ARCHAEOLOGICAL EVALUATION OF LAND AT STATION ROAD, KIRTON, LINCOLNSHIRE (KSR01)

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ARCHAEOLOGICAL EVALUATION OF LAND AT STATION ROAD, KIRTON, LINCOLNSHIRE (KSR01)

Work Undertaken For
Chestnut Homes

January 2002

Report Compiled by
Tobin Rayner BSc (Hons), AIFA

National Grid References: TF 3092 3851
City and County Museum Accession No: 2001.426

A.P.S. Report No. **16/02**

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1. SUMMARY

Archaeological investigations on land at Station Road, Kirton, Lincolnshire, were undertaken because the site was located close to the historic core of the village. Also, Saxo-Norman - early medieval remains were recorded during a previous evaluation of the adjacent field to the west. Furthermore, a geophysical survey of the site revealed several anomalies possibly archaeological in nature.

A group of Saxo-Norman - early medieval dated features including a hollow containing charred cereal and burnt clay, ditches, gullies and post holes were revealed on the site. These probably represent the remains of a hearth containing domestic refuse, associated features and field system, and suggest the establishment of a small agricultural settlement.

A quantity of Saxo-Norman - early medieval pottery was recovered, with only one other sherd of 19th- 20th century pottery being retrieved. This suggests that the main occupation of the site is restricted to a single phase dated to the Saxo-Norman - early medieval period, the site reverting to fields sometime after the 12th century.

2. INTRODUCTION

2.1 Definition of an Evaluation

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, and relative quality; and it enables an assessment of their worth in a local, national or international context as appropriate'* (IFA 1999).

2.2 Planning Background

Between the 10th and 12th December 2001, an archaeological evaluation was undertaken on land off Station Road, Kirton, Lincolnshire. A pre-planning enquiry has been made for residential development on the site and an archaeological evaluation was advised by the Community Archaeologist for Boston Borough Council. The archaeological investigation was commissioned by Chestnut Homes and carried out by Archaeological Project Services in accordance with a specification designed by Archaeological Project Services (Appendix 1)

2.3 Topography, Geology and Soils

Kirton is situated 4km southwest of Boston, in the administrative Borough of Boston, within the Fenland of South Lincolnshire (Figure 1, Plates 1 and 2). The area of investigation lies to the east of the village centre, off Station Road, at National Grid Reference TF 3092 3851.

The site is a 0.84 hectare, relatively flat, irregular block of land lying at *c.* 4m OD. At the time of the evaluation the site was under a covering of rough vegetation.

Local soils are typical alluvial gleys of the Rockcliffe Association developed on marine alluvium (Hodge *et al.* 1984, 301). Beneath the marine alluvium is glacial drift deposited in a geological basin between the Lincolnshire Wolds and the East Anglian Heights (Harden 1978, 5).

2.4 Archaeological Setting (Figure 2)

A Neolithic polished greenstone axe, which may be an import into the fens provides the

only indication of a prehistoric presence in Kirton parish.

Evidence of Romano-British activity is also scarce, but is represented by finds of this period from along Willoughton Road, on the northwest edge of the village. This spread of artefacts may represent the location of a settlement site.

The early origins of the village are not fully understood. However, recent investigations immediately to the west have revealed a group of late Saxon/early medieval ditches and post holes, probably representing a peripheral agricultural settlement on newly drained fens (Snee 2001a). Furthermore, Saxo-Norman - early medieval ditches and pits associated with dumps of domestic refuse of the same date were revealed to the southwest (Snee 2001b, Thomson 2001).

Medieval use of the area is, however, well attested to. Kirton village was the administrative centre of Kirton Wapentake at the time of the Domesday Survey of *c.* 1086 (Morris 1986). The village name is recorded as *Chirchetune* and is derived from the Old English words *'cirice'* (a church) and *'tun'* (a village), although at some point between 1096 and 1155-56 *'cirice'* was relaced by the Old Norse *'kirkja'* (Cameron 1998). Kirton grew to be an important medieval town, though it has since declined in favour of Boston.

The church of SS Peter and Paul (BD 14/043) lies in the centre of the village, and was originally built in the 12th century although it was substantially altered and reduced in size in the early 19th century. Located outside the village were three sizable houses of medieval date, Bozon Hall (14/018), Littlebury Hall (14/002) and Orme Hall (14/019), all now demolished. Medieval and later pottery and coins associated with Orme Hall have been recovered at the northwestern edge of the town (14/020, 021, 022 & 024) and a watching brief in the area (14/044) recorded a medieval ditch and finds of medieval pottery (Cope-Faulkner 1994).

To the west of the village, a number of medieval and post-medieval finds have been reported (14/041 & 14/034). Finds of medieval pottery have also been reported on the east and southwest outskirts of the village (14/023 and 14/025, 027, 028 & 029).

A number of investigations have been carried out in the centre of Kirton village. These have revealed a sequence of deposits from the late Saxon period to the modern day at High Street (14/050) (Cope-Faulkner 1996) and evidence of medieval activity on Station Road (14/045) (Taylor 1994). On both of these sites the medieval and earlier deposits were sealed below a layer of alluvium. Similarly undated archaeological activity was covered by alluvium on Willington Road (14/051), near the village centre (Hambly 2000).

French and German jettons (counting pieces or tokens) of 15th and 16th century date have been found in the centre of the town (Cope-Faulkner 1994). Also in the town centre, close to the church, is the Old King's Head Inn (14/042) of early 16th century date (Pevsner & Harris 1989).

3. AIMS AND OBJECTIVES

The aim of the evaluation was to gather sufficient information to support a future planning application and to enable the archaeological curator to formulate a policy for the management of the archaeological resources present on the site.

The objectives were to establish the

presence or absence of archaeological deposits and to determine, if present, their type, date and function, likely extent, spatial arrangement, local context, state of preservation, vulnerability and value.

4. METHODS

A geophysical survey was undertaken of the site (Appendix 6). Based on these results targeted trial trenching was used to enable *in situ* determination of the sequence, date, nature, depth, density and environmental potential of archaeological deposits. Seven trenches measuring 1.6m wide by 15m long (2% of the evaluation area), were located to provide sample coverage of the whole area and to investigate possible features identified by the geophysical survey (Figure 3).

Topsoil and overburden was stripped from the trenches by mechanical excavator to the level of the archaeological deposits. The exposed surfaces of the trenches were then cleaned by hand and inspected for archaeological remains. Where present, features were excavated by hand in order to retrieve dateable artefacts and other remains.

Each deposit exposed during the evaluation was allocated a unique reference number (context number) with an individual written description. A photographic record was compiled, and sections were drawn at a scale of 1:10 and plans at a scale of 1:20. Recording of deposits encountered during the evaluation was undertaken according to standard Archaeological Project Services' practice.

A field survey of the excavated trenches and existing reference points within the development area was completed using a Geodolite Total Station in conjunction with a Psion Datalogger.

Metal detection of the trenches, and spoil excavated from them, was also carried out.

Following excavation, all records were checked and ordered to ensure that they constituted a complete Level II archive and a stratigraphic matrix of all identified deposits was produced. Finds recovered from those deposits excavated were examined and a period date assigned where possible (Appendices 3 - 4). A list of all contexts and interpretations appears as Appendix 2. Phasing was based on artefact dating and the nature of the deposits and recognisable relationships between them.

5. RESULTS (Figures 4-8, Plates 3-8)

Following post-excavation analysis and the submission of specialist reports, four phases were identified:

Phase 1	Natural deposits
Phase 2	Undated deposits
Phase 3	Saxo-Norman - early medieval deposits
Phase 4	Modern deposits

Context numbers appear in brackets, and these refer to the individual cut and deposit descriptions recorded during excavation.

5.1 Phase 1: Natural deposits

At the bases of all the investigation trenches were variable deposits of light brown to light greyish yellow silts and sandy silts with occasional iron panning (102, 202, 302, 402, 502, 614 and 701). Augering revealed a continuation of these deposits beyond the stripped surface of the trenches. A copper alloy strip retrieved from deposit (701) was located at the interface of the topsoil and natural, probably due to ploughing.

Overlying the natural within all the trenches

(excluding Trench 7) was a 0.20m to 0.30m thick brown silt subsoil (101, 201, 301, 401, 501 and 603). This is believed to be a transformed soil at the interface of the natural and topsoil, probably formed by root and animal action.

5.2 Phase 2: Undated deposits

Trench 1: Recorded at the southern end of the site was a 1.60m^{+} long x 0.82m wide E-W linear gully (104) containing a 0.38m thick brown silt fill (103).

Trench 2: Located within the centre of the trench a 0.37m wide E-W gully (203) truncated the natural and contained a brown clayey silt (203) measuring 80mm thick. Adjacent to (203) was a square shaped post hole (205). Measuring 0.27m long x 0.26m wide and 50mm deep this feature contained a brownish grey sandy silt (206).

Trench 5: A 0.20m long x 0.20m wide post hole (503) recorded in the southern end of the trench contained a 0.12m thick single greyish brown silt fill (504) with charcoal flecks, possibly suggesting that the post had burnt *in-situ*.

Trench 6: Located at the eastern end of the site, cutting the natural, a N-S linear ditch (607) measuring at least 1.50m wide x 0.28m deep contained a single clayey silt fill (606), from which a fragment of cattle bone was retrieved. To the south of the ditch was an irregular shallow (0.20 m deep) hollow (609). A dark yellowish brown clayey silt (608) filled this depression and contained frequent charcoal and burnt clay, and a cattle bone. Interestingly several of the burnt clay patches appeared to have been burnt *in situ*. An environmental sample taken from this deposit contained domestic refuse including oat, barley and wheat grains, and other dietary residues including mammal and fish bone, egg and mussel shell (Appendix 4).

To the west of (611) was a 1.14m long x 0.42m^{+} wide possible post hole (613) filled by a mid yellowish brown clayey silt (612) containing several cattle bone fragments. A second N-S ditch (605) was recorded at the west end of the trench. Measuring at least 1.60m long x 1.30m wide this feature contained a 0.30m thick mid greyish brown clayey silt (604) with frequent shell and occasional bone. A environment sample of deposit (604) yielded a very similar assemblage to that taken from fill (608) (Appendix 4) and suggest that they are associated.

5.3 Phase 3: Saxo-Norman - Early medieval deposits

Trench 3: Truncating the subsoil at the southern end of the trench was an E-W aligned ditch (305). Measuring at least 2.46m wide this feature contained two deposits, a primary clayey silt (304), from which six sherds of Saxo-Norman - early medieval pottery and bone was retrieved, and a secondary silt (303).

Trench 4: Cutting the natural deposit was an irregular feature (403), interpreted as natural disturbance. However, two sherds of Saxo-Norman - early medieval pottery, a cockle shell and several coal/cinder fragments retrieved from this feature may suggest that it was initially a pit or ditch, later extensively disturbed by animals or roots.

Trench 6: Adjacent to the scorched hollow (609) was a 2.30m long x 0.37m^{+} wide E-W gully (611) partially obscured by the trench section. Contained within this linear feature was a mid greyish brown clayey silt (610) from which Saxo-Norman - early medieval pottery was retrieved.

5.4 Phase 4: Modern deposits

Sealing all the trenches was a 0.30m - 0.35m thick topsoil (100, 200, 300, 400, 500, 600 and 700) representing the modern plough surface. A chicken bone was retrieved from deposit (700).

Trench 6: A sub-rectangular pit (602) was recorded in the eastern half of the trench filled by a greyish brown clayey silt (601) from which the remains of several chickens and a sherd of 19th - 20th pottery were retrieved.

6. DISCUSSION

Archaeological investigations on land at Station Road, Kirton, Lincolnshire revealed a sequence of natural and archaeological deposits across the site including undated ditches, gullies and post holes, Saxo-Norman - early medieval occupation debris and features and a modern pit and plough soil.

The earliest deposits encountered were natural marine silts laid down prior to the Saxo-Norman - early medieval period. Recorded overlying this natural was a subsoil, likely to represent a transformed layer produced by ploughing and the cultivation of deep rooting crops in the Post-medieval period, and working by roots and burrowing animals (Rackham 1996, 17). Due to this transformation several of the features were recorded sealed beneath and others cutting through this layer. However, although this would initially seem to imply differing dates, it probably suggests a varying amount of transformation occurring across the site partially dependant on the size and fill of the underlying ditches, gullies and post holes.

The undated features recorded within Trench 6, located adjacent to the Saxo-Norman - early medieval dated gully (611), probably suggests that they are contemporary. The environmental evidence from the burnt hollow and adjacent ditch contained dietary residues, including mammal and fish bone, eggshell and mussel shell fragments. These may indicate that the assemblages are derived from low density deposits of domestic refuse, possibly hearth waste. This would be consistent with the heavily burnt condition of the grains and may suggest that the latter are derived either from accidental spillage during cooking, or from waste material used as kindling/fuel for the fire. The moderate density of burnt or fired clay may be derived from material at the base of a hearth. Furthermore, it is unlikely that hearth waste would be transported any considerable distance prior to deposition and therefore these current assemblages may indicate the close proximity to the excavation of domestic activity.

It is probable therefore that these features are the remains of a Saxo-Norman - early medieval hearth and associated features possibly adjacent to a structure or part of a farmstead. The features recorded within the other trenches suggest that this probable domestic setting was located within a landscape of fields cut by putative ditches and gullies possibly defining parcels of land. The post holes may have functioned as fence lines or post setting for gates etc.

Most of the pottery recovered from the site is Stamford ware, although there are a few other contemporary pieces, including fragments of shelly-tempered ceramic. Pottery assemblages of similar date and nature have previously been found immediately to the west and southwest of the current investigation area and indicates occupation of this part of Kirton in the Saxo-Norman - early medieval period

followed by abandonment.

Only one sherd of non Saxo-Norman - early medieval date, a single sherd of 19th - 20th century pottery, was recovered from the site and this dearth of finds suggest that the occupation of the site ceased after the 12th century and the site returned to open fields. Furthermore, the lack of medieval and Post-medieval pottery probably suggests that the area was not being utilised for arable agricultural purposes at the time. Manuring of fields during those periods would have resulted in the spreading of pottery on the fields, some of which is likely to have been recovered during the evaluation.

Only one feature, a pit containing copious amounts of chicken bones, was dated to the modern period and is believed to be a refuse pit possibly used to discarded the remains of diseased birds. A modern topsoil sealing all the features represents the modern plough soil.

6.1 Overview

Geophysical survey indicated the presence of a number of magnetic anomalies, some of which may have been of archaeological origins. Trial trenching has revealed a larger number of archaeological remains than indicated by the survey and has identified the remains of a possible Saxo-Norman - early medieval hearth and associated features probably adjacent to a structure in the east of the site, with associated field systems to the north and west.

The recorded features, environmental evidence and artefact assemblage suggests that the eastern part of the site was part of a diffuse Saxo-Norman - early medieval settlement abandoned in the medieval period when the area reverted to open fields. The western half of the site appears to have been agricultural land since its reclamation towards the end of the Saxon period. Significantly, recent investigations to the west and southwest recovered similar, single phase Saxo-Norman - early medieval features and assemblages (Snee 2001a, Thomson 2001) and other sites of this date have been located throughout the village (Snee 2000, Hambly 2000).

This enhances the significance of the current artefact assemblage. Cumulatively, the results from this and previous investigations in the vicinity indicate that this general area of Kirton was a focus of occupation solely in the Saxo-Norman period.

A body of evidence is emerging to suggest that the earlier settlement of Kirton was spread over a wider area than the later medieval village. This is a consistent pattern of settlement development to other settlements in the area, such as Swineshead (Albone 1999) and has important implications for interpretation of the social and economic function of early Fenland villages.

7. ASSESSMENT OF SIGNIFICANCE

For assessment of significance the *Secretary of State's criteria for scheduling of ancient monuments* has been used (DoE 1990, Annex 4; see Appendix 7).

Period:

Archaeological deposits dating from the Saxo-Norman - early medieval and Modern periods were recorded during the evaluation. Remains of this nature are typical of these periods.

Rarity:

Saxo-Norman - early medieval and Modern

deposits such as these are not uncommon. However, the possible remains of a Saxo-Norman - early medieval dated hearth is more rare.

Documentation:

The site has previously been the subject of a Geophysical Survey by Engineering Archaeological Services Ltd. (Appendix 5). Several archaeological investigations in Kirton have previously been undertaken and reported. Additionally records of archaeological sites and finds made in the Kirton area are kept in the files of the Boston District Community Archaeologist, and the Lincolnshire Sites and Monuments Record.

Group Value:

The archaeological evidence obtained from the investigation area suggests domestic occupation of the site during the Saxo-Norman - early medieval period and agricultural usage of the land in the post Saxo-Norman - early medieval period. A moderate group value may be indicated by this repeated land use.

Survival/Condition:

Undated and Saxo-Norman - early medieval remains survived well and showed no signs of truncation by later land use apart from by ploughing. Environmental evidence survived in good condition by charring.

Fragility/Vulnerability:

Due to the proposed development of the site all of the features are vulnerable.

Diversity:

Undated post holes and gullies, Saxo-Norman - early medieval ditches, hearth, gully and post hole, and post Saxo-Norman - early medieval ditch, gully and post hole were revealed during the evaluation. As a group these have moderate functional and period diversity.

Potential:

There is a high potential that similar Saxo-Norman - early medieval and later features and deposits, as found during the archaeological evaluation, occur on, and in the immediate vicinity of the site. Furthermore, the presence of domestic material in the eastern half of the site indicates a high potential for settlement remains to occur in the immediate area, with structural remains possible on this part of the site. The proven survival of environmental remains indicates the potential to enhance the information provided by the surviving physical remains. Moreover, indicators of the local environment and changes therein through time are retrievable.

8. EFFECTIVENESS OF TECHNIQUES

The technique of using trial trenches to evaluate archaeological deposits was successful. Removal of overburden deposits by mechanical excavator allowed a rapid appraisal indicating archaeological remains were present across the development area, although the larger density of features was confined to the eastern part of the site. Moreover, the evaluation recognised several of the geophysical signals previously recorded at the site and revealed other remains not previously identified.

Furthermore, manual excavation of the remains established that the archaeological deposits were well-preserved with different phases of activity, from the Saxo-Norman -

early medieval period to the present.

9. CONCLUSIONS

Archaeological evaluation on land off Station Road, Kirton, Lincolnshire was undertaken because the site was situated near the historic village core and Saxo-Norman - early medieval remains were recovered from a previous evaluation of the adjacent field to the west.

It was therefore probable that further remains were located on the site and, in consequence, an evaluation was undertaken to categorise the evidence to provide information to assist the determination of a proposed planning application for development of the area.

A group of undated and Saxo-Norman - early medieval features were revealed on the site and are probably contemporary. These probably represent the establishment of a small agricultural settlement onto newly drained fens on the periphery of the Late Saxon settlement of Kirton. Evidence for settlement activity was recovered from the site on the eastern side and may represent the remains of a hearth adjacent to a structure.

A quantity of Saxo-Norman - early medieval pottery was recovered from the site with very few later dated finds being retrieved. This suggests that the main occupation of the site is restricted to a single phase dated to the Saxo-Norman - early medieval period, with the site reverting to fields at sometime after the 12th century.

Environmental evidence suggested that the material recovered appears to be derived from domestic hearth waste and may indicate domestic activity dating to the Saxo-Norman - early medieval period in close proximity to the site.

10. ACKNOWLEDGEMENTS

Archaeological Project Services would like to acknowledge the assistance of Mr Neil Kempster of Chestnut Homes who commissioned the fieldwork and this report. The project was coordinated by Dale Trimble and Tom Lane edited this report. Rebecca Wilcox, the Boston Community Archaeologist, kindly permitted the examination of the relevant parish files.

11. PERSONNEL

Project Coordinator: Dale Trimble
Project Officer: Tobin Rayner
Archaeological Team: Meredith Collins, Andy Coupe and Vicky Mellor
Surveying: Mark Dymond and Chris Moulis
Finds Processing: Denise Buckley
CAD Illustration: Tobin Rayner
Photographic Reproduction: Tobin Rayner
Post-excavation Analyst: Tobin Rayner

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13. ABBREVIATIONS

APS	Archaeological Project Services
IFA	Institute of Field Archaeologists
PCA	Pre-Construct Archaeology
SMR	Sites and Monuments Record Office
WYAS	West Yorkshire Archaeology Service

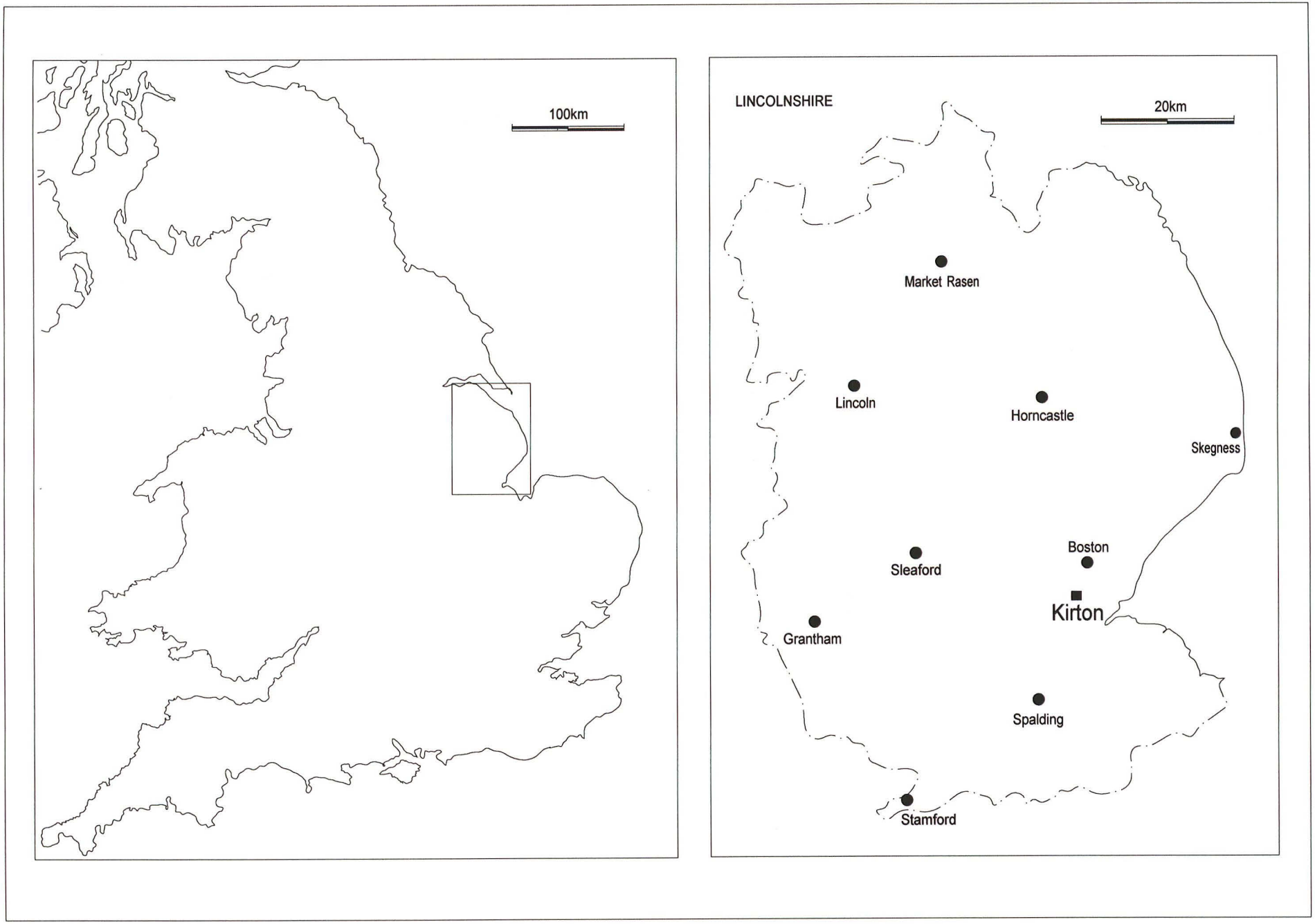

Figure 1: General Location Plan

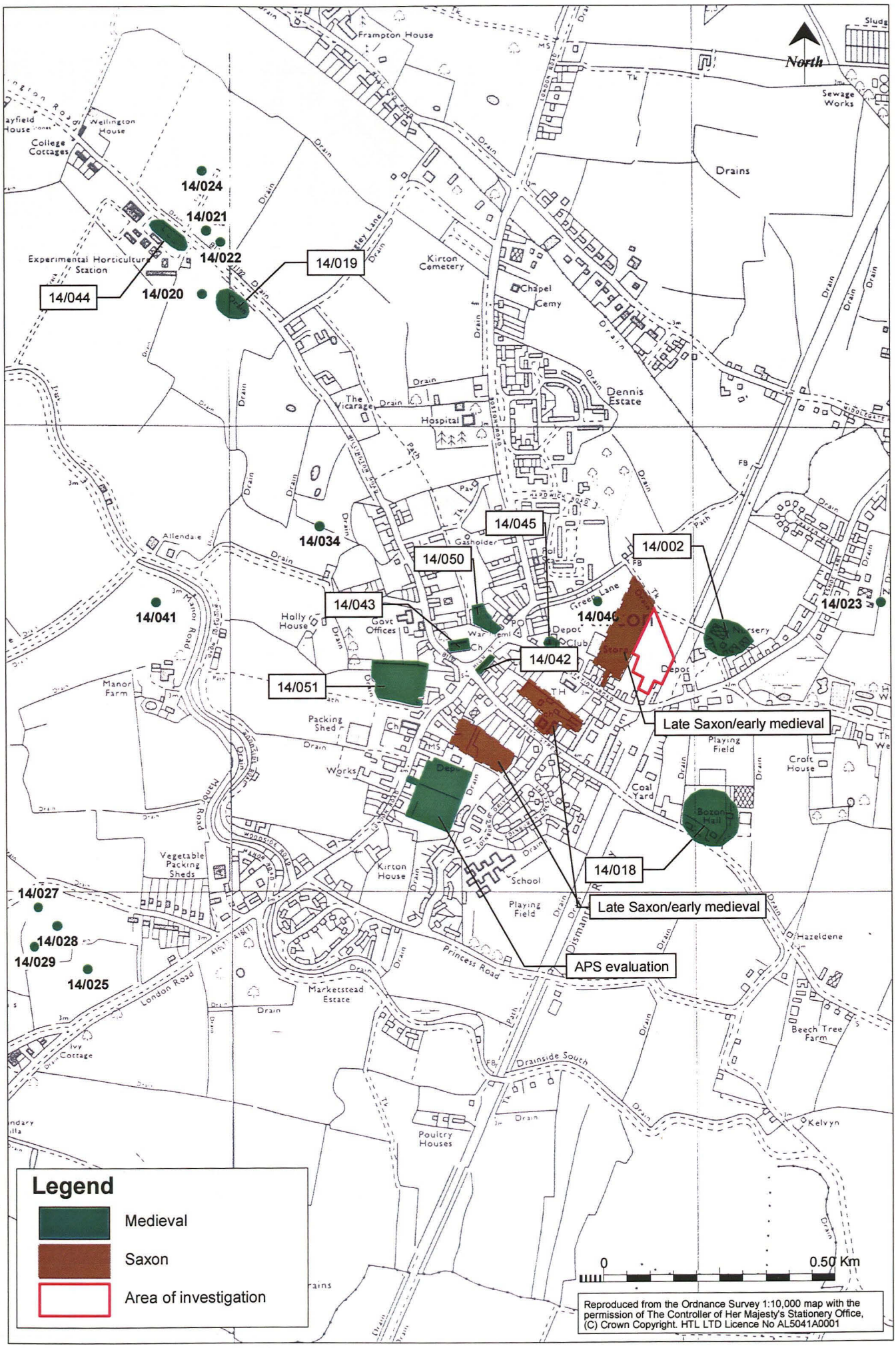

Figure 2: Site location and archaeological setting

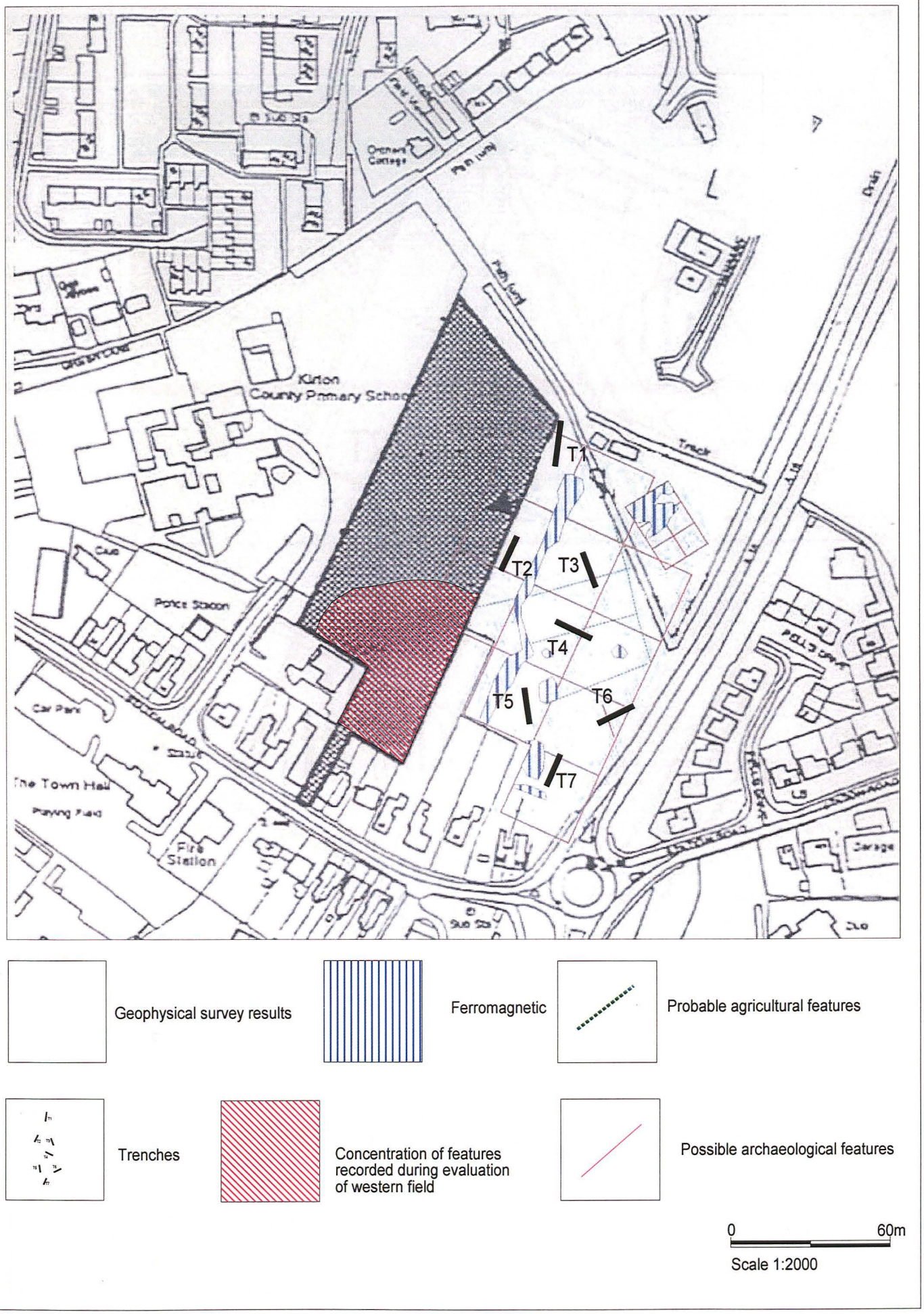

Figure 3: Trench locations and geophysical survey results

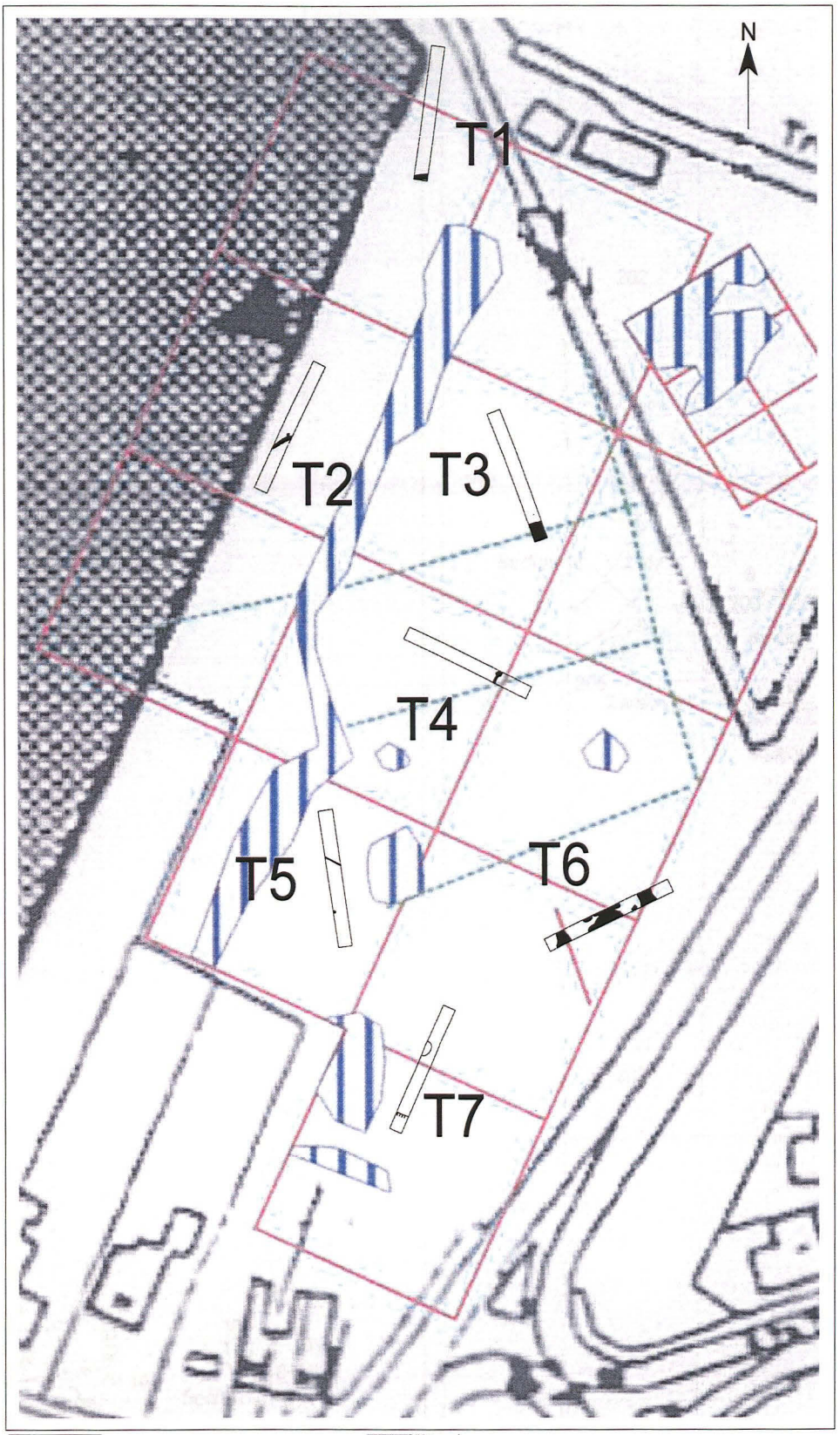

Figure 4: Detailed plan of trenches

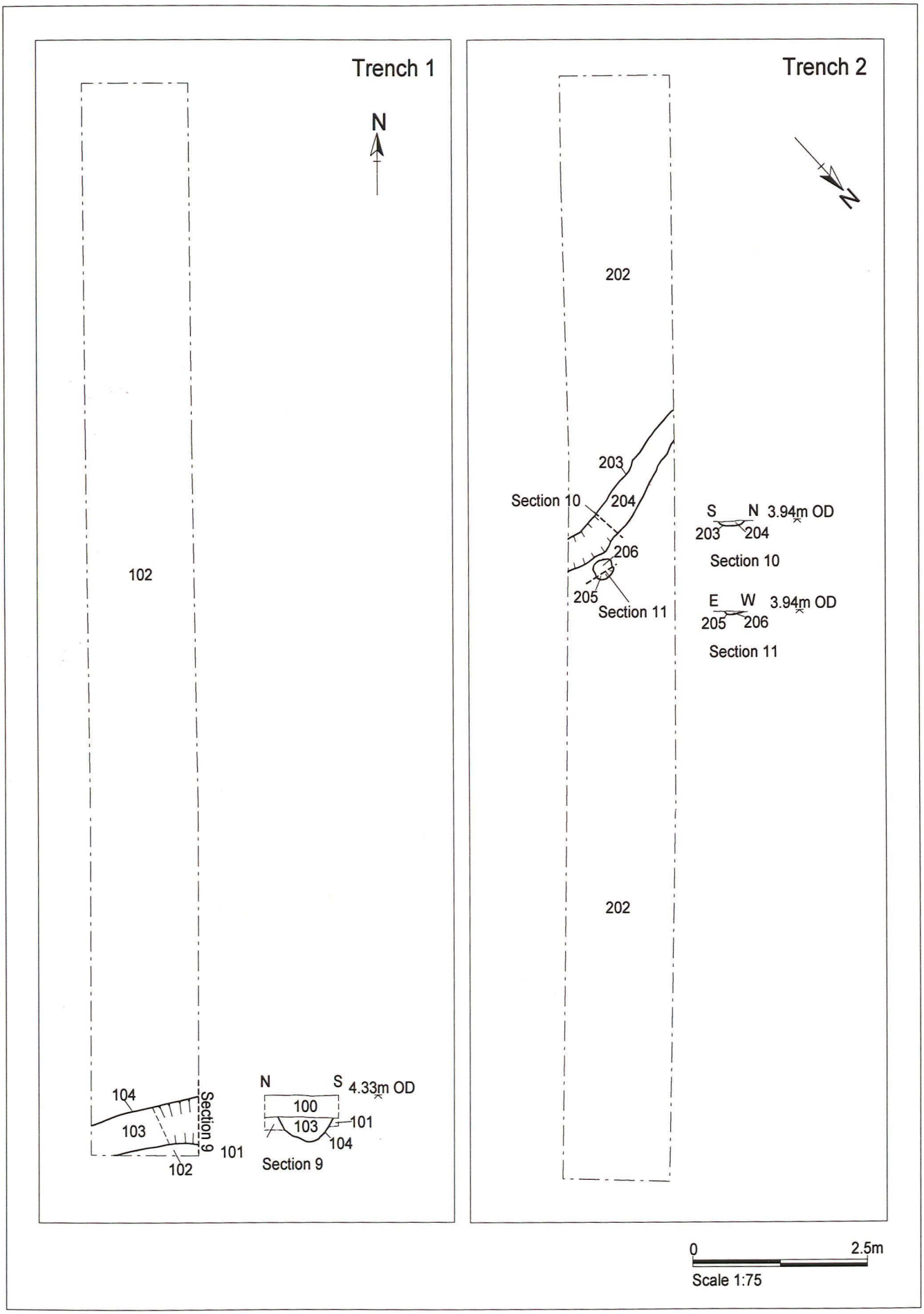

Figure 5: Trenches 1 and 2 plans and sections

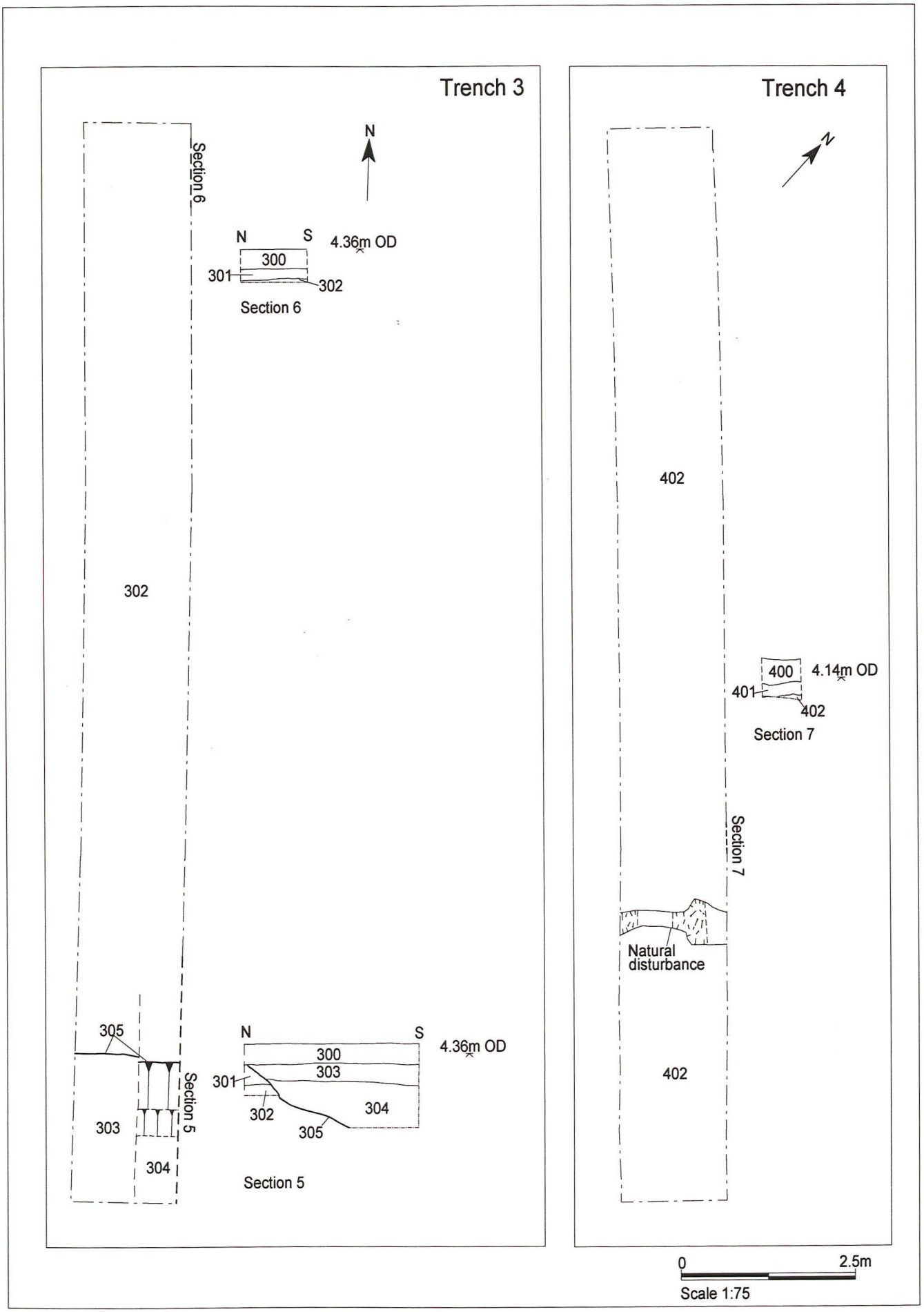

Figure 6: Trenches 3 and 4 plans and sections

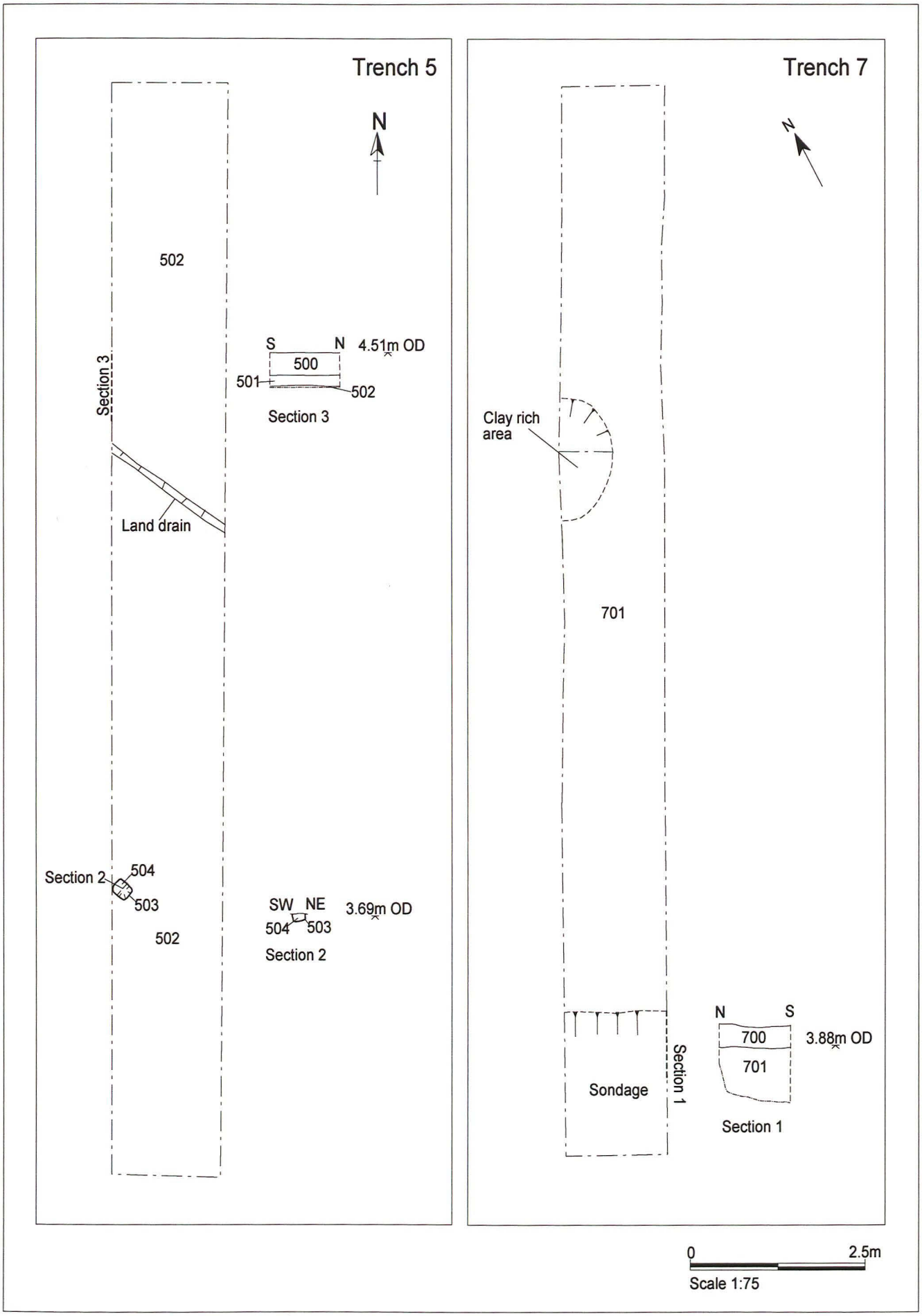

Figure 7: Trenches 5 and 7 plans and sections

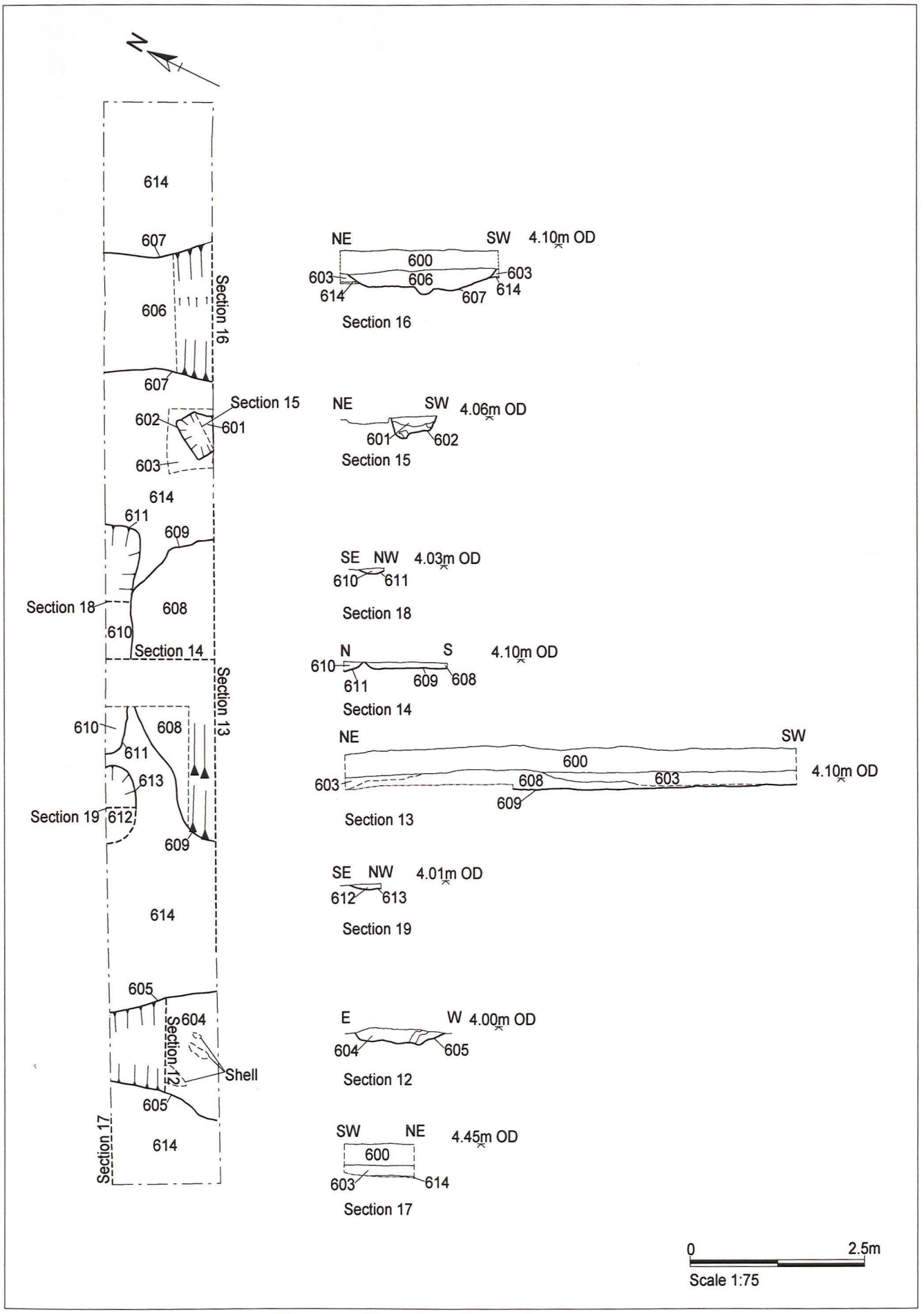

Figure 8: Trench 6 plan and sections

Plate 1: General view of site looking north

Plate 2: Machining in progress

Plate3: Trench 1, looking north

Plate 4: View of ditch 104 within Trench 1, looking east

Plate 5: View of Trench 2, looking south

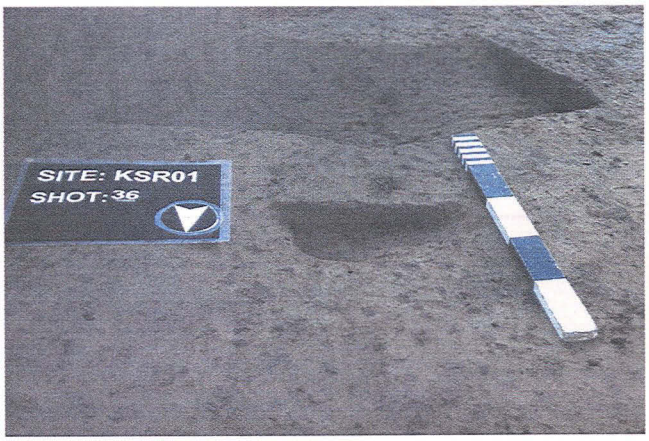

Plate 6: Post hole 203 (centre) and ditch 205 (background) within Trench 2, looking south

Plate 7: View of Trench 3, looking north

Plate 8: Ditch 305 within Trench 3, looking southeast

Plate 9: View of Trench 4, looking northwest

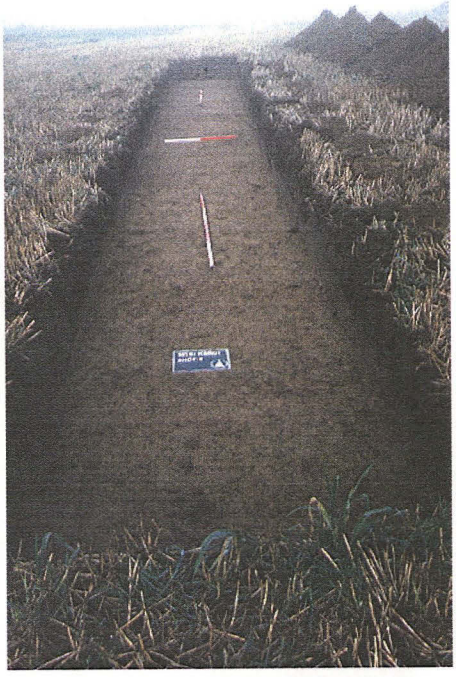

Plate 10: View of Trench 5, looking north

Plate 11: Post excavation view of Trench 6, looking northeast

Plate 12: Trench 6 post excavation view, looking southwest

Plate 13: View of northwest facing section within Trench 6, looking east

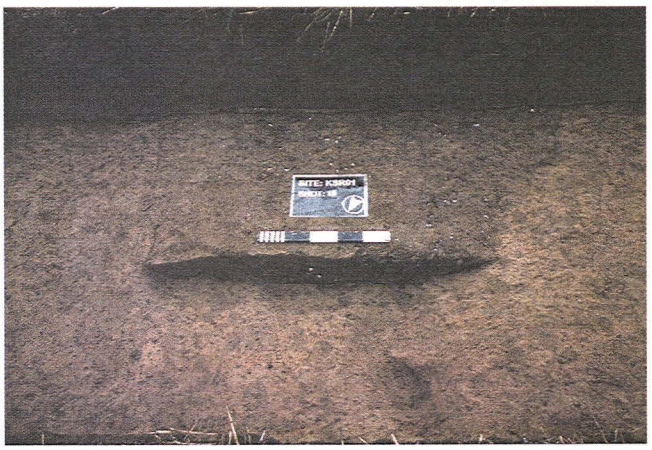

Plate 14: Ditch 605 within Trench 6, with shell clearly visible, looking southeast

Plate 15: View of Trench 7, looking north

Appendix 1

Specification for the archaeological evaluation of land at Station Road, Kirton

SUMMARY

0.1 *This document comprises a specification for the archaeological field evaluation of land off Station Road, Kirton, near Boston, Lincolnshire.*

0.2 *The site is close to the village core, within 300m of the medieval parish church. Previous investigations on Station Road and High Street, about 100-200m to the west of the present site, revealed sequences of Late Saxon/early medieval settlement remains, overlain by possible flood silts. Later medieval and post-medieval settlement was established on top of these silts at both sites. Similar remains were also found at Willington Road, about 400m to the west.*

0.3 *A pre-planning enquiry has been made to Boston Borough Council for residential development of a 0.83 ha block of land off Station Road, Kirton.*

0.4 *The archaeological work will consist of a programme of geophysical survey and trial trenching of the site. Trench locations are likely to be guided by the results of the geophysical survey.*

0.5 *On completion of the fieldwork a report will be prepared detailing the findings of the investigation. The report will consist of a text describing the nature of the archaeological deposits located and will be supported by illustrations and photographs.*

1 INTRODUCTION

1.1 This document comprises a specification for the archaeological field evaluation of land off Station Road, Kirton, Lincolnshire, national grid reference TF 3092 3851.

1.2 The document contains the following parts:

1.2.1 Overview

1.2.2 The archaeological and natural setting

1.2.3 Stages of work and methodologies to be used

1.2.4 List of specialists

1.2.5 Programme of works and staffing structure of the project

2 SITE LOCATION

2.1 Kirton is located 4km southwest of Boston in the fens of south Lincolnshire. The site is just east of the village centre, off Station Road, about 250m east of the parish church at national grid reference TF 3092 3851.

2.2 The site is an irregular block of land approximately 0.84ha in extent with access to Station Road to the southwest.

3 PLANNING BACKGROUND

3.1 The site is the subject of a pre-planning enquiry for residential development. Boston Borough Council have been advised by the Community Archaeologist based at Heritage Lincolnshire, that an archaeological evaluation is required in order to assess the impact of the development on any archaeological resource. A brief outlining the requirements of the archaeological evaluation has been written by the Community Archaeologist and this document forms a specification of works

for undertaking the project.

4.2 The project brief requires a geophysical survey of the whole area of investigation followed by a programme of trial trenching comprising at least a 2% sample of the site.

4 SOILS AND TOPOGRAPHY

4.1 The site and surrounding area is on a gentle slope down to the west at *c.* 4m OD. Soils at the site are typical alluvial gleys of the Tanvats Association developed on marine alluvium (Hodge *et al.* 1984, 319). Beneath this alluvium is glacial drift that was deposited in a geological basin between the Lincolnshire Wolds and the East Anglian Heights.

5 THE ARCHAEOLOGY

5.1 The site lies very close to the medieval village core, about 250m east of the parish church. It is likely that the church was the focus of settlement in the Late Saxon period and investigations immediately east of the church revealed evidence of occupation of the period, perhaps a farm yard. Medieval settlement and evidence of craft working was subsequently established in the area (Archaeological Project Services 1996).

5.2 Other investigations, only 200m to the west of the present site on Station Road, also revealed early medieval occupation remains dating to the 13th-14th century (Archaeological Project Services 1994). At both sites the medieval settlement was interrupted by apparent flooding which laid down silts over the Late Saxon and medieval archaeological remains. Saxon or medieval remains beneath a thick silt layer were also revealed just west of the church on Willington Road (Archaeological Project Services 2000). Later medieval and post-medieval occupation was subsequently established on the surface of the flood silts at both sites (Archaeological Project Services 1994; 1996).

6.3 A recent evaluation undertaken in the adjacent field by Archaeological Project Services identified a cluster of post holes and a number of ditches containing pottery predominantly of Saxo-Norman date. The character of the pottery, animal bone and shell recovered from the post holes indicates domestic activity somewhere in the vicinity (Archaeological Project Services 2001).

6.4 Further to the south adjacent to King Street and London Road, two recent archaeological evaluations have recorded evidence for moderately intensive activity during the Saxo-Norman period. In addition to material indicating domestic activity, evidence for iron smithing was also identified. In terms of the development of Kirton, it may be significant that few medieval deposits were recorded at either of these two evaluations, suggesting major topographical changes between the late Saxon and medieval periods (Archaeological Project Services 2001 b and c)

6 AIMS AND OBJECTIVES

6.1 The aim of the work will be to gather sufficient information for the archaeological curator to be able to formulate a policy for the management of the archaeological resources present on the site.

6.2 The objectives of the work will be to:

6.2.1 Establish the type of archaeological remains that may be present within the site.

6.2.2 Determine the likely extent and density of archaeological remains present within the site.

6.2.3 Determine the spatial arrangement of the archaeological remains present within the site.

6.2.4 Determine the extent to which the surrounding archaeological remains extend into the

application area.

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

6.2.6 Determine the date and function of the archaeological remains present on the site.

7 GEOPHYSICAL SURVEY

7.1 Reasoning for this technique

7.1.1 The geophysical survey of the site will use fluxgate gradiometer. This technique enables large areas to be investigated rapidly and the results facilitate the rapid identification of the likely archaeological potential of the site.

7.1.2 The effectiveness of the technique is limited by background magnetic susceptibility and the ground cover which ideally should be minimal.

7.2 Methodology

7.2.1 All of the site will be subject to detailed gradiometer survey. The survey area will be divided into 20m squares and then 800 readings will be logged per square.

7.3 Report

7.3.1 A report will be prepared on completion of the survey detailing the methodologies used and the results of the work. The areas and nature of archaeological activity will be shown on a series of computer generated plots and the anomalies encountered will be interpreted. The report will be prepared in accordance with the English Heritage (1995) document *Geophysical Survey in Archaeological Field Evaluations*, Research and Professional Services Guideline **1**.

8 LIAISON WITH THE ARCHAEOLOGICAL CURATOR

8.1 Prior to the commencement of the trial trenching the arrangement of the interventions (excavations) will be agreed with the archaeological curator to ensure that the proposed scheme of works fulfils their requirements.

9 TRIAL TRENCHING

9.1 Reasoning for this technique

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

9.1.2 The trial trenching will consist of the excavation of seven (7) trenches measuring 15m x 1.6m, giving a total area of 166sq. metres and equivalent to 2% of the development area, the normal percentage for site evaluation. The trenches may be widened and stepped-in, should archaeological deposits extend below 1.2m depth. Augering may be used to determine the depth of the sequence of deposits present.

9.2 General Considerations

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

9.2.2 The work will be undertaken according to the relevant codes of practice issued by the Institute of Field Archaeologists (IFA). *Archaeological Project Services* is an IFA

Registered Archaeological Organisation (No. 21).

9.2.3 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.

9.2.4 Excavation of the archaeological features exposed will only be undertaken as far as is required to determine their date, sequence, density and nature. Not all archaeological features exposed will be excavated. However, the evaluation will, as far as is reasonably practicable, determine the level of the natural deposits to ensure that the depth of the archaeological sequence present on the site is established.

9.2.5 Open trenches will be marked by hazard tape attached to road irons or similar poles. Subject to the consent of the archaeological curator, and following the appropriate recording, the trenches, particularly those of excessive depth, will be backfilled as soon as possible to minimise any health and safety risks.

9.3 Methodology

9.3.1 Removal of the topsoil and any 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.

9.3.2 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.

9.3.3 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.

9.3.4 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.

9.3.5 Throughout the duration of the trial trenching a photographic record consisting of black and white prints (reproduced as contact sheets) and colour slides will be compiled. The photographic record will consist of:

9.3.5.1 the site before the commencement of field operations.

9.3.5.2 the site during work to show specific stages of work, and the layout of the archaeology within individual trenches.

9.3.5.3 individual features and, where appropriate, their sections.

9.3.5.4 groups of features where their relationship is important.

9.3.5.5 the site on completion of field work

9.3.6 Should human remains be encountered, they will be left *in situ* with excavation being limited to the identification and recording of such remains. If removal of the remains is necessary the appropriate Home Office licences will be obtained and the local environmental health department informed. If relevant, the coroner and the police will be notified.

9.3.7 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. A metal detector may be used to assist artefact recovery.

9.3.8 The spoil generated during the evaluation 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.

9.3.9 The precise location of the trenches within the site and the location of site recording grid will be established by an EDM survey.

10 ENVIRONMENTAL ASSESSMENT

10.1 If appropriate, during the evaluation specialist advice will be obtained from an environmental archaeologist. 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.

11 POST-EXCAVATION AND REPORT

11.1 Stage 1

11.1.1 On completion of site operations, the records and schedules produced during the trial trenching will be checked and ordered to ensure that they form a uniform sequence constituting 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: the colour slides will be labelled and mounted on appropriate hangers and the black and white contact prints will be labelled, in both cases the labelling will refer to schedules identifying the subject/s photographed.

11.1.2 All finds recovered during the trial trenching will be washed, marked, bagged and labelled according to the individual 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.

11.2 Stage 2

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

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

11.3 Stage 3

11.3.1 On completion of stage 2, a report detailing the findings of the evaluation will be prepared. This will consist of:

11.3.1.1 A non-technical summary of the findings of the investigation.

11.3.1.2 A description of the archaeological setting of the site.

11.3.1.3 Description of the topography and geology of the investigation area.

11.3.1.4 Description of the methodologies used during the investigation and discussion of their effectiveness in the light of the results.

11.3.1.5 A text describing the findings of the investigation.

11.3.1.6 Plans of the trenches showing the archaeological features exposed. If a sequence of archaeological deposits is encountered, separate plans for each phase will be produced.

11.3.1.7 Sections of the trenches and archaeological features.

11.3.1.8 Interpretation of the archaeological features exposed and their context within the surrounding landscape.

11.3.1.9 Specialist reports on the finds from the site.

11.3.1.10 Appropriate photographs of the site and specific archaeological features or groups of features.

11.3.1.11 A consideration of the significance of the remains found, in local, regional, national and international terms, using recognised evaluation criteria.

12 ARCHIVE

12.1 The documentation, finds, photographs and other records and materials generated during the evaluation will be sorted and ordered into the format acceptable to the City and County Museum, Lincoln. This sorting will be undertaken according to the document titled *Conditions for the Acceptance of Project Archives* for long term storage and curation.

13 REPORT DEPOSITION

13.1 Copies of the evaluation report will be sent to: the client, Chestnut Homes Ltd; the Community Archaeologist, Boston Borough Council; Boston Borough Council Planning Department; and the Lincolnshire County Sites and Monuments Record.

14 PUBLICATION

14.1 A report of the findings of the evaluation will be submitted for inclusion in the journal *Lincolnshire History and Archaeology*. Notes or articles describing the results of the investigation will also be submitted for publication in the appropriate national journals: *Medieval Archaeology* and *Journal of the Medieval Settlement Research Group* for medieval and later remains, and *Britannia* for discoveries of Roman date.

15 CURATORIAL MONITORING

15.1 Curatorial responsibility for the project lies with Community Archaeologist, Boston Borough Council. As much written notice as possible, ideally at least seven days, will be given to the archaeological curator prior to the commencement of the project to enable them to make appropriate monitoring arrangements.

16 VARIATIONS TO THE PROPOSED SCHEME OF WORKS

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

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

17 SPECIALISTS TO BE USED DURING THE PROJECT

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

Task	Body to be undertaking the work
Geophysical Survey	Engineering Archaeological Services
Conservation	Conservation Laboratory, City and County Museum, Lincoln.
Pottery Analysis	Prehistoric: Dr D Knight, Trent and Peak Archaeological Trust
	Roman: B Precious, independent specialist
	Anglo-Saxon: J Young, independent specialist
	Medieval and later: H Healey, independent archaeologist; or G Taylor, APS
Other Artefacts	J Cowgill, independent specialist; or G Taylor, APS
Human Remains Analysis	R Gowland, independent specialist
Animal Remains Analysis	Environmental Archaeology Consultancy; or P Cope-Faulkner, APS
Environmental Analysis	Environmental Archaeology Consultancy
Radiocarbon dating	Beta Analytic Inc., Florida, USA
Dendrochronology dating	University of Sheffield Dendrochronology Laboratory

18 PROGRAMME OF WORKS AND STAFFING LEVELS

18.1 The geophysical survey will be undertaken as a subcontract by a specialist geophysics organisation. The fieldwork will be undertaken by 1 or 2 people and last 1 or 2 days. Analysis and report production will involve the geophysics speciailist, computer operator and assistants and take about 5 days.

18.2 Fieldwork for the trial trenching is expected to be undertaken by up to 4 staff, a supervisor and 2/3 assistants, and to take four (4) to five (5) days.

18.3 Post-excavation analysis and report production is expected to take 7 person-days within a notional programme of 10 days. A project officer or supervisor will undertake most of the analysis, with assistance from the finds supervisor and CAD illustrator. Two half-days of specialist time are allotted in the project budget.

18.4 **Contingency**

18.4.1 Contingencies have been specified in the budget. These include: environmental sampling/analysis of waterlogged remains; pump (not expected as no evidence of

waterlogging previously identified in this area); Roman pottery (none expected); Anglo-Saxon pottery - large quantities (moderate amounts expected and allowed for); Medieval pottery - large quantities (moderate amount expected and allowed for); faunal remains -moderate-large quantities (small amounts expected and allowed for); Conservation and/or Other unexpected remains or artefacts.

18.4.2 Other than the pump, the activation of any contingency requirement will be by the archaeological curator (Boston Community Archaeologist), not Archaeological Project Services.

19 INSURANCES

19.1 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.

20 COPYRIGHT

20.1 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.

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

20.3 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.

20.4 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.

21 BIBLIOGRAPHY

Archaeological Project Services, 1994 *Archaeological Evaluation of land at The Depot, 16-18 Station Road, Kirton, Lincolnshire*

Archaeological Project Services, 1996 *Archaeological Evaluation of land adjacent to17 High Street, Kirton, Lincolnshire (KHS96)*

Archaeological Project Services, 2000 *Archaeological Evaluation of land off Willington Road, Kirton, Lincolnshire (KWR00)*

Archaeological Project Services, 2001a *Archaeological Evaluation of land at Station Road, Kirton, Lincolnshire Road, Kirton, Lincolnshire (KWR00)*

Archaeological Project Services, 2001b *Archaeological Evaluation, The Old School Site, King Street, Kirton, Lincolnshire Road, Kirton, Lincolnshire (KKS01)*

Archaeological Project Services, 2001c *Archaeological Evaluation of land at London Road, Kirton, Lincolnshire (KLR 01)*

English Heritage, 1995 *Geophysical survey in archaeological field evaluation*, Research and Professional Services Guideline **1**

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

Context Summary

Trench 1

Cxt	Type	Description	Tk (m)	Interpretation	Fill of/by
100	Deposit	Soft, mid/dark brown silt with occ. roots and stubble	0.30	Topsoil	
101	Deposit	Soft, mixed light/mid brown silt with rare iron staining and worm holes	0.29	Subsoil	
102	Deposit	Soft, light brown silt with occ. iron staining	0.15+	Natural	
103	Deposit	Soft, mid brown silt	0.38	Gully fill	104
104	Cut	E-W linear feature with concave sides and base, 1.60m+ long x 0.82m wide	0.38	Gully	103

Trench 2

Cxt	Type	Description	Tk (m)	Interpretation	Fill of/by
200	Deposit	Soft, dark greyish brown clayey silt with freq. roots and occ. small stones	0.30	Topsoil	
201	Deposit	Soft, mid yellowish grey silt with occ. roots and worm holes	0.20	Subsoil	
202	Deposit	Soft, light greyish yellow silt		Natural	
203	Cut	E-W linear feature with concave sides and base, 1.60m+ long x 0.37m wide	0.08	Gully	204
204	Deposit	Mod., light/mid brown clayey silt	0.08	Gully fill	203
205	Cut	Square shaped feature with concave sides and flat base, 0.27m long x 0.26m wide	0.05	?Post hole	206
206	Deposit	Soft, light brownish grey sandy silt	0.05	?Post hole fill	205

Trench 3

Cxt	Type	Description	Tk (m)	Interpretation	Fill of/by
300	Deposit	Soft, mid/dark brown silt with occ. roots and stubble	0.30	Topsoil	
301	Deposit	Soft, mixed light/mid brown silt with rare iron staining and worm holes	0.29	Subsoil	
302	Deposit	Soft, light brown silt with occ. iron staining	0.15+	Natural	
303	Deposit	Soft, light/mid greyish brown silt	0.30	Ditch fill	305
304	Deposit	Mod., mid greyish brown clayey silt with occ. iron staining and worm holes	0.60	Ditch fill	305
305	Cut	E-W ?linear feature with stepped sides, 1.60m+ long x 2.46m+ wide, not fully excavated	0.90	Ditch	303, 304

Trench 4

Cxt	Type	Description	Tk (m)	Interpretation	Fill of/by
400	Deposit	Soft, dark brown sandy silt	0.40	Topsoil	
401	Deposit	Soft, mid red greyish brown sandy silt	0.30	Subsoil	
402	Deposit	Soft, light mottled grey reddish brown/grey sandy silt		Natural	
403	Feature	Irregular shaped feature with mixed sandy silt fill		Natural feature	

Trench 5

Cxt	Type	Description	Tk (m)	Interpretation	Fill of/by
500	Deposit	Soft, dark greyish brown clayey silt with freq. roots and occ. small stones	0.30	Topsoil	
501	Deposit	Soft, mid yellowish grey silt with occ. roots and worm holes	0.20	Subsoil	
502	Deposit	Soft, light greyish yellow silt		Natural	
503	Cut	Square feature with vertical sides and flat base, 0.20m x 0.20m	0.12	Post hole	504
504	Deposit	Soft, mid greyish brown silt with occ. charcoal	0.12	Post hole fill	503

Trench 6

Cxt	Type	Description	Tk (m)	Interpretation	Fill of/by
600	Deposit	Soft, dark greyish brown clayey silt with freq. roots and occ. small stones	0.30	Topsoil	
601	Deposit	Loose, mid greyish brown clayey silt with organic material and freq. bone	0.40	Pit fill	602
602	Cut	Sub-rectangular feature with vertical sides and stepped flat base, 0.70m x 0.70m	0.40	Pit	601
603	Deposit	Soft, mid yellowish grey silt with occ. roots and worm holes	0.20	Subsoil	
604	Deposit	Loose, mid greyish brown clayey silt with freq. shell and occ. bone	0.30	Ditch fill	605
605	Cut	N-S linear feature with gently sloping sides and undulating base, 1.60m+ long x 1.30m wide	0.30	Ditch	604
606	Deposit	Firm, mid brown clayey silt	0.28	Ditch fill	607
607	Cut	N-S linear feature with gently sloping sides and undulating base, 1.60m+ long x 1.50m wide	0.28	Ditch	606
608	Deposit	Firm, dark yellowish brown clayey silt with freq. charcoal and burnt clay	0.20	Hollow fill	609
609	Cut	Circular feature with gradually slopping sides and undulating base, *c.* 4.00m dia.	0.20	Hollow, internal floor?	608
610	Deposit	Mod. mid greyish brown clayey silt	0.10	Gully fill	611
611	Cut	E-W linear feature with concave sides and base, 2.30m long x 0.37m+ wide	0.10	Gully	610
612	Deposit	Mod. mid yellowish brown clayey silt	0.08	?Post hole fill	613
613	Cut	?Sub-circular feature with concave sides and base, 1.14m long x 0.42m+ wide	0.08	?Post hole	612
614	Deposit	Soft, light greyish yellow silt		Natural	

Trench 7

Cxt	Type	Description	Tk (m)	Interpretation	Fill of/by
700	Deposit	Soft, dark brown sandy silt	0.35	Topsoil	
701	Deposit	Soft, mottled light greyish brown/grey/reddish brown sandy silt	0.90+	Natural	

Cxt - Context number Tk (m) - Thickness Occ. - Occasional
Freq. - Frequent Dia. - Diameter

Appendix 3

The Finds

by P Cope-Faulkner, H Healey and G Taylor

Recording of the pottery was undertaken with reference to guidelines prepared by the Medieval Pottery Research Group (Slowikowski *et al.* 2001) and the pottery was quantified using the chronology and coding system of the City of Lincoln post-Roman pottery codes. A total of 10 fragments of pottery weighing 45g and representing a minimum of 4 separate vessels was recovered from four contexts. In addition to the pottery, a small quantity of other artefacts, metal and fire residues, comprising 9 items weighing a total of 7g, was also recovered. Faunal remains were also retrieved.

Provenance

Artefacts were recovered from the fills of a ditch (304), possible natural feature (403), pit (601)and gully (610) and a possible natural layer (701). Faunal remains were also retrieved from some of these deposits and, in addition, several ditch and other feature fills (604, 606, 608, 612) and topsoil (700). The majority of the artefacts were collected from Trench 3 in the northern part of the investigation area and faunal remains were obtained from Trench 6, at the eastern edge of the site.

With the exception of one post-medieval piece probably made in Staffordshire, all the pottery was manufactured relatively locally to Kirton in southern Lincolnshire, including Stamford, 40km to the southwest.

Range

Most of the artefacts are of early medieval date and the range of material is detailed in the following tables. Pottery formed the largest component of the small artefact assemblage though metal and fire residues were also retrieved. Large quantities of faunal remains were recovered.

Table 1: The Pottery and other artefacts

Context	Fabric Code	Description	No.	Weight (g)	Latest Date
304	ST	Stamford ware, 1 glazed; 2 sooted externally, mid 11th-mid 12th century	4	23	mid 11th- 12th century
	SLST	South Lincs. shelly ware, abraded, ?11th- 12th century	1	5	
		?South Lincs. reduced sandy ware, sooted externally, ?11th- 12th century	1	4	
403	ST	Stamford ware, glazed, slightly abraded, mid 11th-mid 12th century	1	6	mid 11th- 12th century
	?SLST	?South Lincs. shelly ware, decalcified, very abraded, ?11th- 12th century	1	<1	
		Coal/cinders	6	4	
601	EMOD	White glazed tableware, 19th- 20th century	1	<1	19th- 20th century
610	ST	Stamford ware, unglazed, slightly abraded	1	6	mid 9th-mid 12th century
701		Copper alloy strip, binding?	3	3	

Most of the pottery is Stamford ware, though there are a few other contemporary pieces, including fragments of shelly-tempered ceramic. Later medieval and post-medieval material is virtually absent, with only one small fragment of 19th- 20th century pottery retrieved. Pottery assemblages of similar date and nature have previously been found immediately to the west and southwest of the current investigation area (Healey *et al.* 2001a; 2001b). The

material indicates occupation of this part of Kirton in the Saxo-Norman - early medieval period, followed by abandonment. As such, the present collection confirms and enhances the evidence from the previous investigations.

Table 2: The Faunal Remains

Context	Species	Bone	No.	Description
304	Cattle ? sheep Unknown	rib vertebra Unidentified	1 2 1	fragmentary, probably from 2 vertebra
403	Cockle	-	1	Shell fragment
601	Chicken	-	c.200	Substantial parts of several fowl skeletons. 6 skulls present
604	Cattle	vertebra	1	slightly chalky
606	? Cattle	unidentified	1	shaft fragment
608	? Cattle	humerus	1	shaft fragment
612	? Cattle Cattle	scapula molar	4 2	fragmentary, chalky condition juvenile
700	Bird	humerus	1	probably chicken

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

Documentation
Archaeological investigations have been undertaken in Kirton previously, including in close proximity to the present site, and are the subject of reports. Records of archaeological remains and finds in the area are maintained in the files of the Boston Community Archaeologist and the County Sites and Monuments Record.

Potential
Although a small group, the assemblage is almost exclusively of Saxo-Norman - early medieval date and has moderate local potential. The small quantity of artefacts would tend to indicate that the area was probably at the settlement fringe. However, not only does the material suggest settlement of the period on, or in close proximity to, the site, but also the essential single phase of pottery indicates that occupation was solely of this period, being limited to the 11th- 12th century. This single phase, early medieval, occupation indicated by the artefacts is closely matched by similar assemblages previously recovered in close proximity. This enhances the significance of the current artefact assemblage. Cumulatively, the results from this and previous investigations in the vicinity indicate that this general area of Kirton was a focus of occupation solely in the Saxo-Norman - early medieval period.

The absence of any later medieval or early post-medieval material is informative and suggests that occupation ceased after the 12th century, the area possibly reverting to fields, this again concurring with the results of previous investigations in the proximity. The single 19th- 20th century artefact is of low potential but does indicate reuse of the area at that time.

References

Healey, H., Lane, T. and Taylor, G., 2001a 'The Finds', in J. Snee, *Archaeological Evaluation of Land at Station Road, Kirton, Lincolnshire (KSR01)*, unpublished Archaeological Project Services' report **48/01**

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Appendix 4

The Environmental Assessment

by V Fryer

Introduction

Evaluation excavations at Station Road, Kirton were undertaken by Archaeological Project Services. Various features of probable Saxon or medieval date were recorded and two samples for the extraction of plant macrofossils were taken from the burnt fill of a hollow (sample 1) and a ditch fill (sample 2).

Methods

The samples (or sub-samples thereof) were processed by manual water flotation/washover, collecting the flots in a 500 micron mesh sieve. The dried flots were scanned under a binocular microscope at magnifications up to x 16 and the plant materials and other remains noted are listed on Table 1. Nomenclature within the table follows Stace (1997). All tabulated material was preserved by charring. Modern contaminants including fibrous roots, seeds/fruits and chaff were present in both samples.

The non-floating residues were collected in a 1mm mesh sieve and sorted when dry. Pottery, bone, marine mollusc shell fragments and pieces of burnt or fired clay were extracted for further specialist analysis.

Results of assessment

Plant macrofossils

Cereal grains/chaff and seeds/fruits of common weed species were present at low to moderate densities in both samples. Preservation of the material was generally poor to moderate; the majority of the cereal grains were puffed and distorted as a result of high temperatures during combustion and many of the macrofossils were fragmented.

Cereals and other food plants

Oat (*Avena* sp.), barley (*Hordeum* sp.) and wheat (*Triticum* sp.) grains were recorded with barley being predominant. Chaff elements were extremely rare; a possible wheat rachis internode fragment was present in sample 1 and a single bread wheat (*T. aestivum/compactum*) type rachis node was noted in sample 2. A small fragment of cotyledon from a large pulse (Fabaceae) was also found in sample 1.

Wild flora

Seeds/fruits were present at low densities in both samples. Taxa noted included fat hen (*Chenopodium album*), medick/clover/trefoil (*Medicago/Trifolium/Lotus* sp.), redshank/pale

persicaria (*Persicaria maculosa/lapathifolia*) and indeterminate grasses (Poaceae). A single spike-rush (*Eleocharis* sp.) nutlet was present in sample 2.

Other plant macrofossils

Charcoal fragments were common or abundant in both samples. Other plant macrofossils included pieces of charred root, rhizome or stem and indeterminate culm nodes.

Molluscs

Although specific sieving for molluscan remains was not undertaken, shells were noted at a low density in both samples. Open country species were predominant. However, in the absence of burnt specimens, all examples may be modern in origin and intrusive within the contexts.

Other materials

The fragments of black porous 'cokey' material and black tarry material may be derived from the combustion of organic remains, including cereal grains, at extremely high temperatures. Possible dietary residues included mammal and fish bone, eggshell fragments and numerous pieces of marine mollusc shell, most notably *Mytilus edulis* (mussel).

Discussion

Although both assemblages contain common grains/grain fragments, chaff elements and weed seeds are rare. However, it is of note that both assemblages show evidence of either single combustion at a very high temperature or repeated episodes of burning. Both events would almost certainly destroy delicate chaff elements and small seeds, and it is, therefore, possible that the assemblages are biased towards the more robust macrofossils and may not be truly representative of the original pre-combustion material.

Probable dietary residues, including mammal and fish bone, eggshell and mussel shell fragments, are also present in both samples. These may indicate that the assemblages are derived from low density deposits of domestic refuse, possibly hearth waste. This would be consistent with the heavily burnt condition of the grains and may suggest that the latter are derived either from accidental spillage during cooking, or from waste material used as kindling/fuel for the fire. The moderate density of burnt or fired clay noted in sample 1 may be derived from material at the base of a hearth.

Conclusions and recommendations for further work

In conclusion, the material recovered appears to be derived from domestic hearth waste. Similar assemblages were recovered from contemporary contexts at an earlier evaluation excavation at London Road, Kirton (see assessment report of October 16th 2001). As noted in the previous assessment, it is unlikely that hearth waste would be transported any

considerable distance prior to deposition and therefore these current assemblages may indicate the close proximity to the excavation of domestic activity dating to the Late Saxon/medieval period.

As neither sample produced a quantifiably viable assemblage (i.e. 200+ specimens), no further analysis is recommended. However, the results of this assessment should be included in any future synthesis of material from Kirton.

The potential for plant macrofossil analysis from samples taken at this location is very high. Information related to local domestic activities would greatly supplement existing data, especially as material of medieval date is currently somewhat under represented within the archive. It is, therefore recommended that, prior to further excavation work, a comprehensive environmental sampling policy should be discussed with the relevant specialists.

References

Stace, C., 1997 New Flora of the British Isles. Second edition.

Key to Table

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

Sample No.	**1**	**2**
Context No.	**608**	**604**
Cereals and other food plants		
Avena sp. (grains)	x	x
Cereal indet. (grains)	xx	xx
Large Fabaceae indet.	xcotyfg	
Hordeum sp. (grains)	xx	xx
Triticum sp. (grains)	x	x
(rachis internode frag.)	x	
T. aestivum/compactum type (rachis node)		x
Herbs		
Brassicaceae indet.	x	x
Chenopodium album L.	x	
C. ficifolium Sm.	x	
Medicago/Trifolium/Lotus sp.	x	
Persicaria maculosa/lapathifolia	x	
Small Poaceae indet.	x	
Large Poaceae indet.	x	
Wetland plants		
Eleocharis sp.		x
Other plant macrofossils		
Charcoal <2mm	xxx	xx
Charred root/rhizome/stem	x	
Indet.culm nodes	x	x
Indet.seeds	x	x
Other materials		
Black porous 'cokey' material	xx	xx
Black tarry material		x
Bone	x xb	x
Burnt organic concretions	x	
Burnt/fired clay	xx	
Eggshell	x xb	x
Fish bone	x	x
Marine mollusc shell frags.		x
Small coal frags.	x	x
Small mammal amphibian bone		x xb
Vitrified material	x	xx
Sample volume (litres)	**14ss**	**10ss**
Volume of flot (litres)	**0.1**	**<0.1**
% flot sorted	**100%**	**100%**

Table 1

Appendix 5

Geophysical Survey

by Engineering Archaeological Services Ltd.

Location and Topography

The area surveyed lies between Station Road, Kirton and the A 15. Two areas were investigated . The southern of these is immediately adjacent to a geophysical survey carried out in December 2000, in a field behind the properties facing onto Station Road. This area is flat and was under cereal stubble at the time of the survey. The second area was a domestic garden put down to lawns and beds of shrubs. It was to the north of the first survey area and fronted onto the A 15.

Archaeological Background

A previous geophysical survey carried out by Engineering Archaeological Services Ltd., for Archaeological Project Services, located a number of magnetic anomalies of probable archaeological nature in the plot immediately to the west of the current survey area.

Aims of Survey

To locate, by detailed survey, magnetic anomalies of potential archaeological origins.

SUMMARY OF RESULTS

Only one possible anomaly of archaeological origin was located. Other anomalies would appear to relate to modern drainage or agricultural activities.

Survey Results:

Area

Two areas were surveyed. Area 1 consisted of approximately 0.67 ha in the southern field. Area 2 was only 0.06 ha in the garden to the north of Area 1. (Figure 1). Area 1 can be regarded as an extension of the survey carried out by Engineering Archaeological Services Ltd in December 2000 (Figure 5).

Display

The results are displayed as Grey Scale Image and as X-Y Trace Plots. Figures 2 and 3

Results:

Eleven 30 x 30 m grids were investigated in Area 1. A further six 10 x 10 m grids comprised Area 2. The alignment of Area 2 was adjusted to maximise the available area for survey.

Area 1:

Only one possible anomaly of archaeological origin was located. This was within Grid 10 and was roughly aligned with the dyke which marks the northern boundary of Area 1. It is possible that this anomaly may be part of the modern drainage pattern of the field.. This anomaly is shown in red on Figure 4.

The feint anomalies marked in green on Figure 4 all run either at right angles to or parallel with the modern dyke and are assumed to be modern drainage features.

Several areas of ferromagnetic disturbance were located. The most marked of these runs through Grids 4, 5 6 and 7. It is likely that this represents an iron pipe, possibly taking surface water away from the houses on Station Road. The disturbance in Grid 11 is related to an electricity supply pole at this point in the field. These disturbances are shown in blue on Figure 4.

Area 2:

Only a limited area within this garden was surveyed. An area of ferromagnetic disturbance marked much of the northern end of the survey area. It is assumed that this relates to gardening activities such as bonfires and the spreading of domestic rubbish.

Magnetic Susceptibility

Soil samples were taken from the area of detailed survey in order to assess the magnetic susceptibility of the soils. It was not possible to obtain a subsoil sample for comparison .

Sample	Volume susceptibility χ_v	Mass susceptibility χ_m
Grid 1	41	35.3
Grid 3	43	38.4
Grid 5	40	35.7
Grid 7	69	56.1
Grid 9	35	33.7

The susceptibilities as measured are consistently low with little difference between samples suggesting that conditions are not ideal for magnetic survey and that no concentrations of archaeological activity are recorded in the magnetic susceptibility values.

Conclusions

It is a fundamental axiom of archaeological geophysics that the absence of features in the survey data does not mean that there is no archaeology present in the survey area only that the techniques used have not detected it.

Only one possible anomaly of archaeological origin was located and it is possible that even this was related to the modern drainage of the field.

The magnetic anomalies which were recorded in the previous survey do not appear to extend into the current survey area (Figure 5). They are all in the southern part of the survey area and, if they extend, would be within the gardens of the houses fronting onto Station Road. The level of ferromagnetic disturbance in Grid 7 does not allow for any possible extension of the anomalies to be located in the current survey.

Techniques of Geophysical Survey:

Magnetometry:

This relies on variations in soil magnetic susceptibility and magnetic remenance which often result from past human activities. Using a Fluxgate Gradiometer these variations can be mapped, or a rapid evaluation of archaeological potential can be made by scanning.

Resistivity:

This relies on variations in the electrical conductivity of the soil and subsoil which in general is related to soil moisture levels. As such, results can be seasonally dependant. Slower than Magnetometry this technique is best suited to locating positive features such as buried walls that give rise to high resistance anomalies.

Resistance Tomography

Builds up a vertical profile or pseudosection through deposits by taking resistivity readings along a transect using a range of different probe spacings

Magnetic Susceptibility:

Variations in soil magnetic susceptibility occur naturally but can be greatly enhanced by human activity. Information on the enhancement of magnetic susceptibility can be used to ascertain the suitability of a site for magnetic survey and for targeting areas of potential archaeological activity when extensive sites need to be investigated. Very large areas can be rapidly evaluated and specific areas identified for detailed survey by gradiometer.

Instrumentation:

1. Fluxgate Gradiometer - Geoscan FM36

2. Resistance Meter - Geoscan RM4/DL10

3. Magnetic Susceptibility Meter - Bartington MS2

4. Geopulse Imager 25 - Campus

Methodology:

For Gradiometer and Resistivity Survey 20m x 20m or 30m x 30m grids are laid out over the survey area. Gradiometer readings are logged at either 0.5m or 1m intervals along traverses 1m apart. Resistance meter readings are logged at 1m intervals. Data is down-loaded to a laptop computer in the field for initial configuration and analysis. Final analysis is carried out back at base.

For scanning transects are laid out at 10m intervals. Any anomalies noticed are where possible traced and recorded on the location plan.

For Magnetic Susceptibility survey a large grid is laid out and readings logged at 20m intervals along traverses 20m apart, data is again configured and analysed on a laptop computer.

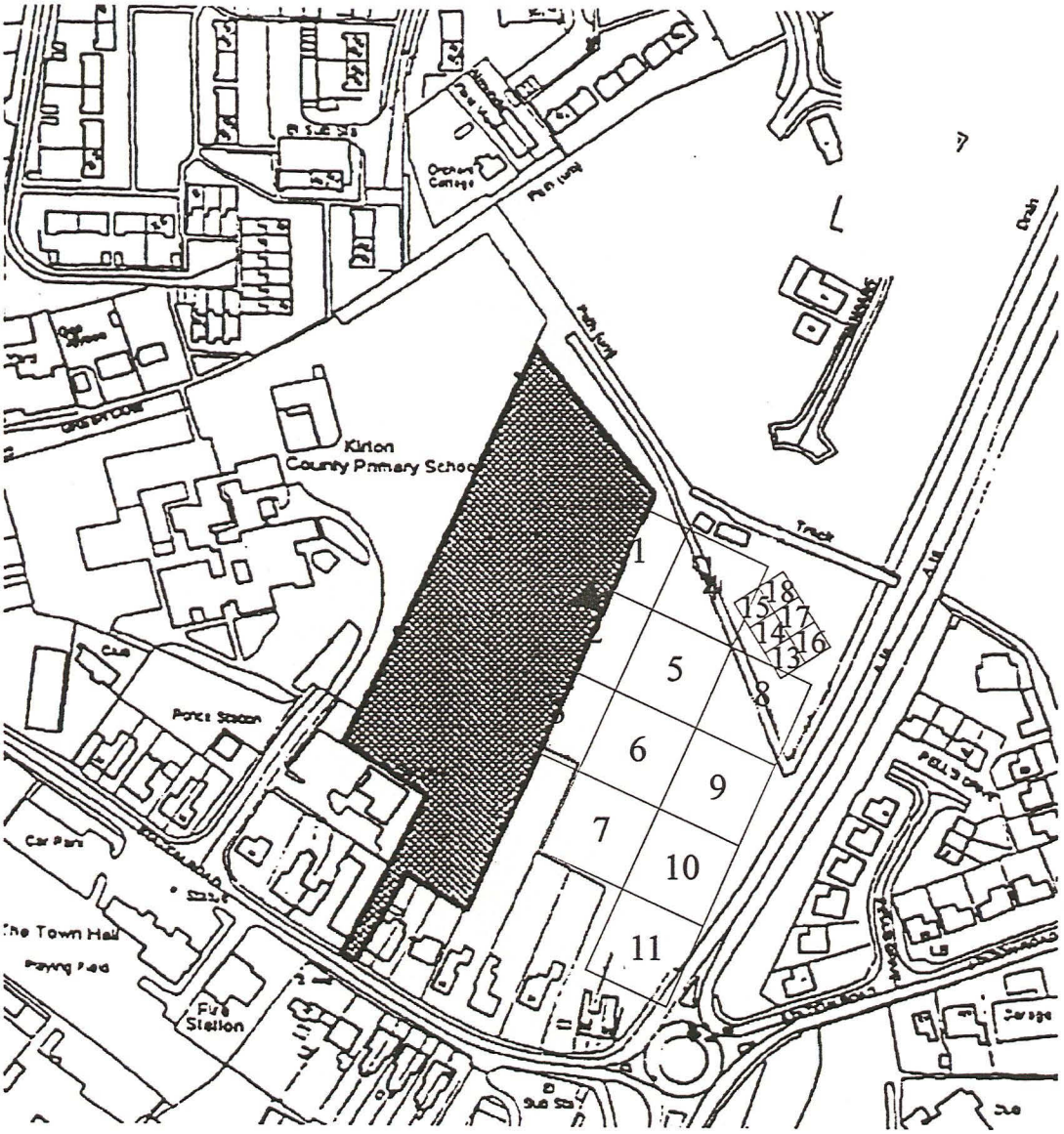
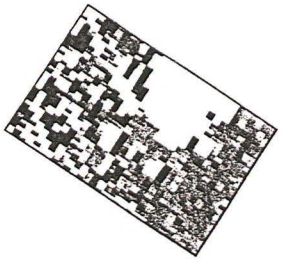
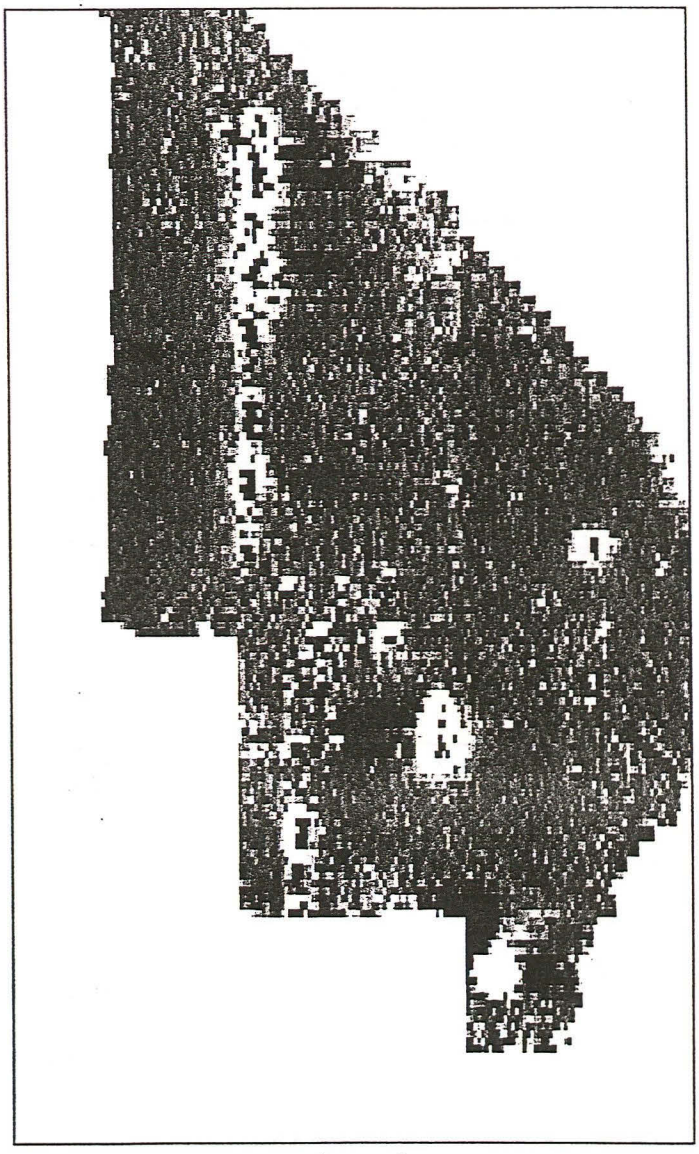


Figure 1: Kirton Station Road 2 Location	Scale 1:2500

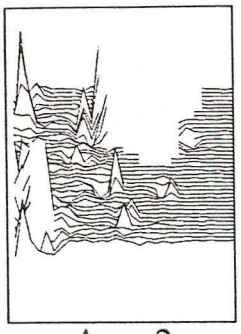


Area 2



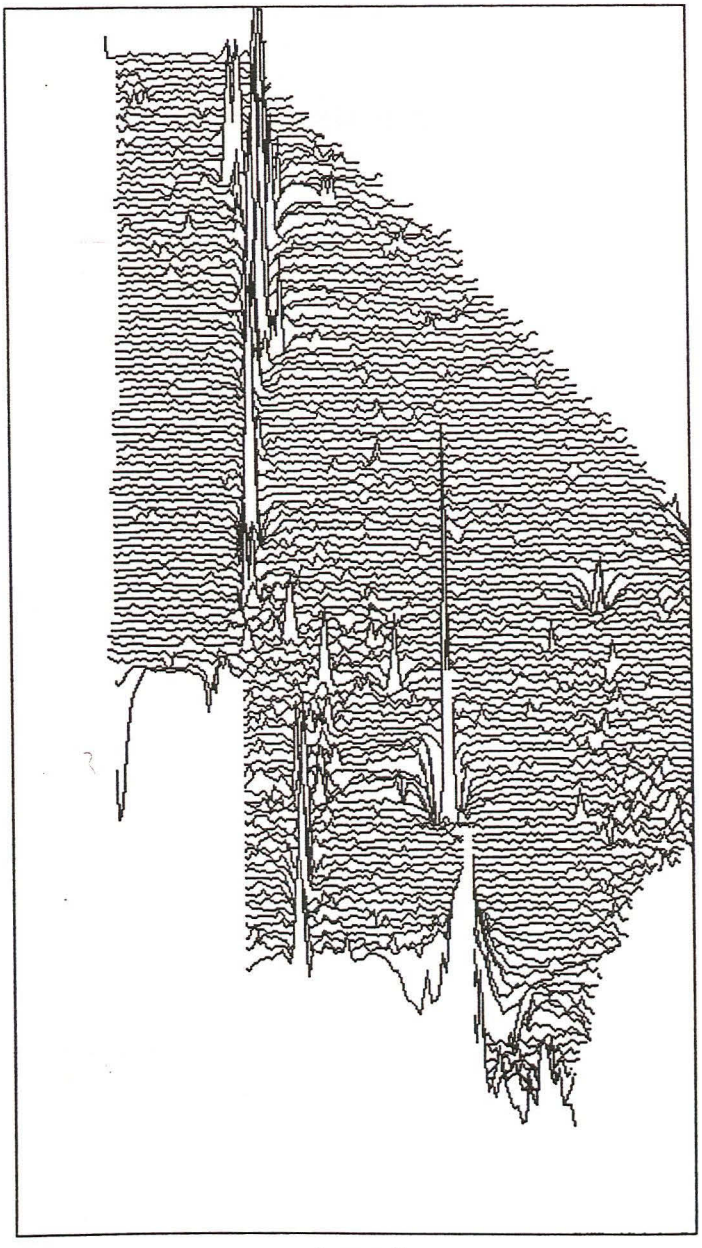
Area 1

Figure 2: Kirton Station Road 2
Grey Scale Plots
Scale 1:1000



34
nT

Area 2



Area 1

Figure 3: Kirton Station Road 2
X-Y Plots
Scale 1:1000

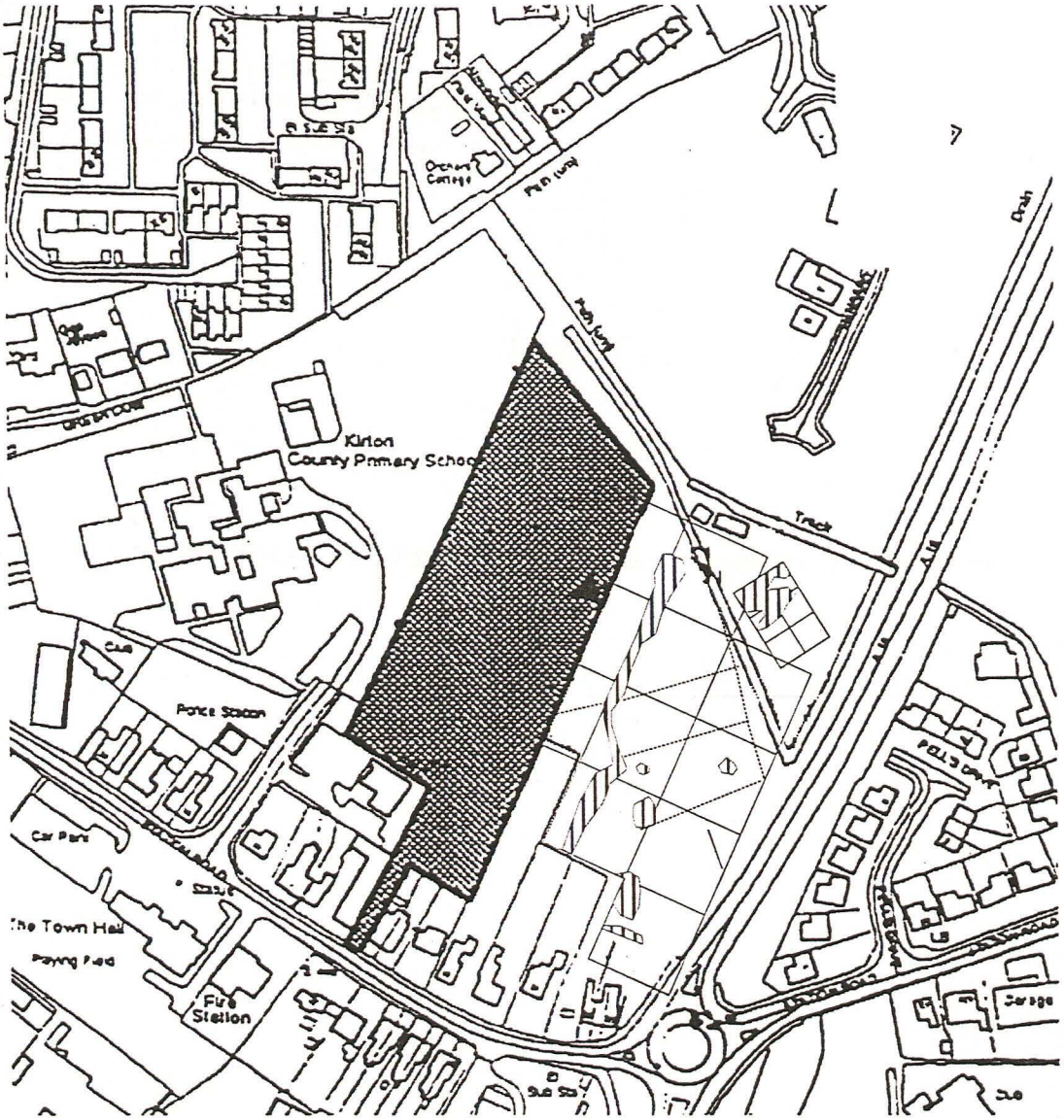


Figure 4: Kirton Station Road 2 Interpretation	Scale 1:2500

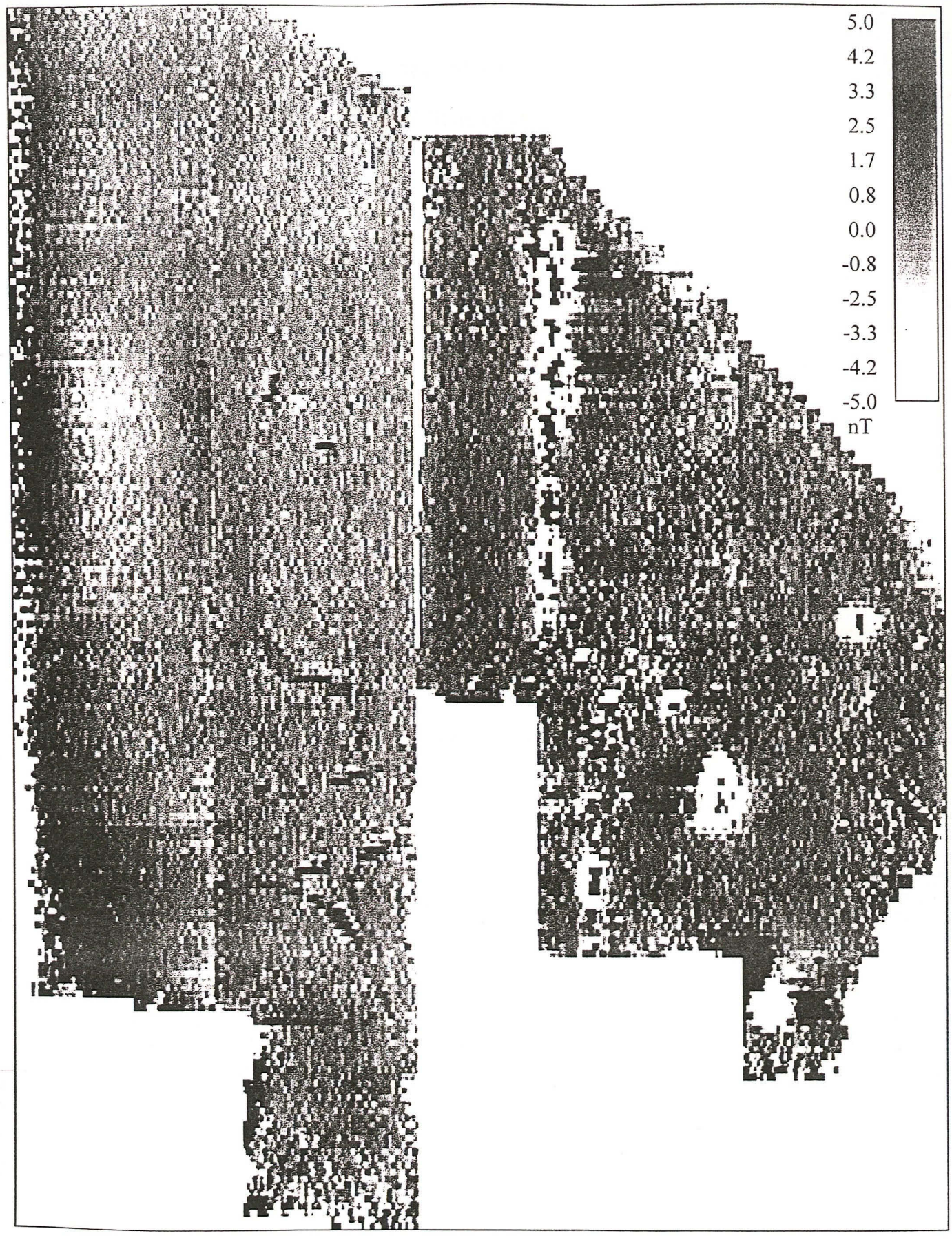


Figure 5: Kirton, Station Road
Combined Plot
Scale 1:1000

Appendix 6

SECRETARY OF STATE'S CRITERIA FOR SCHEDULING ANCIENT MONUMENTS - extract from *Archaeology and Planning* DOE Planning Policy Guidance note 16, November 1990

The following criteria (which are not in any order of ranking), are used for assessing the national importance of an ancient monument and considering whether scheduling is appropriate. The criteria should not however be regarded as definitive; rather they are indicators which contribute to a wider judgement based on the individual circumstances of a case.

i *Period*: all types of monuments that characterise a category or period should be considered for preservation.

ii *Rarity*: there are some monument categories which in certain periods are so scarce that all surviving examples which retain some archaeological potential should be preserved. In general, however, a selection must be made which portrays the typical and commonplace as well as the rare. This process should take account of all aspects of the distribution of a particular class of monument, both in a national and regional context.

iii *Documentation*: the significance of a monument may be enhanced by the existence of records of previous investigation or, in the case of more recent monuments, by the supporting evidence of contemporary written records.

iv *Group value*: the value of a single monument (such as a field system) may be greatly enhanced by its association with related contemporary monuments (such as a settlement or cemetery) or with monuments of different periods. In some cases, it is preferable to protect the complete group of monuments, including associated and adjacent land, rather than to protect isolated monuments within the group.

v *Survival/Condition*: the survival of a monument's archaeological potential both above and below ground is a particularly important consideration and should be assessed in relation to its present condition and surviving features.

vi *Fragility/Vulnerability*: highly important archaeological evidence from some field monuments can be destroyed by a single ploughing or unsympathetic treatment; vulnerable monuments of this nature would particularly benefit from the statutory protection that scheduling confers. There are also existing standing structures of particular form or complexity whose value can again be severely reduced by neglect or careless treatment and which are similarly well suited by scheduled monument protection, even if these structures are already listed buildings.

vii *Diversity*: some monuments may be selected for scheduling because they possess a combination of high quality features, others because of a single important attribute.

viii *Potential*: on occasion, the nature of the evidence cannot be specified precisely but it may still be possible to document reasons anticipating its existence and importance and so to demonstrate the justification for scheduling. This is usually confined to sites rather than upstanding monuments.

Appendix 7

Glossary

Alluvium	Deposits laid down by water. Marine alluvium is deposited by the sea, and fresh water alluvium is laid down by rivers and in lakes.
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.
Border	Villager holding less land than a *villein*
Bronze Age	A period characterised by the introduction of bronze into the country for tools, between 2250 and 800 BC.
Context	An archaeological context represents a distinct archaeological event or process. For example, the action of digging a pit creates a context (the cut) as does the process of its subsequent backfill (the fill). Each context encountered during an archaeological investigation is allocated a unique number by the archaeologist and a record sheet detailing the description and interpretation of the context (the context sheet) is created and placed in the site archive. Context numbers are identified within the report text by brackets, *e.g.* [004].
Crop mark	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.
Domesday Survey	A survey of property ownership in England compiled on the instruction of William I for taxation purposes in 1086 AD.
Fill	Once a feature has been dug it begins to silt up (either slowly or rapidly) or it can be back-filled manually. The soil(s) that become contained by the 'cut' are referred to as its fill(s).
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.
Layer	A layer is a term used to describe an accumulation of soil or other material that is not contained within a cut.
Medieval	The Middle Ages, dating from approximately AD 1066-1500.
Mesolithic	The 'Middle Stone Age' period, part of the prehistoric era, dating from approximately 11000 - 4500 BC.
Natural	Undisturbed deposit(s) of soil or rock which have accumulated without the influence of human activity
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 hole	The hole cut to take a timber post, usually in an upright position. The hole may have been dug larger than the post and contain soil or stones to support the post. Alternatively, the posthole may have been formed through the process of driving the post into the ground.
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.
Ridge and Furrow	The remains of arable cultivation consisting of raised rounded strips separated by furrows. It is characteristic of open field agriculture.
Romano-British	Pertaining to the period dating from AD 43-410 when the Romans occupied Britain.
Saxon	Pertaining to the period dating from AD 410-1066 when England was largely settled by tribes from northern Germany
Transformed	Soil deposits that have been changed. The agencies of such changes include natural processes, such as fluctuating water tables, worm or root action, and human activities such as gardening or agriculture. This transformation process serves to homogenise soil, erasing evidence of layering or features.

Appendix 8

The Archive

The archive consists of:

44 Context records
22 Drawing sheets
3 Daily record sheets
7 Context record sheets
1 Section record sheet
1 Plan record sheet
3 Photographic record sheets
4 Level sheets
1 Sample record sheet
2 Environmental sample sheets
1 Boxes of finds
1 Stratigraphic matrices

All primary records and finds are currently kept at:

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

The ultimate destination of the project archive is:

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

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

Lincolnshire City and County Council Museum Accession Number:	2001.426
Archaeological Project Services Site Code:	KSR01

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.