Worked	Burnt	Gnaw	Fresh Break	Assoc'd	Measured	Tooth Wear	Surface	Condition	No	(g)	Notes
16704	0	Large Mammal	Rib	X	N	N	N	N	N	N	N	N	X	X	N	N	N	N	N	N	N	N	N	X	4	14	54	
16704	0	Cattle	Scapula	L	N	Y	N	Y	N	Y	N	Y	X	X	N	N	N	N	N	Y	N	N	N	R	4	1	75	
16704	0	Large Mammal	Cervical	B	N	N	N	N	N	N	N	N	F	F	N	N	N	N	N	N	Y	N	N	X	4	3	147	
16704	0	Large Mammal	Caudal	B	N	N	N	N	N	N	N	N	U	U	N	N	N	N	N	N	N	N	N	R	4	1	5	
16704	0	Large Mammal	Thoracic	B	N	N	N	N	N	N	N	N	F	F	N	N	N	N	N	N	Y	N	N	X	4	2	53	
16704	0	Large Mammal	Thoracic	B	N	N	N	N	N	N	N	N	U	X	N	N	N	N	N	N	N	N	N	X	4	1	11	
16704	0	Cattle	Skull	X	N	N	N	N	N	N	N	N	X	X	N	N	N	N	N	Y	N	N	N	X	4	1	357	
16704	0	Cattle	Humerus	R	N	N	Y	Y	Y	Y	Y	Y	U	F	N	N	N	N	N	Y	N	N	Y	R	4	1	171	
16704	159	Large Mammal	Carpal/Tarsal	X	N	N	N	N	N	N	N	N	X	X	N	N	N	N	N	N	N	N	N	X	3	1	2	
16704	0	Cattle	Mandible	L	N	Y	Y	Y	Y	Y	N	N	X	X	N	N	N	N	N	Y	N	N	Y	R	4	1	178	
16704	0	Large Mammal	Vertebra	X	N	N	N	N	N	N	N	N	X	X	N	N	N	N	N	N	N	N	N	R	4	5	36	
16704	0	Unidentified	Unidentified	X	N	N	N	N	N	N	N	N	X	X	N	N	N	N	N	N	N	N	N	X	4	22	36	
16704	159	Rodent	Tooth	X	N	N	N	N	N	N	N	N	X	X	N	N	N	N	N	N	N	N	N	X	2	1	0	Insicor
16704	159	Large Mammal	Rib	X	N	N	N	N	N	N	N	N	X	X	N	N	N	N	N	N	N	N	N	X	3	4	5	
16704	0	Cattle	Phalanx (I)	R	Y	Y	Y	Y	Y	Y	Y	Y	F	F	N	N	N	N	N	N	N	Y	N	R	4	1	10	
16704	0	Cattle	Phalanx (I)	L	Y	Y	Y	Y	Y	Y	Y	N	F	F	N	N	N	N	N	N	N	Y	N	R	4	1	10	
16704	0	Cattle	Innominate	R	Y	Y	Y	Y	Y	Y	Y	Y	F	X	N	N	N	N	N	Y	N	N	N	X	4	1	156	
16704	0	Cattle	Innominate	L	N	Y	N	N	N	N	N	N	X	X	N	N	N	N	N	N	N	N	N	X	4	1	33	
16704	159	Unidentified	Unidentified	X	N	N	N	N	N	N	N	N	X	X	N	N	N	N	N	N	N	N	N	X	3	1	0	
16704	159	Large Mammal	Long Bone	X	N	N	N	N	N	N	N	N	X	X	N	N	N	N	N	N	N	N	N	X	3	1	1	
16704	0	Large Mammal	Thoracic	B	N	N	N	N	N	N	N	N	X	F	N	N	N	N	N	N	N	N	N	X	4	1	14	
16704	159	Large Mammal	Skull	X	N	N	N	N	N	N	N	N	X	X	N	N	N	N	N	Y	N	N	N	X	3	1	55	
16803	3	Rodent	Tooth	X	N	N	N	N	N	N	N	N	X	X	N	N	N	N	N	N	N	N	N	X	3	1	0	Insicor
16803	3	Fish	Ray	X	N	N	N	N	N	N	N	N	X	X	N	N	N	N	N	N	N	N	N	X	2	1	0	
16803	3	Frog	Humerus	X	N	N	N	N	N	N	N	N	X	X	N	N	N	N	N	N	N	N	N	X	2	1	0	
16803	3	Herring	Vertebra	B	N	N	N	N	N	N	N	N	X	X	N	N	N	N	N	N	N	N	N	X	3	1	0	
16803	3	Unidentified	Unidentified	X	N	N	N	N	N	N	N	N	X	X	N	N	N	N	N	N	N	N	N	X	2	3	0	
16803	3	Mouse	Skul- maxilla	R	N	N	N	N	N	N	N	N	X	X	N	N	N	N	N	N	N	N	N	X	2	1	0	
16803	3	Unidentified	Unidentified	X	N	N	N	N	N	N	N	N	X	X	N	N	N	Y	N	N	N	N	N	X	3	1	0	Burnt grey/white
16803	3	Micro Mammal	Long Bone	X	N	N	N	N	N	N	N	N	X	X	N	N	N	N	N	N	N	N	N	X	3	3	0	
16803	3	Unidentified	Unidentified	X	N	N	N	N	N	N	N	N	X	X	N	N	N	N	N	N	N	N	N	X	3	1	0	
16803	3	Sheep/Goat	Metacarpal	L	N	N	N	N	N	Y	N	N	X	U	N	N	N	N	N	N	N	N	N	X	4	1	1	Lamb

Ctxt No	Sample No	Taxon	Element	Side	Z1	Z2	Z3	Z4	Z5	Z6	Z7	Z8	Prox	Dist	Path	Butch	Worked	Burnt	Gnaw	Fresh Break	Assoc'd	Measured	Tooth Wear	Surface	Condition	No	(g)	Notes
16803	3	Small Mammal	Lumbar	B	N	N	N	N	N	N	N	N	F	F	N	N	N	N	N	N	N	N	N	X	2	1	1	
17504	0	Cattle	Tooth	X	N	N	N	N	N	N	N	N	X	X	N	N	N	N	N	N	N	N	N	X	2	1	2	Broken upper PM/M
17504	0	Mole	Scapula	L	Y	Y	Y	Y	Y	Y	Y	N	F	X	N	N	N	N	N	N	N	N	N	X	2	1	0	
17602	41	Frog	Innominate	L	N	N	N	N	N	N	N	N	X	X	N	N	N	N	N	N	N	N	N	X	3	1	0	
17602	41	Micro Mammal	Radius	X	N	N	N	N	N	N	N	N	X	X	N	N	N	N	N	N	N	N	N	X	2	1	0	
17602	41	Unidentified	Unidentified	X	N	N	N	N	N	N	N	N	X	X	N	N	N	N	N	N	N	N	N	X	4	4	0	
17602	41	Frog	Tibiofibula	X	N	N	N	N	N	N	N	N	X	X	N	N	N	N	N	N	N	N	N	X	3	2	0	
17604	42	Unidentified	Unidentified	X	N	N	N	N	N	N	N	N	X	X	N	N	N	N	N	N	N	N	N	X	4	5	0	
17604	42	Large Mammal	Long Bone	X	N	N	N	N	N	N	N	N	X	X	N	N	N	N	N	N	N	N	N	X	3	1	6	
17604	42	Amphibian	Urostyle	B	N	N	N	N	N	N	N	N	X	X	N	N	N	N	N	N	N	N	N	X	3	1	0	
17604	42	Micro Mammal	Long Bone	X	N	N	N	N	N	N	N	N	X	X	N	N	N	N	N	N	N	N	N	X	3	2	0	
17604	42	Micro Mammal	Metapodial	X	N	N	N	N	N	N	N	N	F	F	N	N	N	N	N	N	N	N	N	X	3	1	0	
17604	42	Micro Mammal	Femur	R	Y	Y	Y	Y	N	N	N	N	F	X	N	N	N	N	N	N	N	N	N	X	2	1	0	
17704	4	Unidentified	Unidentified	X	N	N	N	N	N	N	N	N	X	X	N	N	N	N	N	N	N	N	N	X	3	1	0	
17704	0	Equid	Phalanx (I)	L	Y	Y	Y	Y	Y	Y	Y	Y	F	F	N	N	N	N	N	N	N	Y	N	R	4	1	40	
17704	0	Large Mammal	Mandible	R	N	N	N	N	N	Y	N	N	X	X	N	N	N	N	N	Y	N	N	N	R	4	1	26	
17704	0	Large Mammal	Rib	X	N	N	N	N	N	N	N	N	X	X	N	N	N	N	N	N	N	N	N	R	3	6	12	
17704	0	Cattle	Skull- maxilla	R	N	N	N	N	N	N	N	N	X	X	N	N	N	N	N	Y	N	N	N	X	3	1	64	
17704	0	Cattle	Metacarpal	R	Y	Y	Y	Y	Y	Y	N	N	F	X	N	N	N	N	N	N	N	N	N	R	4	1	74	
17704	0	Fowl	Ulna	R	N	N	N	N	Y	Y	Y	Y	X	F	N	N	N	N	N	N	N	N	N	X	3	1	1	
17704	0	Sheep/Goat	Tooth	R	N	N	N	N	N	N	N	N	X	X	N	N	N	N	N	N	N	N	N	X	2	1	1	Upper PM
17704	0	Large Mammal	Long Bone	X	N	N	N	N	N	N	N	N	X	X	N	N	N	N	N	N	N	N	N	R	3	3	24	
17704	0	Large Mammal	Long Bone	X	N	N	N	N	N	N	N	N	X	X	N	N	N	N	N	Y	N	N	N	X	4	1	26	
17704	0	Unidentified	Unidentified	X	N	N	N	N	N	N	N	N	X	X	N	N	N	N	N	N	N	N	N	X	3	7	3	
17704	4	Micro Mammal	Rib	X	N	N	N	N	N	N	N	N	X	X	N	N	N	N	N	N	N	N	N	X	2	1	0	
17705	0	Large Mammal	Long Bone	X	N	N	N	N	N	N	N	N	X	X	N	N	N	N	N	N	N	N	N	X	3	1	4	
17804	119	Unidentified	Unidentified	X	N	N	N	N	N	N	N	N	X	X	N	N	N	N	N	N	N	N	N	X	3	5	0	
17804	119	Fish	Rib	X	N	N	N	N	N	N	N	N	X	X	N	N	N	N	N	N	N	N	N	X	2	1	0	
17804	119	Fish	Scale	X	N	N	N	N	N	N	N	N	X	X	N	N	N	N	N	N	N	N	N	X	3	3	0	
17804	119	Herring	Vertebra	B	N	N	N	N	N	N	N	N	X	X	N	N	N	N	N	N	N	N	N	X	2	1	0	
17804	119	Micro Mammal	Tibia	R	Y	Y	Y	Y	Y	Y	Y	Y	F	F	N	N	N	N	N	N	N	N	N	X	2	1	0	
17804	0	Medium Mammal	Rib	X	N	N	N	N	N	N	N	N	X	X	N	N	N	N	N	N	N	N	N	X	3	1	1	

Ctxt No	Sample No	Taxon	Element	Side	Z1	Z2	Z3	Z4	Z5	Z6	Z7	Z8	Prox	Dist	Path	Butch	Worked	Burnt	Gnaw	Fresh Break	Assoc'd	Measured	Tooth Wear	Surface	Condition	No	(g)	Notes
17807	0	Cattle	Tooth	L	N	N	N	N	N	N	N	N	X	X	N	N	N	N	N	N	N	N	Y	X	2	1	7	Lower M1=m
17807	0	Large Mammal	Rib	X	N	N	N	N	N	N	N	N	X	X	N	N	N	N	N	N	N	N	N	X	2	1	1	
17807	0	Medium Mammal	Long Bone	X	N	N	N	N	N	N	N	N	X	X	N	N	N	N	N	N	N	N	N	X	3	1	1	
17807	0	Cattle	Nav-Cuboid	L	N	N	Y	Y	N	N	N	N	X	X	N	N	N	N	N	N	N	N	N	X	2	1	4	
17807	0	Cattle	Tooth	L	N	N	N	N	N	N	N	N	X	X	N	N	N	N	N	N	N	N	N	X	2	1	17	Broken upper molar
17807	0	Large Mammal	Rib	X	N	N	N	N	N	N	N	N	X	X	N	N	N	N	N	N	N	N	N	X	3	3	5	
17807	120	Unidentified	Unidentified	X	N	N	N	N	N	N	N	N	X	X	N	N	N	N	N	N	N	N	N	X	3	5	0	
17807	120	Micro Mammal	Long Bone	X	N	N	N	N	N	N	N	N	X	X	N	N	N	N	N	N	N	N	N	X	2	3	0	
17807	120	Frog	Radioulna	X	N	N	N	N	N	N	N	N	X	X	N	N	N	N	N	N	N	N	N	X	2	1	0	
17807	0	Cattle	Humerus	L	N	N	N	N	N	Y	N	Y	X	F	N	N	N	N	N	Y	N	N	N	R	3	1	41	
17807	120	Pig	Tooth	X	N	N	N	N	N	N	N	N	X	X	N	N	N	N	N	N	N	N	N	X	2	1	0	Broken PM/M
17807	0	Large Mammal	Lumbar	B	N	N	N	N	N	N	N	N	X	X	N	N	N	N	N	N	N	N	N	X	3	1	6	Arch and facets
17807	120	Sheep/Goat	Tooth	R	N	N	N	N	N	N	N	N	X	X	N	N	N	N	N	N	N	N	N	X	3	1	2	Broken lower M3
17807	0	Medium Mammal	Long Bone	X	N	N	N	N	N	N	N	N	X	X	N	N	N	N	N	N	N	N	N	X	3	1	3	
17807	0	Cattle	Metatarsal	R	N	N	N	N	Y	Y	Y	Y	X	F	N	N	N	N	N	N	N	Y	N	X	3	1	59	
17807	0	Sheep/Goat	Metapodial	X	N	N	N	N	N	N	N	N	X	F	N	N	N	N	N	N	N	N	N	X	4	1	1	Single fused condyle
17807	0	Cattle	Tooth	L	N	N	N	N	N	N	N	N	X	X	N	N	N	N	N	N	N	N	N	X	3	1	1	Broken lower insicor
17807	120	Unidentified	Unidentified	X	N	N	N	N	N	N	N	N	X	X	N	N	N	N	N	N	N	N	N	X	3	7	1	
17809	121	Unidentified	Unidentified	X	N	N	N	N	N	N	N	N	X	X	N	N	N	N	N	N	N	N	N	X	4	2	0	
17809	0	Medium Mammal	Scapula	X	N	N	N	N	N	N	N	N	X	X	N	N	N	N	N	N	N	N	N	X	3	1	1	Blade fragment
17809	121	Fish	Vertebra	X	N	N	N	N	N	N	N	N	X	X	N	N	N	N	N	N	N	N	N	X	3	1	0	Neural arch
17811	122	Medium Mammal	Long Bone	X	N	N	N	N	N	N	N	N	X	X	N	N	N	N	N	N	N	N	N	X	3	1	0	
17811	119	Eel	Vertebra	B	N	N	N	N	N	N	N	N	X	X	N	N	N	N	N	N	N	N	N	X	3	1	0	
17811	122	Unidentified	Unidentified	X	N	N	N	N	N	N	N	N	X	X	N	N	N	N	N	N	N	N	N	X	3	4	0	
17811	119	Unidentified	Unidentified	X	N	N	N	N	N	N	N	N	X	X	N	N	N	N	N	N	N	N	N	X	3	4	0	
17812	0	Medium Mammal	Long Bone	X	N	N	N	N	N	N	N	N	X	X	N	N	N	N	N	N	N	N	N	X	2	1	1	
17812	123	Micro Mammal	Long Bone	X	N	N	N	N	N	N	N	N	X	X	N	N	N	N	N	N	N	N	N	X	3	1	0	
17812	123	Large Mammal	Skull	X	N	N	N	N	N	N	N	N	X	X	N	N	N	N	N	N	N	N	N	X	3	2	1	
17812	123	Unidentified	Unidentified	X	N	N	N	N	N	N	N	N	X	X	N	N	N	N	N	N	N	N	N	X	3	6	0	

Animal Bone Archive Lincoln Eastern Bypass (LNEB 08)

Ctxt No	Sample No	Taxon	Element	Side	Z1	Z2	Z3	Z4	Z5	Z6	Z7	Z8	Prox	Dist	Path	Butch	Worked	Burnt	Gnaw	Fresh Break	Assoc'd	Measured	Tooth Wear	Surface	Condition	No	(g)	Notes
17812	123	Unidentified	Unidentified	X	N	N	N	N	N	N	N	N	X	X	N	N	N	Y	N	N	N	N	N	X	3	1	0	Burnt white/grey
17812	123	Unidentified	Unidentified	X	N	N	N	N	N	N	N	N	X	X	N	N	N	N	N	N	N	N	N	X	3	3	0	
17814	124	Medium Mammal	Rib	X	N	N	N	N	N	N	N	N	X	X	N	N	N	Y	N	Y	N	N	N	X	3	1	1	Burnt white
17814	124	Unidentified	Unidentified	X	N	N	N	N	N	N	N	N	X	X	N	N	N	Y	N	N	N	N	N	X	3	1	0	Burnt grey/white
17814	124	Unidentified	Unidentified	X	N	N	N	N	N	N	N	N	X	X	N	N	N	N	N	N	N	N	N	X	3	4	0	
17814	124	Micro Mammal	Long Bone	X	N	N	N	N	N	N	N	N	X	X	N	N	N	N	N	N	N	N	N	X	3	3	0	
17814	124	Unidentified	Unidentified	X	N	N	N	N	N	N	N	N	X	X	N	N	N	N	N	N	N	N	N	X	3	7	1	
17817	0	Equid	Metacarpal	L	N	N	N	N	Y	Y	N	N	X	U	N	N	N	N	N	Y	N	N	N	X	3	1	12	Juvenile/foal
17817	0	Medium Mammal	Long Bone	X	N	N	N	N	N	N	N	N	X	X	N	N	N	N	N	N	N	N	N	X	3	1	1	
17817	0	Large Mammal	Long Bone	X	N	N	N	N	N	N	N	N	X	X	N	N	N	N	N	N	N	N	N	X	4	2	4	
17817	0	Cattle	Tooth	R	N	N	N	N	N	N	N	N	X	X	N	N	N	N	N	N	N	N	N	X	2	1	23	Upper PM
17817	0	Cattle	Mandible	L	N	Y	Y	Y	N	N	N	N	X	X	N	N	N	N	N	Y	N	N	N	X	3	1	77	
17817	0	Cattle	Metacarpal	L	N	N	Y	N	Y	N	Y	N	X	F	N	N	N	N	N	Y	N	N	N	X	2	1	46	
17817	0	Large Mammal	Long Bone	X	N	N	N	N	N	N	N	N	X	X	N	N	N	N	N	N	N	N	N	X	3	2	8	
17817	125	Frog	Innominate	R	N	N	N	N	N	N	N	N	X	X	N	N	N	N	N	N	N	N	N	X	3	1	0	
17817	125	Large Mammal	Long Bone	X	N	N	N	N	N	N	N	N	X	X	N	N	N	Y	N	N	N	N	N	X	3	1	1	Burnt black/brown
17817	125	Unidentified	Unidentified	X	N	N	N	N	N	N	N	N	X	X	N	N	N	N	N	N	N	N	N	X	3	13	1	
17817	125	Medium Mammal	Skull	X	N	N	N	N	N	N	N	N	X	X	N	N	N	N	N	N	N	N	N	X	3	5	1	
17817	125	Medium Mammal	Long Bone	X	N	N	N	N	N	N	N	N	X	X	N	N	N	N	N	N	N	N	N	X	3	2	0	
17817	125	Micro Mammal	Long Bone	X	N	N	N	N	N	N	N	N	X	X	N	N	N	N	N	N	N	N	N	X	3	5	0	
17817	125	Unidentified	Unidentified	X	N	N	N	N	N	N	N	N	X	X	N	N	N	N	N	N	N	N	N	X	3	2	0	
18102	39	Unidentified	Unidentified	X	N	N	N	N	N	N	N	N	X	X	N	N	N	N	N	N	N	N	N	X	3	5	0	
18102	0	Cattle	Astragalus	L	Y	Y	Y	Y	Y	Y	Y	Y	X	X	N	Y	N	N	N	N	N	Y	N	X	2	1	19	Knife cuts on the dorsal condyles
18102	39	Large Mammal	Rib	X	N	N	N	N	N	N	N	N	X	X	N	N	N	N	N	N	N	N	N	X	3	1	0	
18102	39	Rodent	Tooth	R	N	N	N	N	N	N	N	N	X	X	N	N	N	N	N	N	N	N	N	X	3	1	0	Insicor
18102	39	Amphibian	Femur	X	N	N	N	N	N	N	N	N	X	X	N	N	N	N	N	N	N	N	N	X	3	1	0	
18102	0	Large Mammal	Cervical	B	N	N	N	N	N	N	N	N	F	F	N	N	N	N	N	N	N	N	N	X	2	1	51	
18102	0	Large Mammal	Rib	X	N	N	N	N	N	N	N	N	X	X	N	N	N	N	N	N	Y	N	N	X	3	4	23	

Ctxt No	Sample No	Taxon	Element	Side	Z1	Z2	Z3	Z4	Z5	Z6	Z7	Z8	Prox	Dist	Path	Butch	Worked	Burnt	Gnaw	Fresh Break	Assoc'd	Measured	Tooth Wear	Surface	Condition	No	(g)	Notes
18102	0	Sheep/Goat	Mandible	R	N	Y	Y	Y	N	N	N	N	X	X	N	N	N	N	N	N	N	N	Y	X	3	1	17	
18102	39	Medium Mammal	Long Bone	X	N	N	N	N	N	N	N	N	X	X	N	N	N	N	N	N	N	N	N	X	3	1	0	
18102	39	Medium Mammal	Skull	X	N	N	N	N	N	N	N	N	X	X	N	N	N	N	N	N	N	N	N	X	3	1	0	
18102	39	Unidentified	Unidentified	X	N	N	N	N	N	N	N	N	X	X	N	N	N	N	N	N	N	N	N	X	3	12	1	
18104	0	Medium Mammal	Rib	X	N	N	N	N	N	N	N	N	X	X	N	N	N	N	N	N	N	N	N	X	2	1	2	
18104	0	Sheep/Goat	Atlas	B	N	N	Y	Y	Y	N	N	N	X	X	N	N	N	N	N	N	N	N	N	X	3	1	12	
18104	0	Large Mammal	Rib	X	N	N	N	N	N	N	N	N	X	X	N	N	N	N	N	N	N	N	N	X	2	1	6	
18104	40	Unidentified	Unidentified	X	N	N	N	N	N	N	N	N	X	X	N	N	N	N	N	N	N	N	N	X	3	10	0	
18104	40	Fish	Hyomandibular	X	N	N	N	N	N	N	N	N	X	X	N	N	N	N	N	N	N	N	N	X	2	1	0	
18104	40	Fish	Unidentified	X	N	N	N	N	N	N	N	N	X	X	N	N	N	N	N	N	N	N	N	X	2	4	0	
18104	40	Unidentified	Unidentified	X	N	N	N	N	N	N	N	N	X	X	N	N	N	N	N	N	N	N	N	X	3	5	0	
18104	40	Large Mammal	Rib	X	N	N	N	N	N	N	N	N	X	X	N	N	N	N	N	N	N	N	N	X	3	2	0	
18203	158	Medium Mammal	Long Bone	X	N	N	N	N	N	N	N	N	X	X	N	N	N	N	N	N	N	N	N	X	3	1	1	
18203	0	Large Mammal	Vertebra	X	N	N	N	N	N	N	N	N	X	X	N	N	N	N	N	N	N	N	N	X	3	2	12	
18203	158	Medium Mammal	Skull	X	N	N	N	N	N	N	N	N	X	X	N	N	N	N	N	N	N	N	N	X	3	1	0	
18203	158	Unidentified	Unidentified	X	N	N	N	N	N	N	N	N	X	X	N	N	N	N	N	N	N	N	N	X	3	3	0	Tiny
18203	158	Unidentified	Unidentified	X	N	N	N	N	N	N	N	N	X	X	N	N	N	N	N	N	N	N	N	X	3	6	1	
18206	0	Medium Mammal	Long Bone	X	N	N	N	N	N	N	N	N	X	X	N	N	N	N	N	N	N	N	N	X	3	1	1	
18208	0	Medium Mammal	Long Bone	X	N	N	N	N	N	N	N	N	X	X	N	N	N	N	N	N	N	N	N	X	3	3	4	
18208	0	Pig	Ulna	L	N	Y	Y	Y	Y	Y	N	N	X	X	N	N	N	N	N	Y	N	N	N	X	4	1	17	
18208	0	Cattle	Calcaneus	L	Y	Y	Y	Y	Y	Y	Y	N	X	X	N	N	N	N	Y	N	N	N	N	X	3	1	46	Possible carnivore gnawing on the proximal end and body
18208	157	Micro Mammal	Long Bone	X	N	N	N	N	N	N	N	N	X	X	N	N	N	N	N	N	N	N	N	X	3	1	0	
18208	157	Unidentified	Unidentified	X	N	N	N	N	N	N	N	N	X	X	N	N	N	N	N	N	N	N	N	X	3	2	0	
18208	157	Medium Mammal	Long Bone	X	N	N	N	N	N	N	N	N	X	X	N	N	N	N	N	N	N	N	N	X	3	2	0	
18208	157	Unidentified	Unidentified	X	N	N	N	N	N	N	N	N	X	X	N	N	N	N	N	N	N	N	N	X	3	7	1	
18208	157	Large Mammal	Tooth	X	N	N	N	N	N	N	N	N	X	X	N	N	N	N	N	N	N	N	N	X	2	2	0	Enamel fragments
18208	0	Medium Mammal	Rib	X	N	N	N	N	N	N	N	N	X	X	N	N	N	N	N	N	N	N	N	X	3	3	7	

Ctxt No	Sample No	Taxon	Element	Side	Z1	Z2	Z3	Z4	Z5	Z6	Z7	Z8	Prox	Dist	Path	Butch	Worked	Burnt	Gnaw	Fresh Break	Assoc'd	Measured	Tooth Wear	Surface	Condition	No	(g)	Notes
18504	118	Unidentified	Unidentified	X	N	N	N	N	N	N	N	N	X	X	N	N	N	N	N	N	N	N	N	X	3	3	0	
18504	118	Unidentified	Unidentified	X	N	N	N	N	N	N	N	N	X	X	N	N	N	N	N	N	N	N	N	X	3	11	1	
18504	118	Medium Mammal	Long Bone	X	N	N	N	N	N	N	N	N	X	X	N	N	N	N	N	N	N	N	N	X	3	2	1	
18504	118	Large Mammal	Scapula	X	N	N	N	N	N	N	N	N	X	X	N	N	N	N	N	N	N	N	N	X	3	2	2	Blade fragments
18504	118	Micro Mammal	Mandible	R	Y	Y	Y	N	N	N	N	N	X	X	N	N	N	N	N	N	N	N	N	X	3	1	0	
18504	118	Herring	Vertebra	B	N	N	N	N	N	N	N	N	X	X	N	N	N	N	N	N	N	N	N	X	3	1	0	
21102	1	Unidentified	Unidentified	X	N	N	N	N	N	N	N	N	X	X	N	N	N	N	N	N	N	N	N	X	2	1	0	
21603	0	Medium Mammal	Long Bone	X	N	N	N	N	N	N	N	N	X	X	N	N	N	N	N	Y	N	N	N	X	5	1	9	
21603	153	Unidentified	Unidentified	X	N	N	N	N	N	N	N	N	X	X	N	N	N	N	N	N	N	N	N	X	4	2	0	
27609	0	Sheep/Goat	Scapula	L	N	Y	Y	Y	N	Y	N	N	X	X	N	N	N	N	N	N	Y	N	N	R	4	1	6	
27609	0	Sheep/Goat	Humerus	R	N	N	Y	Y	Y	Y	Y	Y	X	F	N	N	N	N	N	N	N	N	N	R	4	1	14	
27609	0	Sheep/Goat	Innominate	L	N	Y	Y	Y	Y	Y	Y	Y	X	X	N	N	N	N	N	Y	Y	N	N	R	4	1	13	
27609	0	Sheep/Goat	Mandible	R	N	Y	Y	Y	Y	Y	Y	Y	X	X	N	N	N	N	N	N	Y	N	N	R	4	1	35	
27609	0	Rabbit	Ulna	L	N	Y	Y	N	N	N	N	N	U	X	N	N	N	N	N	N	N	N	N	X	3	1	0	
27609	2	Unidentified	Unidentified	X	N	N	N	N	N	N	N	N	X	X	N	N	N	N	N	N	N	N	N	X	3	2	0	
27609	2	Unidentified	Unidentified	X	N	N	N	N	N	N	N	N	X	X	N	N	N	N	N	N	N	N	N	X	3	15	1	
27609	2	Medium Mammal	Vertebra	B	N	N	N	N	N	N	N	N	X	U	N	N	N	N	N	N	N	N	N	X	3	1	1	
27609	0	Medium Mammal	Long Bone	X	N	N	N	N	N	N	N	N	X	X	N	N	N	N	N	N	N	N	N	X	3	1	1	
27609	0	Rabbit	Innominate	L	N	Y	Y	Y	Y	N	Y	N	X	X	N	N	N	N	Y	N	N	N	N	X	4	1	1	Carnivore tooth puncture mark
27609	0	Medium Mammal	Rib	X	N	N	N	N	N	N	N	N	X	X	N	N	N	N	N	N	Y	N	N	X	3	61	45	
27609	0	Sheep/Goat	Axis	B	Y	Y	N	N	N	N	N	N	F	X	N	N	N	N	N	N	Y	N	N	X	4	1	2	
27609	0	Medium Mammal	Sacrum	B	Y	N	N	N	N	N	N	N	U	X	N	N	N	N	N	N	Y	N	N	X	4	1	4	
27609	0	Medium Mammal	Lumbar	B	N	N	N	N	N	N	N	N	X	X	N	N	N	N	N	N	Y	N	N	X	4	2	4	
27609	0	Medium Mammal	Thoracic	B	N	N	N	N	N	N	N	N	U	U	N	N	N	N	N	N	Y	N	N	X	4	7	19	
27609	0	Sheep/Goat	Skull	L	N	N	N	N	N	N	N	N	X	X	N	N	N	N	N	Y	Y	N	N	X	4	1	32	Fragmentary
27609	0	Sheep/Goat	Innominate	R	Y	Y	Y	Y	Y	Y	Y	N	F	X	N	N	N	N	N	Y	Y	N	N	R	4	1	17	
27609	0	Medium Mammal	Vertebra	X	N	N	N	N	N	N	N	N	X	X	N	N	N	N	N	N	Y	N	N	R	3	44	43	Misc arch fragments
27609	0	Unidentified	Unidentified	X	N	N	N	N	N	N	N	N	X	X	N	N	N	N	N	N	N	N	N	X	3	25	6	

Animal Bone Archive Lincoln Eastern Bypass (LNEB 08)

Ctxt No	Sample No	Taxon	Element	Side	Z1	Z2	Z3	Z4	Z5	Z6	Z7	Z8	Prox	Dist	Path	Butch	Worked	Burnt	Gnaw	Fresh Break	Assoc'd	Measured	Tooth Wear	Surface	Condition	No	(g)	Notes
27613	5	Unidentified	Unidentified	X	N	N	N	N	N	N	N	N	X	X	N	N	N	Y	N	N	N	N	N	X	3	1	0	Burnt grey/white
27613	5	Micro Mammal	Long Bone	X	N	N	N	N	N	N	N	N	X	X	N	N	N	N	N	N	N	N	N	X	3	3	0	
27613	5	Micro Mammal	Skull	X	N	N	N	N	N	N	N	N	X	X	N	N	N	N	N	N	N	N	N	X	3	3	0	
27613	5	Rodent	Tooth	X	N	N	N	N	N	N	N	N	X	X	N	N	N	N	N	N	N	N	N	X	3	1	0	Inscisor
27613	5	Wood Mouse	Tooth	X	N	N	N	N	N	N	N	N	X	X	N	N	N	N	N	N	N	N	N	X	3	1	0	molar
28902	0	Equid	Tooth	R	N	N	N	N	N	N	N	N	X	X	N	N	N	N	N	N	N	N	N	X	3	1	31	Upper Molar
28902	0	Equid	Tooth	L	N	N	N	N	N	N	N	N	X	X	N	N	N	N	N	N	N	N	Y	X	3	1	40	Upper PM/M 54mm
28903	0	Equid	Tooth	R	N	N	N	N	N	N	N	N	X	X	N	N	N	N	N	Y	N	N	N	X	4	1	5	Broken upper PM/M
29005	0	Medium Mammal	Long Bone	X	N	N	N	N	N	N	N	N	X	X	N	N	N	Y	N	N	N	N	N	X	3	6	1	Burnt white
29304	115	Micro Mammal	Long Bone	X	N	N	N	N	N	N	N	N	X	X	N	N	N	N	N	N	N	N	N	X	3	1	0	
29804	156	Unidentified	Unidentified	X	N	N	N	N	N	N	N	N	X	X	N	N	N	N	N	N	N	N	N	X	3	1	0	

Appendix 5

THE ENVIRONMENTAL SAMPLES

By Val Fryer

AN EVALUATION OF THE CHARRED PLANT MACROFOSSILS AND OTHER REMAINS FROM THE LINCOLN EASTERN BYPASS (LNEB08)

Val Fryer, Church Farm, Sisland, Loddon, Norwich, Norfolk, NR14 6EF
March 2009

Introduction and method statement

Evaluation excavations along the proposed route of the Lincoln Eastern Bypass, undertaken by Archaeological Project Services (A.P.S.), recorded features of prehistoric, Roman, Late Saxon, medieval and later date. Samples for the evaluation of the content and preservation of the plant macrofossil assemblages were taken from ditch, pit and post-hole fills and from a number of deposits within natural geological features. Twenty seven were submitted for assessment.

The samples were bulk floated by A.P.S. staff 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 – 3. Nomenclature within the tables follows Stace (1997) for the plant macrofossils and Kerney and Cameron (1979) for the mollusc shells. All plant remains were charred. Modern contaminants including fibrous and woody roots, seeds, straw and chaff were present throughout.

Results

Oat (*Avena* sp.), barley (*Hordeum* sp.) and wheat (*Triticum* sp.) grains were recorded, mostly as single specimens, within ten of the assemblages studied. Preservation was generally very poor, with most grains being severely puffed and distorted, probably as a result of combustion at very high temperatures. Seeds were exceedingly scarce, appearing within only three samples. Specimens noted included a small legume (Fabaceae), a large grass (Poaceae) fruit and a single dock (*Rumex* sp.) fruit. Charcoal/charred wood fragments were present at a very low density within all but eight assemblages.

Shells of a range of terrestrial molluscs were noted at a low to moderate density throughout. However, at the time of writing, the contemporaneity of these remains with the contexts from which the samples were taken is uncertain. Most specimens appeared very well preserved and it is considered that some, at least, were intrusive within the contexts.

Other remains occurred very infrequently. The fragments of black porous and tarry material were probable residues of the combustion of organic remains (including cereal grains) at very high temperatures and bone fragments were noted within samples 40 and 159.

Two assemblages (116 and 155) were entirely composed of modern contaminant materials.

Conclusions and recommendations for further work

In summary, the few macrofossils recorded within the assemblages are almost certainly derived from scattered debris, much of which was probably accidentally incorporated within the feature fills. The pre-Roman assemblages (Table 1) contain little other than mollusc shells, many of which may be intrusive within the contexts. Although cereals and charcoal are present within the Roman assemblages (Table 1), the highest density of material is recorded within the Middle to Late Saxon contexts (Table 2), possibly indicating that these features were situated in reasonably close proximity to areas of either domestic or agricultural activity.

Although plant remains are rare within the current assemblages, their presence does indicate that macrofossils do survive within the archaeological horizon. Therefore, if further interventions are

planned along the route of the bypass, the following recommendations for plant macrofossil sampling are made:

- Additional samples of approximately 20 – 40 litres in volume should be taken from all sealed and well dated contexts, with especial emphasis placed on features of expected Roman and Middle to Late Saxon date.
- In order to try to ascertain the degree of modern contamination within the mollusc assemblages, it is suggested that any deep ditch/pit sections are column sampled through the entire sequence of fills. Note should also be made of any recent animal or other disturbance within the contexts. If any queries arise regarding this sampling, the specialist should be informed and a visit to the site should be arranged. N.B. Any column samples taken should ideally be processed by the specialist.

- All samples should ideally be stored in cool, dark conditions prior to processing, and processing should be undertaken at the earliest possible date after excavation.

- All relevant paperwork must accompany the samples at all times.

References

Kerney, M.P. and Cameron, R.A.D., 1979 — *A Field Guide to the Land Snails of Britain and North-west Europe*. Collins

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 P = prehistoric IA = Iron Age R = Roman Sax = Saxon Med = medieval
ph = post-hole G.feat = geological feature

Sample No.	3	5	77	154	159	115	117
Context No.	**16803**	**27613**	**29904**	**29005**	**16704**	**29304**	**30704**
Feature type	**Ditch**	**Ditch**	**G.feat.**	**Pit**	**Pit**	**G.feat**	**Ditch**
Date	**Med.**	**19th**					
Plant macrofossils							
Cereal indet. (grains)							x
Charcoal <2mm			x	x	x		x
Molluscs							
Woodland/shade loving species							
Carychium sp.							x
Macrogastra sp.		xcf					
Punctum pygmaeaum	x	x					
Zonitidae indet.		x					
Open country species							
Helicella itala							x
Pupilla muscorum			x				
Vallonia sp.		x	x			x	
Vertigo pygmeaea		x	x				
Catholic species							
Cepaea sp.		x					
Cochlicopa sp.		x	x				
Trichia hispida group	x	x	x			x	
Other remains							
Black tarry material		x					
Bone					xx		
Sample volume (litres)							
Volume of flot (litres)	**<0.1**	**<0.1**	**<0.1**	**<0.1**	**<0.1**	**<0.1**	**<0.1**
% flot sorted	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**

Table 3. Charred plant macrofossils and other remains from the medieval, post-medieval and un-dated contexts, Lincoln Eastern Bypass.

Sample No.	**1**	**2**	**118**	**153**	**156**
Context No.	**21102**	**27609**	**18504**	**21603**	**29804**
Feature type	**Ditch**	**Pit**	**?Pit**	**Ditch**	**Ditch**
Date	**P-Rom**	**IA/R**	**R**	**R**	**R**
Plant macrofossils					
Triticum sp. (grains)				xcf	
Cereal indet. (grains)			xcf		
Charcoal <2mm			x	x	x
Charcoal >2mm			x		x
Indet.seeds	x				
Molluscs					
Woodland/shade loving species					
Acanthinula aculeata	x				
Aegopinella sp.	xcf				
Carychium sp.	x				
Ena sp.		x			
Pomatius elegans	x				
Punctum pygmaeaum	x				
Vitrea sp.		x			
Zonitidae indet.	x	x			
Open country species					
Helicella itala	x				
Helicidae indet.	x	x			
Pupilla muscorum	x				
Vallonia sp.		x		x	
V. costata	x				
Vertigo pygmeaea	x				
Catholic species					
Cochlicopa sp.	x	x			
Trichia hispida group	xxx	xx			
Other remains					
Black tarry material					x
Sample volume (litres)					
Volume of flot (litres)	**<0.1**	**<0.1**	**<0.1**	**<0.1**	**<0.1**
% flot sorted	**100%**	**100%**	**100%**	**100%**	**100%**

Table 1. Charred plant macrofossils and other remains from the prehistoric to Roman contexts, Lincoln Eastern Bypass.

Sample No.	**4**	**39**	**40**	**119**	**120**	**125**	**158**	**42**	**121**	**122**	**123**	**124**	**157**
Context No.	**17704**	**18102**	**18104**	**17804**	**17807**	**17817**	**18203**	**17604**	**17809**	**17811**	**17812**	**17814**	**18208**
Feature type	**Pit**	**Ditch**	**Ditch**	**ph**	**Ditch**	**Ditch**	**Pit**	**Pit**	**ph**	**ph**	**ph**	**ph**	**Ditch**
Date	**9/10th+**	**9/10th**	**9/10th**	**9/10th+**	**9/10th**	**9/10th**	**9/10th**	**Sax.**	**?Sax.**	**?Sax.**	**?Sax.**	**?Sax.**	**Sax.**
Plant macrofossils													
Avena sp. (grains)					x							x	
Hordeum sp. (grains)	x	x			x	xcf	x			xcf			
Triticum sp. (grains)		x			x		xcf		x			x	x
Cereal indet. (grains)	x	x	x	x	x	x	x		x	x		x	x
Fabaceae indet.										x			
Large Paoceae indet.												x	
Rumex sp.		xcf											
Charcoal <2mm	x	x	x	x		xx	x			x		xx	x
Charcoal >2mm					x	x						x	
Indet.seeds					x					x			
Molluscs													
Woodland/shade loving species													
Acanthinula aculeata					x								
Aegopinella sp.								xcf				xcf	
Carychium sp.									x				
Ena sp.								x					
Punctum pygmaeaum								x					
Vitrea sp.	x												
Open country species													
Helicidae indet.												x	x
Pupilla muscorum								x					
Vallonia sp.	x	x		x	x			x			x	x	x
V. costata					x	x		x					
Vertigo pygmeaea								x					
Catholic species													
Cepaea sp.								x					
Cochlicopa sp.	x				x				x				
Trichia hispida group	x	x		x	x	x		xx	x	x	x	x	
Other remains													
Black porous 'cokey' material	x	x	x		x	x	x		x	x		x	x
Black tarry material			x		x								
Bone			x										
Sample volume (litres)													
Volume of flot (litres)	**<0.1**	**<0.1**	**<0.1**	**<0.1**	**<0.1**	**<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%**	**100%**	**100%**	**100%**	**100%**	**100%**

Table 2. Charred plant macrofossils and other remains from the Saxon contexts, Lincoln Eastern Bypass.

Appendix 6

GLOSSARY

Anglo-Saxon	Pertaining to the period when Britain was occupied by peoples from northern Germany, Denmark and adjacent areas. The period dates from approximately AD 450-1066.
Bronze Age	A period characterised by the introduction of bronze into the country for tools, between 2250 and 800 BC.
Cropmark	A mark that is produced by the effect of underlying archaeological or geological 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.
Geophysical Survey	Essentially non-invasive methods of examining below the ground surface by measuring deviations in the physical properties and characteristics of the earth. Techniques include magnetometry and resistivity survey.
Iron Age	A period characterised by the introduction of Iron into the country for tools, between 800 BC and AD 50.
Medieval	The Middle Ages, dating from approximately AD 1066-1500.
Mesolithic	The 'Middle Stone Age' period, part of the prehistoric era, dating from approximately 11000 - 4500 BC.
Manuring Scatter	A distribution of artefacts, usually pottery, created by the spreading of manure and domestic refuse from settlements onto arable fields. Such scatters can provide an indication of the extent and period of arable agriculture in the landscape.
Neolithic	The 'New Stone Age' period, part of the prehistoric era, dating from approximately 4500 - 2250 BC.
Palaeolithic	The 'Old Stone Age' period, part of the prehistoric era, dating from approximately 500000 - 11000 BC in Britain.
Post-medieval	The period following the Middle Ages, dating from approximately AD 1500-1800.
Prehistoric	The period of human history prior to the introduction of writing. In Britain the prehistoric period lasts from the first evidence of human occupation about 500,000 BC, until the Roman invasion in the middle of the 1st century AD.
Romano-British	Pertaining to the period dating from AD 43-410 when the Romans occupied Britain.

Appendix 7

THE ARCHIVE

The archive consists of:

32	Daily Record Sheets
125	Trench Record Sheets
22	Context Register Sheets
129	Context Record Sheets
13	Plan Record Sheets
14	Section Record Sheets
5	Environmental Sample Register sheets
28	Environmental Sample Sheets
1	Small Finds Record Sheets
1	Levels Sheets
146	Machining Record Sheets
35	Sheets containing scale plans
36	Sheets containing scale sections
23	Photographic record 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: LCNCC: 2008.159

Archaeological Project Services Site Code: LNEB08

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.

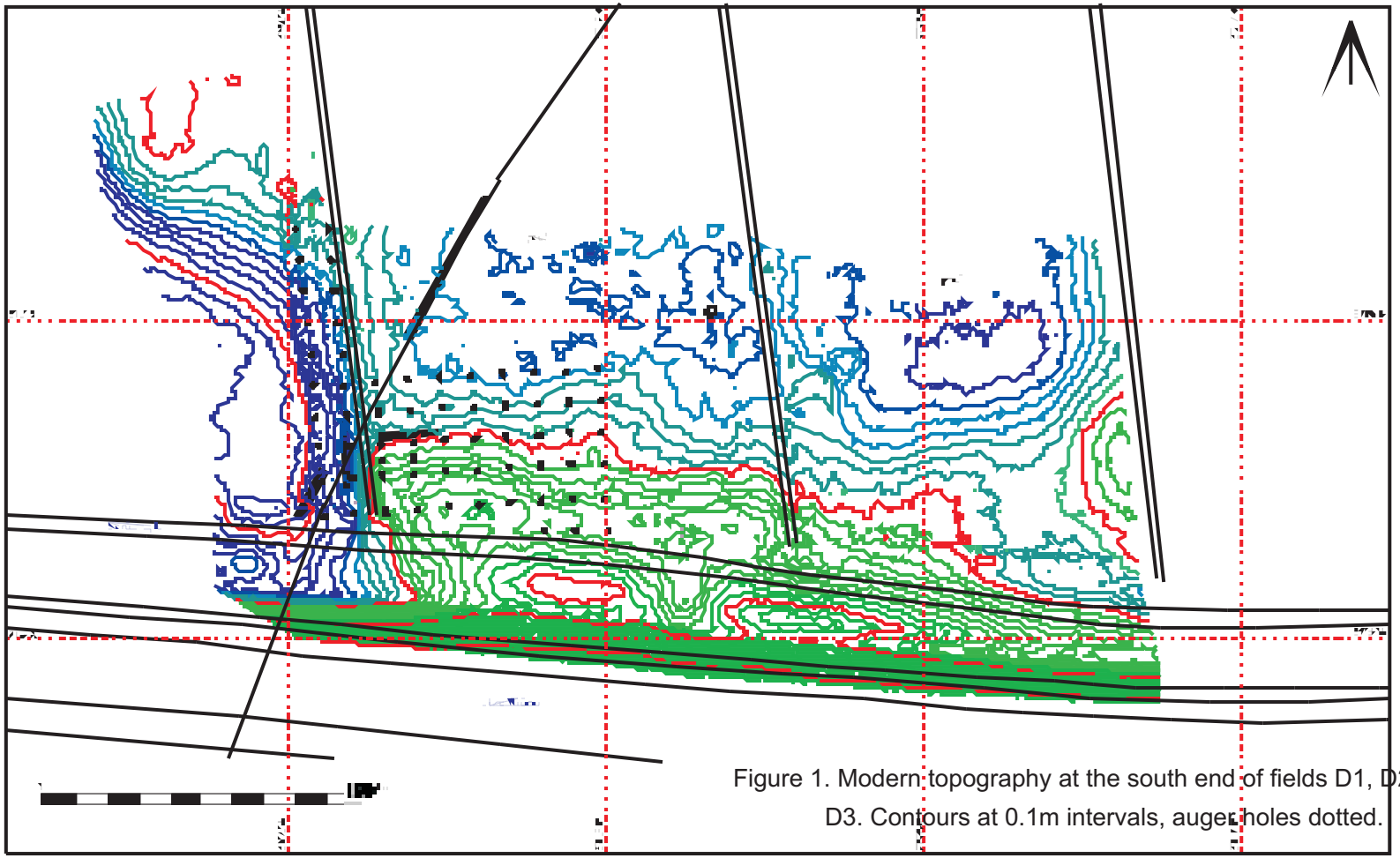


Figure 1. Modern topography at the south end of fields D1, D2 and D3. Contours at 0.1m intervals, auger holes dotted.

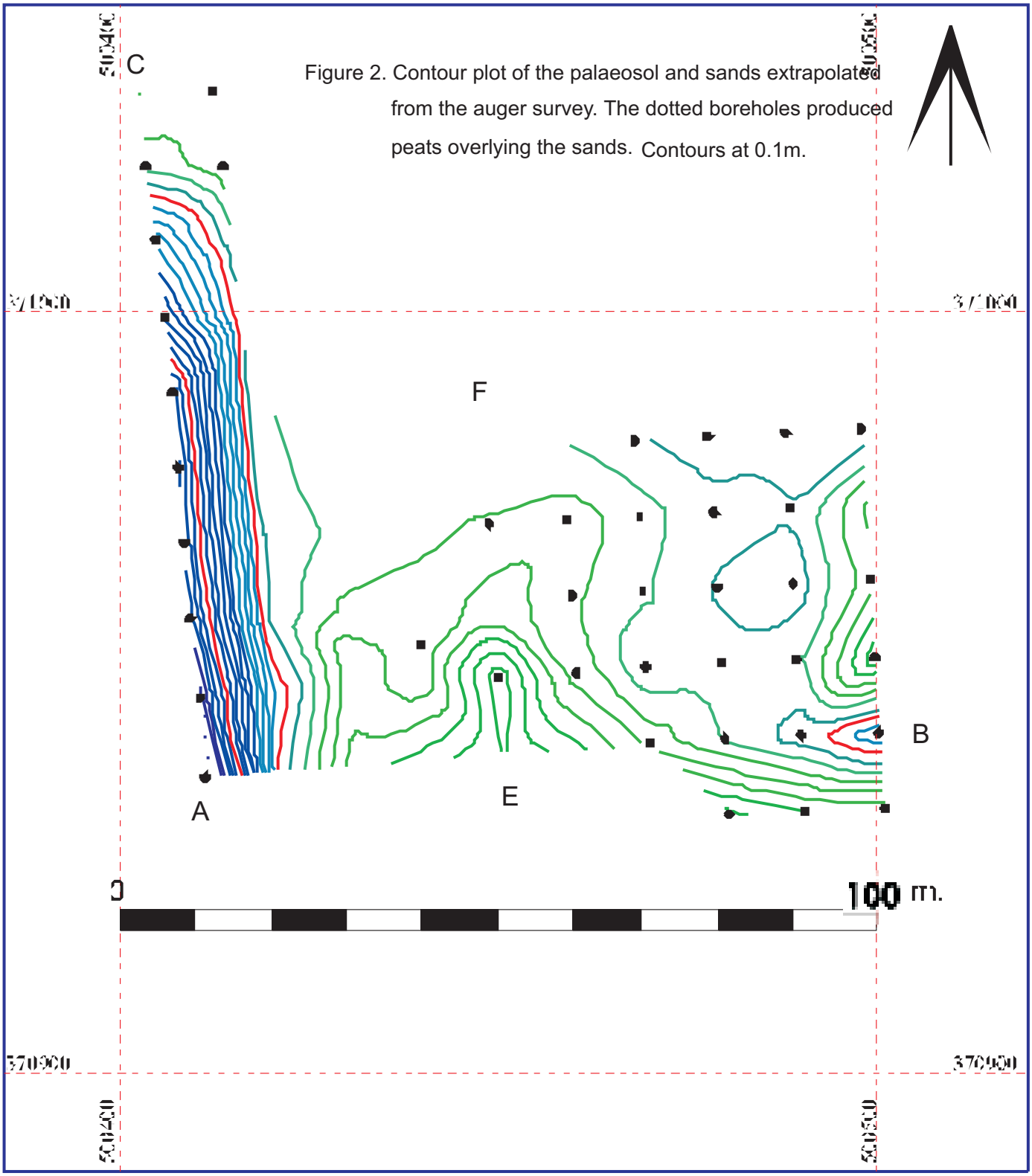


Figure 2. Contour plot of the palaeosol and sands extrapolated from the auger survey. The dotted boreholes produced peats overlying the sands. Contours at 0.1m.

Figure 3. Reconstructed section of the deposits between points A and B (see Fig. 2)

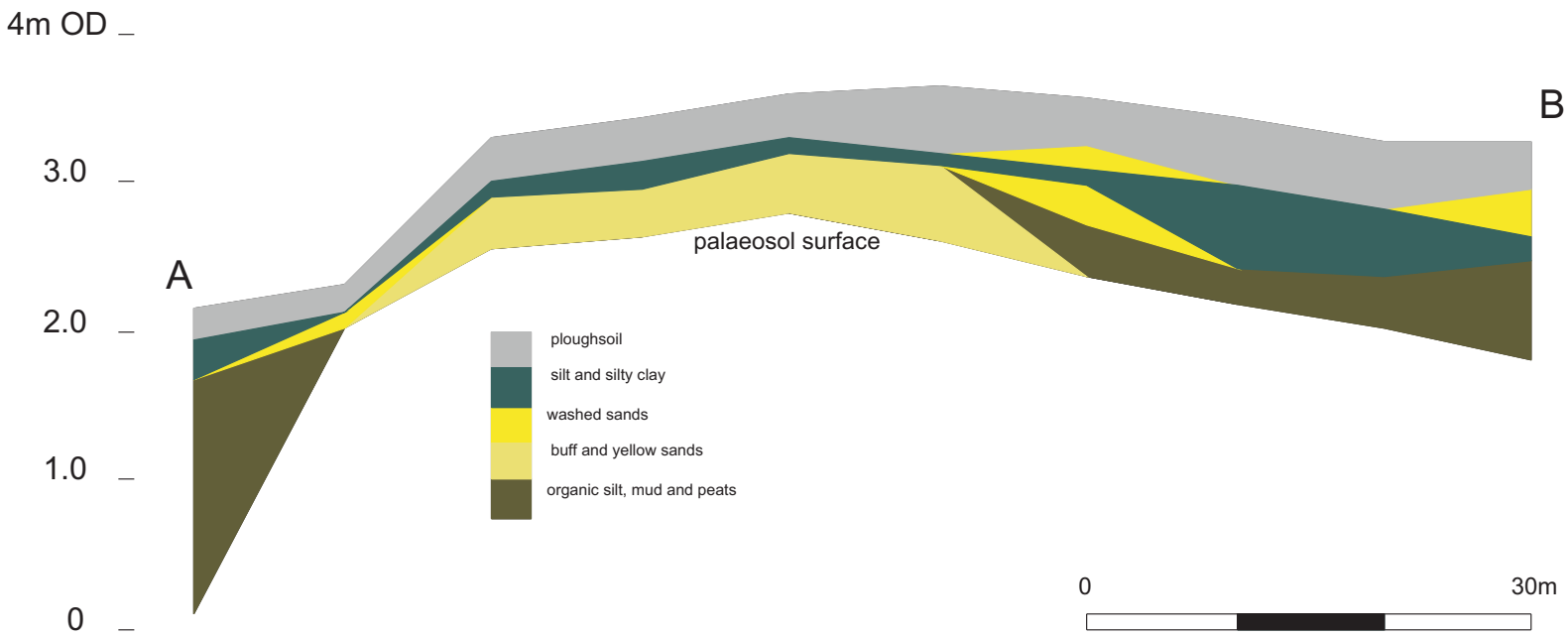


Figure 4. Reconstructed section of the deposits between points A and C (see Fig. 2)

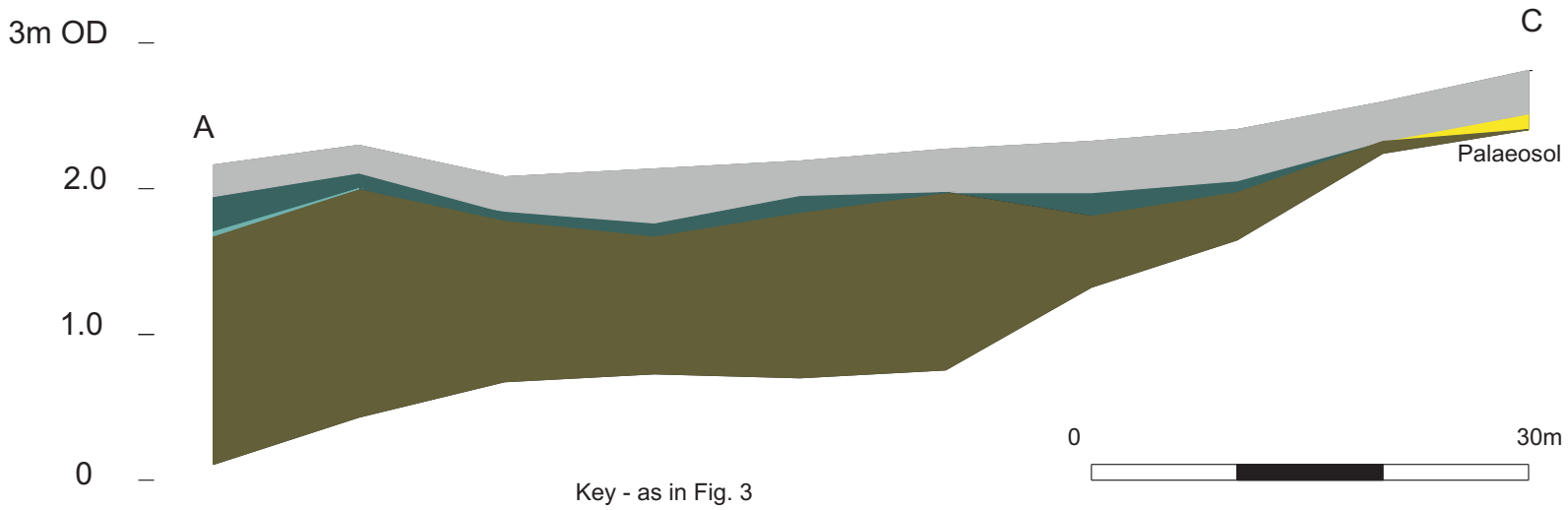
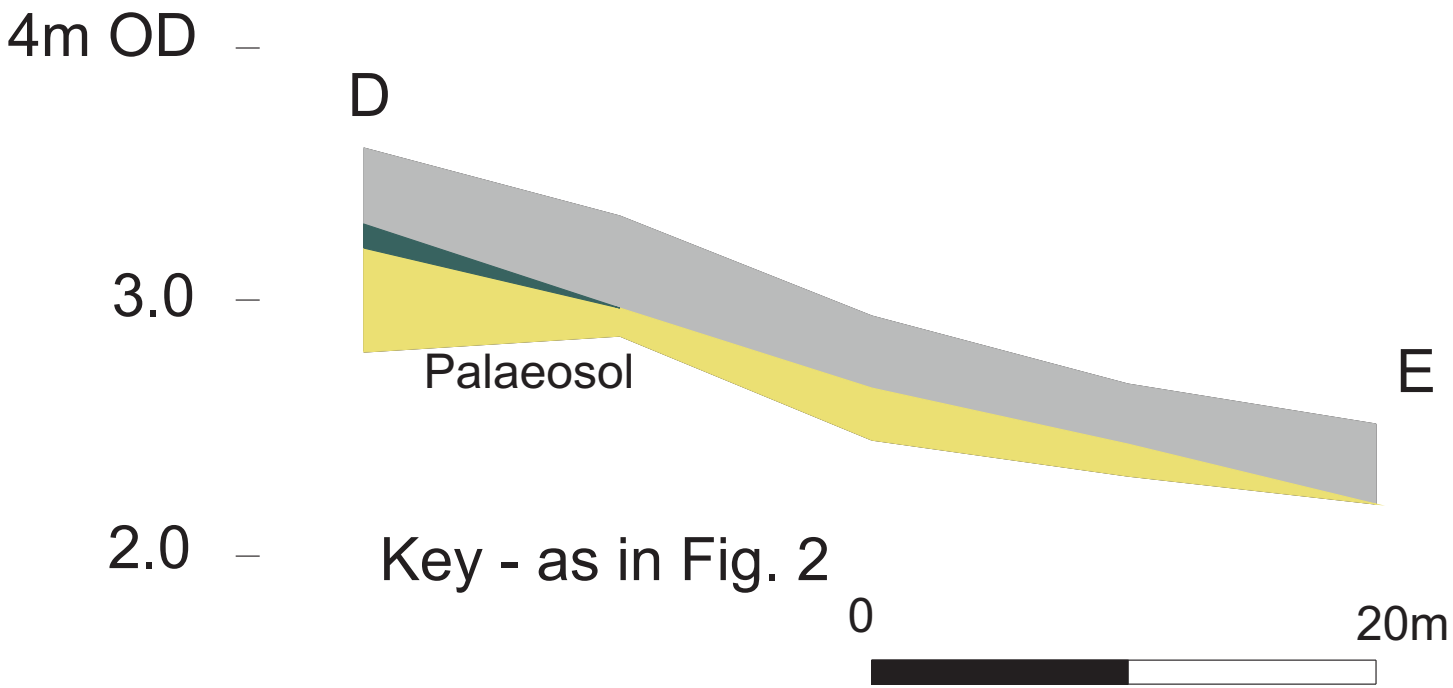


Figure 5, Reconstructed section between points D and E (see Fig. 2)



Topographic and auger survey of the northern floodplain of the River Witham, Lincoln Eastern Bypass, Greetwell

Introduction

The recognition of a buried soil horizon or palaeosol in Trench 144 during the evaluation excavation in which flints of late mesolithic date were recovered indicated the survival of a relatively intact ground surface of prehistoric date below an overburden of later organic silts and sands. This palaeosol was particularly recognised in Trenches 144 and 152 which lay on the slightly raised ground of a natural river levee. Because of the potential archaeological importance of this horizon on the levee an auger survey was commissioned of the area within the road corridor in order to map the extent of this palaeosol and its potential archaeology.

A 10 metre grid was laid out across the archaeologically sensitive area (see Fig. 1) and a borehole placed at each centre. The survey was conducted using a 25mm diameter gouge auger 1 metre in length, with the deposits being generally classified to topsoil, silts, organic silts, sands, organic muds and peats, and a palaeosol. The site lies on fluvio-glacial sands and the palaeosol was recognised as a layer with a distinct colouration overlying the buff and yellow sands of the lower soil horizons. In conjunction with the auger survey a topographic survey was undertaken of the modern ground surface using a GPS in the southern half of fields D1, D2 and D3. The results of this survey are plotted with a contour interval of 0.1m in Figure 1.

Contour Survey

The topographic survey clarifies two major features that were observed on the ground during the evaluation. The bank or raised ground feature just north of the present River Witham interpreted as natural river levee, and a channel at the western end of the site interpreted as an ancient palaeochannel of the River Witham (Rackham, August 2003).

The survey shows that the land immediately north of the River Witham at the crossing point of the proposed bypass lies between 1.8 and 4.3m OD, the highest point lying between the north delph and the river approximately 150m east of the crossing point. The levee runs at a slight angle to the present day river, its high point crossing the north delph immediately east of the road corridor. To the north in Fields D1 and D2 the land surface drops to 2.5m OD forming a low lying floodplain behind the levee.

Between Fields D2 and D3 there is a marked drop in elevation that runs parallel to the field drain separating them. This is most marked at the southern end where the ground level drops from 3.31m to 2.32 over 10 metres. This drop although less marked to the north is observable in Fig 1 running parallel with the field edge for 100m north of the delph. The evaluation excavations in trenches 152 and 153 showed that this drop marked the edge of an old river channel (Rackham *et al* 2004), 152 picking up the edge of the channel cut and 153 the organic mud and peat filled margin.

The contour survey suggests that the northern bank of the river begins to turn westwards a hundred metres north of the delph and it can be followed on the ground as a slight rise for several hundred metres upstream towards Lincoln.

While it is conjecture it may be worth noting that one or both of the high points on the levee between the river and the north delph could be barrows. Several of the Bronze Age barrows

in the valley of the Witham downstream from Lincoln appear to be located on the levees of the old river course, and this site constitutes just such a situation.

Auger survey

The auger survey was originally intended to plot the distribution of a freshwater mussel shell rich layer initially interpreted as a potential shell midden site. However the assessment of the samples and data collected from the evaluation trench in which this deposit was recognised has led to a re-interpretation of the deposit as primarily of natural origin (Rackham *et al* 2004). The auger survey was therefore extended to plot the distribution of the buried soil horizon or palaeosol over the levee area of the site where it lies within the road corridor. Since the primary objective was to produce a model of this palaeosol (Fig. 2) and its survival the overlying sediments were broadly classified in order to illustrate the character of the deposits and allow the reconstruction of generalised sections across the site (Figs 3-5), rather than described in detail.

A contour plot of the surface of the palaeosol and underlying sands, the latter where the buried soil was not specifically recognised or had been truncated, was produced from the auger results (Fig. 2). This is not a true topographical plot of the old ground surface, but only an approximation. This is for a number of reasons. Firstly as Macphail (Rackham *et al* 2004) has indicated there is evidence that the palaeosol has been truncated in antiquity. Secondly on the low ground behind the levee it appears to have been truncated by possible channel scour, ploughing and soil processes. Thirdly it appears to have been cut by the northward migration of the river channel during the Bronze Age, a cut that was clearly visible in evaluation Trench 152. This surface therefore marks the archaeologically important level rather than the true buried ground surface.

The plot (Fig. 2) shows two main elements to the surface. The high point of the palaeosol lies at 2.877m OD in the south west corner of field D2, where it is buried by 0.8m of sands, compacted silts and sandy silt topsoil. In this area some of the overburden, particularly the silts, may well be of recent origin, deriving from material dumped by machine during cleaning of the north delph. While the levee is still evident along the southern margin of the fields it appears to have been less marked than the modern topography, rising no more than 0.7m above the floodplain to the north. In contrast the edge of the river bank on the west side of the site shows a much more dramatic fall in level compared to the modern topography, with the sands underlying later sediments falling nearly two metres across the 10 metres between the two western auger transects. In this area the palaeosol has either been removed by the channel or never existed.

The broad sequence of deposits revealed during the auger survey is illustrated by the three reconstructed section drawings (figs. 3-5). The east west profile across the southern end of the site, the main levee area, shows the following sequence. The palaeosol was recognised in most of the boreholes on the raised levee (Fig. 3) buried beneath fairly clean buff or iron rich yellow sands on the higher ground and humified organic silts or peats on the lower areas. In the section presented in Fig. 3 only the far western auger did not produce evidence for the palaeosol and this because it lay within the river channel. Overlying the palaeosol on the high ground, the buff and yellow sands also appeared to have developed a palaeosol on their surface. Two tentative explanations are offered for this. Firstly this sand deposit may represent continued natural accretion of the levee burying the earlier palaeosol. Alternatively it could reflect the mounded sand of a barrow. In Fig. 3 the deposits were recorded in three consecutive boreholes, ie over at least 30 metres, but not seen in the subsequent augers on

either side. The centre of this raised sand deposit lies immediately above the letter D in Fig 2, but the contour plot is not particularly suggestive of a barrow. On either side of the raised levee peats and organic silts were deposited. On the western side these lie in an old channel of the River Witham (Fig. 4), but on the eastern side they represent the development of wet conditions and marsh and carr environments. Although the peats on this side are shown overlapping the sand described above, this stratigraphic relationship was not observed in this series of boreholes. In a borehole north of these there was a thin humified organic horizon beneath sands upon which a possible palaeosol had developed, but with clear evidence for washed sands in several boreholes (Fig. 3) and the difficulty of classifying these sands on the basis of a 25mm core, the relationship of the organic horizons and sands cannot be extrapolated between boreholes. Washed sands clearly overlie the organic deposits both within the channel and on the eastern side of the site.

Overlying these sediments is a horizon of humified slightly organic silts and silts. These deposits are so dessicated that it is difficult to establish from the core how organic they originally were but the presence of a much larger clay fraction suggests that some of these may include material deposited during overbank flood events at a period when the area was not so marshy. As has been noted above where these silts lie on the highest part of the levee adjacent to the delph they may derive from cleaning of the delph. A thin alluvial clay lens overlying the peats in the borehole at point A was the only true clay recorded. Washed sands overly the silts on the eastern side of the site, almost certainly the result of downslope movement of sands from the levee or perhaps a barrow. The ploughsoil over the whole sequence varies from 0.2 to 0.4m in thickness and its composition changes across the area augered. On the eastern half of the site, particularly on the levee the topsoil is a silty sand, while in the western and northern parts the soil becomes much siltier and in places has very little sand.

Organic sediments and silts are lacking on the western half of the northern side of the levee (Figs 2 and 5). It may be that they have been lost through dessication and shrinkage and incorporation into the ploughsoil. They occur in only the northernmost borehole along the bank of the old channel, where the deposits are very shallow and the palaeosol was not recognised in the holes in the central part of this transect. In this area of the site it is likely that the archaeologically rich palaeosol has been incorporated into the modern ploughsoil or removed by the river.

The shell rich horizon that originally prompted this survey was not specifically targetted but it was recognised in twelve boreholes, all located on the western side around trenches 152 and 144 and immediately south of the latter.

Conclusions

The results of the survey indicate that the archaeologically rich palaeosol recognised in evaluation trenches 144 and 152 extends over most of the southern 40 metres of field D2 and the eastern 10-15 metre margin of field D3. It has been protected by the deposition of later sediments over much of this area, although it may have been disturbed by later prehistoric and recent agricultural activity. The levee visible today overlies a much earlier, but less pronounced levee, that appears to have been the focus of late Mesolithic activity, but the eastern part of this site has probably been removed by the northward migration of the River Witham in the Bronze Age (see Rackham *et al* 2004). Where the overburden of later sediments thins on the floodplain behind the levee the palaeosol is likely to have been incorporated into the modern ploughsoil and the *in situ* archaeological evidence may be

limited to negative features. The bank of the river and its margins may have been a focus for the late neolithic/early Bronze Age activity testified by the flints of this date recorded (Rylatt, pers. comm.) and the eastern margin of field D3 where it lies within the road corridor should be investigated. Further Bronze Age activity may be represented by barrow construction on the top of the levee on the eastern side of the easement or further east.

This site constitutes a well protected and relatively undisturbed late mesolithic site which may extend to up to 3000 square metres or more within the road corridor, although the focus is likely to be more concentrated. Evidence for Bronze Age activity may equally be found over the same area, but later archaeological evidence is likely to be limited. The river margin and bank along the west side of the easement is a potential resource for waterlogged cultural material of the Bronze Age and occupation debris.

Bibilography

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