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**ARCHAEOLOGICAL
EVALUATION ON LAND AT
HURLINGHAM BUSINESS PARK
FULBECK HEATH
LINCOLNSHIRE
(FHH02)**



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EVALUATION ON LAND AT
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(FHH02)**

Work Undertaken For
Molsom and Partners

June 2002

Report Compiled by
Rachael Victoria Hall BA (Hons) PIFA

National Grid Reference: SK 9835 5010
Planning Application No. SO/1350/34

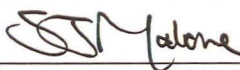
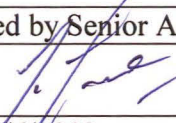
A.P.S. Report No. **104/02**

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1. SUMMARY

Archaeological evaluation was undertaken at Hurlingham Business Park, Fulbeck Heath, Lincolnshire in order to provide information to assist in the determination of a planning application for the erection of a storage and showroom facility at the site.

The development area lies within close proximity of the site of a medieval grange of Sempringham Priory. Transcriptions of aerial photos depict cropmarks of sub-rectangular enclosures which may relate to the grange. Previous archaeological investigations 100m to the northeast of the site revealed several pits and postholes but none were dated.

Geophysical survey of the proposed development area identified a number of possible archaeological features, including pits and rectilinear enclosures and these were further investigated by trial trenching.

The trenching identified remains of a stone medieval building and a medieval pit as well as an undated ditch and gully and a number of geological features and undated quarry pits.

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 1997).

2.2 Planning Background

The site is the subject of planning application (S01/1350/34) submitted to South Kesteven District Council for the erection of a storage and showroom facility. An archaeological evaluation was required in order to provide information to assist in the determination of the application. As a first stage of the archaeological evaluation, a geophysical survey of the site was undertaken. This was followed up by a programme of trial trenching.

Archaeological Project Services was commissioned by Molsom and Partners to undertake the archaeological evaluation of the site in accordance with the requirements of the local planning authority. The work was undertaken between the 13th -20th May 2002.

2.3 Topography and Geology

Fulbeck Heath is situated 10km northwest of Sleaford in the South Kesteven District of Lincolnshire (Fig. 1). The development site lies to the north of the A17 highway within the Hurlingham Business Park complex. The site comprises a roughly rectangular block of land located on a gentle eastwards slope, approximately 4.5ha in extent centred on grid reference SK 9835 5010.

The site lies at the boundary of two soil types. Elnton 1 Association shallow brown rendzinas and Marcham Association brown rendzinas/calcareous earths.

2.4 Archaeological Setting

The site is located within an area of known archaeological remains dating from the

Romano-British period. 350 metres east of the development is the Roman road, Ermine Street (Margary 1973, 228).

Fulbeck is first mentioned in the Domesday Survey of 1086 where it is referred to as '*Fulebec*', meaning foul or dirty brook. The Domesday Survey records 2 churches, 2 priests and half a mill. The settlement comprised the manors of Fulbeck and nearby Leadenham. The manors were held by Count Alan of Brittany and Ralf Staller (Foster and Longley 1976). Fulbeck Heath lies 2-3km east of the village on the limestone plateau.

Immediately north of the site lies Maidenhouse Farm. Ruins (SMR 30237) of older buildings were noted at the site in 1812 (Gentleman's Magazine Vol. LXXXII, 634-5). It is suggested in the article that 'The Temple on the Heath' (Temple Bruer), which lies 2 miles northeast of Maidenhouse had a cell at the site. White's Directory of Lincolnshire (1856) also lists Maiden House as being a Templar property, with an extra-parochial status at that date. The ruins however may comprise part of a grange established by Sempringham Priory in the 12th century. Documentary evidence indicates that 920 acres of land at Fulbeck was granted to Sempringham Priory for the establishment of a grange (Owen 1981). The priory was dissolved in 1536, resulting in the grange being surrendered to the crown (Page, 1988). Aerial photos of the site and surrounding land show the possibility of several sub-rectangular enclosures which are thought to represent buildings, gardens or ponds.

Previous archaeological investigations 100m northeast of the site identified an undated pit and several postholes (Young 1998).

Geophysical survey undertaken over the proposed development area identified a

number of possible archaeological features, including pits, rectilinear enclosures and the site of a possible building (GSB 2002, Fig. 4, Appendix 3).

3. AIMS

The aim of the evaluation was to gather information to establish the presence or absence, extent, condition, character, quality and date of any archaeological deposits in order to enable the archaeological curator to formulate a policy for the management of archaeological resources present on the site

4. METHODS

4.1 Trial Trenching

Ten trenches were excavated: three measuring 10m x 1.6m; one measuring 25m x 1.6m; two measuring 20m x 1.6m and four measuring 15m x 1.6m. The positioning of the trenches was determined by the results of the geophysical survey undertaken by GSB Prospection on behalf of APS (Fig 3 and 4).

Removal of topsoil and other overburden was undertaken by mechanical excavator using a toothless ditching bucket. 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. Sections were drawn at a scale of 1:10 and plans at a scale of 1:20. Recording of deposits encountered was undertaken according to standard Archaeological Project Services' practice.

The location of the excavated trenches was surveyed with an EDM in relation to fixed points on boundaries and on existing buildings.

4.2 Post-excavation

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. Artefacts recovered from excavated deposits were examined and a period date assigned where possible. A list of all contexts and interpretations appears as Appendix 2. Context numbers are identified in the text by brackets. An equals sign between context numbers indicates that the contexts once formed a single layer or feature. Phasing was based on artefact dating and the nature of the deposits and recognisable relationships between them.

5. RESULTS

5.1 Description of the results

| | |
|---------|---------------------|
| Phase 1 | Natural deposits |
| Phase 2 | Undated deposits |
| Phase 3 | Post-Roman deposits |
| Phase 4 | Medieval deposits |
| Phase 5 | Modern deposits |

5.2 Phase 1: Natural deposits

(Figs 6-12)

The earliest deposits encountered, seen in the base of the trenches were natural limestone brash (102), (205), (304), (450), (502), (607), (702), (820), (821), (903), (904) and (1002). An outcrop of limestone bedrock (408) was seen in Trench 4.

Trench 4 (Figs 7 and 8)

A number of features were identified in the centre of the trench. These were irregular in shape with the largest feature measuring

0.26m wide by 0.70m+ deep [413], [415], [417], [419], [423], [425], [427], [429], [431], [433], [435], [437], [440], [444], [446], [452] and [454]. All were filled by mid-brown silt and limestone (414), (416), (418), (420), (424), (426), (428), (430), (432), (434), (436), (438), (441), (445), (447), (453) and (455) respectively. These are interpreted as solution holes in the limestone bedrock due to their irregular nature and great depth in several cases.

Trench 2 (Figs 7 and 12)

Two natural features were identified in Trench 2 [201] and [203]. Both were filled by mid-reddish brown clayey silt and limestone (200) and (202).

5.3 Phase 2: Undated deposits

Trench 3 (Fig 6)

Truncating subsoil (305), a mid-reddish brown clayey silt, was a 9m by 1.6m+ wide quarry pit [300]. Filled with greyish white limestone and silt (303) and light reddish brown clayey silt (302). This was not excavated further.

Trench 4 (Figs 7 and 8)

A circular vertical sided cut [406], diameter 0.20m, depth 0.50m, filled by mid-reddish brown clayey silt (405) was identified cut into an outcrop of limestone bedrock (408) at the eastern end of Trench 4. A possible posthole [409] filled by mid-reddish brown silt (410) was identified 2m to the east of [406].

Trench 7 (Figs 9 and 10)

A shallow irregular cut [708], measuring 1.52m+ wide by 0.22m deep filled by mid-yellowish brown clayey silt and limestone was identified in the centre of Trench 7. This was truncated by a northeast-southwest section of a slightly concave sided and flattish based ditch [701], 2.90m wide by 0.70m deep. Filling the ditch was mid-reddish brown clayey silt and limestone (700) and greyish white

limestone fragments (706). Sealing this was a 0.35m thick light reddish brown clayey silt and limestone subsoil layer (703).

Subsoil layer (703) was truncated at the western end of Trench 7 by a 1.60m+ by 5m+ wide by 1.10m+ deep, steep sided quarry pit [711]. Filling the pit was mid-reddish brown silt and limestone (710) and greyish white limestone (712).

Trench 8 (Fig. 11)

Located at the northeastern end of Trench 8 a partially exposed cut was identified [815] measuring at least 1.80m wide by 0.75m deep. This was filled by yellowish white limestone (816) and yellowish reddish brown silty sand and limestone (814). The cut was later truncated by [811], the construction cut for structure (801).

Trenches 1, 9 and 10 (Fig 12)

A 0.15m thick mid-reddish brown silty sand (101), (902) and (1001) subsoil layer was identified in Trenches 1, 9 and 10.

5.4 Phase 3: Roman and Post-Roman deposits

Trench 4 (Figs 8 and 7)

At the western end of Trench 4 truncating a 0.20m thick mid-reddish brown silt (402) subsoil, a steep sided, 5.50m wide by 1m+ deep pit [422] was identified. Filling the pit was dark brownish red silt (457), mid-greyish black ash and charcoal (439) and mid-brownish red silt (421) which contained a small sherd of abraded Romano-British pottery. This single sherd is probably residual and can only suggest a date sometime after the Roman period. Sealing the pit was mid-greyish brown silt (456). A sample taken from fill (439) contained charred grains and chaff and has been suggested as being derived from hearth or oven waste (Appendix 5).

Trench 6 (Figs 9 and 10)

A northwest-southeast section of a steep sided flat based ditch [604], 2.63m wide by 0.70m deep was identified at the western end of Trench 6. Contained within the ditch was mid-reddish brown silty sand (603) from which a small sherd of Romano-British greyware was retrieved, and mid-reddish brown silty sand (602). A sample taken from the fill (603) contained a low density of charred material which may not be contemporary with the context (Appendix 5).

5.5 Phase 4: Medieval deposits

Trench 4 (Figs 7 and 8)

Located at the eastern end of Trench 4 was a steep sided pit [403] measuring 6.5m wide by 1m+ deep. Contained within the ditch was a burnt deposit, seen only in plan, consisting of charcoal (407) containing charred remains of chaff and grain (Appendix 5). Overlying (407) was mid-reddish brown silt (443), mid-brown silt and limestone (404) containing 13th-14th century pottery, an abraded sherd of Romano-British pottery and a sherd of prehistoric pottery. Sealing this was mid-reddish brown silt and limestone (448), mid-reddish brown silt (449) and yellowish white crushed limestone (442).

Trench 5 and 6 (Fig 12)

A 0.20m thick layer of mid-reddish brown clayey silt and limestone subsoil containing a 13-14th century Bourne glazed ridge tile was identified in Trench 5. In Trench 6 a similar subsoil (601), contained 12th-mid-13th century developed Stamford ware.

Trench 6 (Figs 9 and 10)

Located at the eastern end of Trench 6 was a 0.50m wide northwest-southeast aligned gully [606], filling this was mid-reddish brown silty sand (605). The gully was sealed by the medieval subsoil layer (601)

Trench 8 (Fig 11)

Truncating cut [815] at the northeastern end of Trench 8 was a gradual sided flat base southeast-northwest aligned foundation cut [811], 0.63m wide by 0.20m deep. This was matched by a second steeper profiled foundation cut [813] in the southwestern half of Trench 8. Within the foundation cuts were the remains of a 0.60m wide and high (3 courses remain) limestone roughly coursed wall (801), representing the northwestern end of a building measuring 3.60m wide by 1.60m+ long. Filling the foundation cuts was mid-reddish brown silty sand and limestone (810), (812) and a looser mid-reddish brown silty sand and limestone (817) and (819). A possible floor surface was seen in the base of the building (822)=(808) consisting of natural compacted whitish yellow limestone.

The building was filled with mid-reddish brown silty sand and limestone (807) and greyish mid-brown silty sand (806) containing an abraded fragment of Romano-British pottery, 4 fragments of 13th-14th pottery and animal bone. Limestone and mid-reddish brown silt (802) not seen in section, dark brown silty sand and limestone (805) and mid-brownish yellow sand and limestone (804) sealed this deposit. Sealing these was a 0.15m thick subsoil (818) layer consisting of dark greyish brown silty sand. Metal detecting recovered 8 iron nails, which are thought to be horseshoe nails (Appendix 4).

5.6 Phase 5: Modern deposits

In Trenches 5 and 7 the north-south linear geophysical anomaly (Fig 4) was found to be a disused pipe.

A layer of topsoil (100), (204), (301), (401), (500), (600), (705), (803), (901) and (1000) consisting of reddish brown silty sand was seen to seal all the trenches

6. DISCUSSION

Archaeological evaluation on land at Hurlingham Business Park, Fulbeck Heath, Lincolnshire, identified several undated quarry pits, and possible postholes an undated ditch and gully, a pit containing medieval material and the remains of a medieval building.

The earliest recorded deposits, found within all the trenches, was natural limestone brash which represents the underlying geology.

A single sherd of Bronze Age pottery was recovered from the medieval pit in Trench 4. The sherd is fresh and unworn, suggesting that it has been found close to its original place of deposition (Appendix 4).

In Trenches 4 and 2 a large quantity of natural features were recorded, these features are probably 'solution' hollows, formed by weathering of the natural geology.

Several undated quarry pits for limestone extraction were recorded. In Trenches 3, 4 and 6. These pits were identified in the earlier geophysical survey (Fig 4). In the case of Trench 3, the geophysical results here were interpreted as the site of a possible building. However, this trench coincided with a marked hollow in the field, and the evidence of the excavations would indicate that all of this disturbance is due to quarrying.

Two sections of an undated ditch were identified in Trenches 6 and 7. The geophysics shows clearly that these represent the same ditch, with the section exposed in Trench 7 aligned east-west and the section in Trench 6 north-south (Fig 5). A small fragment of abraded Romano-British pottery was retrieved from the ditch in Trench 6, but it is likely that this is

residual and can only suggest a Roman or post-Roman date. The first edition 6'' ordnance survey map shows a rectilinear boundary in the field west of Maiden House. It is possible that this boundary may be a continuation of the ditch identified in the geophysical survey and evaluation; see Fig. 5 which combines the map evidence and the evaluation results.

A pit containing medieval pottery was identified in Trench 4, this was also identified in the geophysical survey of the site.

In Trench 8 the remains of a medieval limestone building were identified. The building appears to have been constructed in an earlier hollow. The function of the building is largely unknown, though the large number of horseshoe nails found in close proximity to the structure may suggest that the building functioned as a stable. It seems likely that the medieval dated building and the other medieval features, were related to the Sempringham Grange Complex.

A subsoil layer was seen across the site. In two of the Trenches (5 and 6) medieval pottery was retrieved from the layer. Indicating a possible terminus ante quem for the undated ditches found within Trenches 6 and 7 as they were sealed by the subsoil.

7. ASSESSMENT OF SIGNIFICANCE

For assessment of the significance the *Secretary of State's criteria for scheduling ancient monuments* has been used (DoE 1990, Annex 4: see appendix 6).

Period:

Archaeological deposits dating to the medieval period and earlier were recorded during the evaluation.

Rarity:

Remains of a medieval stone building were identified during the archaeological investigations. 19th century reports record the sighting of stone foundations at Maiden House Farm, Fulbeck Heath but physical evidence of medieval buildings at Fulbeck Heath itself is generally rare

Documentation:

Records of archaeological sites and finds made at Fulbeck Heath are held in the Lincolnshire Sites and Monuments Record and the files maintained by the South Kesteven Community Archaeologist.

Group Value:

The majority of the remains were undated and no particular group value can be ascribed to these remains. The medieval stone building identified at the western edge of the site and its associated features has a moderate-high group value in association with the grange site.

Survival/Condition:

The archaeological remains have survived well beneath the shallow subsoil. In particular the remains of the limestone building, which are reasonably substantial.

Fragility/Vulnerability:

Due to the proposed development of the site all the features would be vulnerable to any deep excavation.

Diversity:

Remains of a medieval building, a medieval pit, several undated quarry pits and an undated ditch were revealed during the evaluation. As a group these have a low functional and period diversity.

Potential:

There is good potential for retrieving evidence of medieval (13th -14th century) occupation of the site. The structural remains encountered were reasonably well preserved.

8. CONCLUSIONS

Archaeological investigations at Hurlingham Business Park, Fulbeck Heath, were undertaken as the development area lies within close proximity to the site of a medieval grange and earlier archaeological remains. Geophysical prospection of the site also revealed the possibility of archaeological remains within the development area.

The investigations revealed a large number of natural features, several undated quarry pits, a Post-Roman undated ditch and gully, a medieval pit and the remains of a limestone medieval building. It is likely that the building formed part of the medieval grange complex of which remains were seen in the 19th century 150m to the north.

9. ACKNOWLEDGEMENTS

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10. PERSONNEL

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 Volunteer: Bob Garland
 Metal Detecting: Sam Moore
 Photographic reproduction: Sue Unsworth
 CAD Illustration: Rachael Hall
 Post-excavation Analyst: Rachael Hall

11. BIBLIOGRAPHY

Foster, C.W. and Longley, T., 1976 *THE Lincolnshire Domesday and the Lindsey Survey*, The Lincoln Record Society 19

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

IFA, 1999, *Standard and Guidance for Archaeological Field Evaluations*.

Margary, I.D., 1973, *Roman Roads in Britain*

Owen, D.M., 1981, *Church and Society in Medieval Lincolnshire*, History of Lincolnshire V

Page, W. (ed), 1988, *The Victoria History of the County of Lincoln* (Reprint).

Young, J., 1998, *Archaeological Watching Brief at Maiden House Farm, Light Industrial Estate, Fulbeck Heath, Lincolnshire (FMH98)* APS Unpublished Report No. 79/98

1812, *Present State of several Lincolnshire Monasteries* Gentleman's Magazine

12. ABBREVIATIONS

APS Archaeological Project Services
 IFA Institute of Field Archaeologists
 SMR Sites and Monuments Record

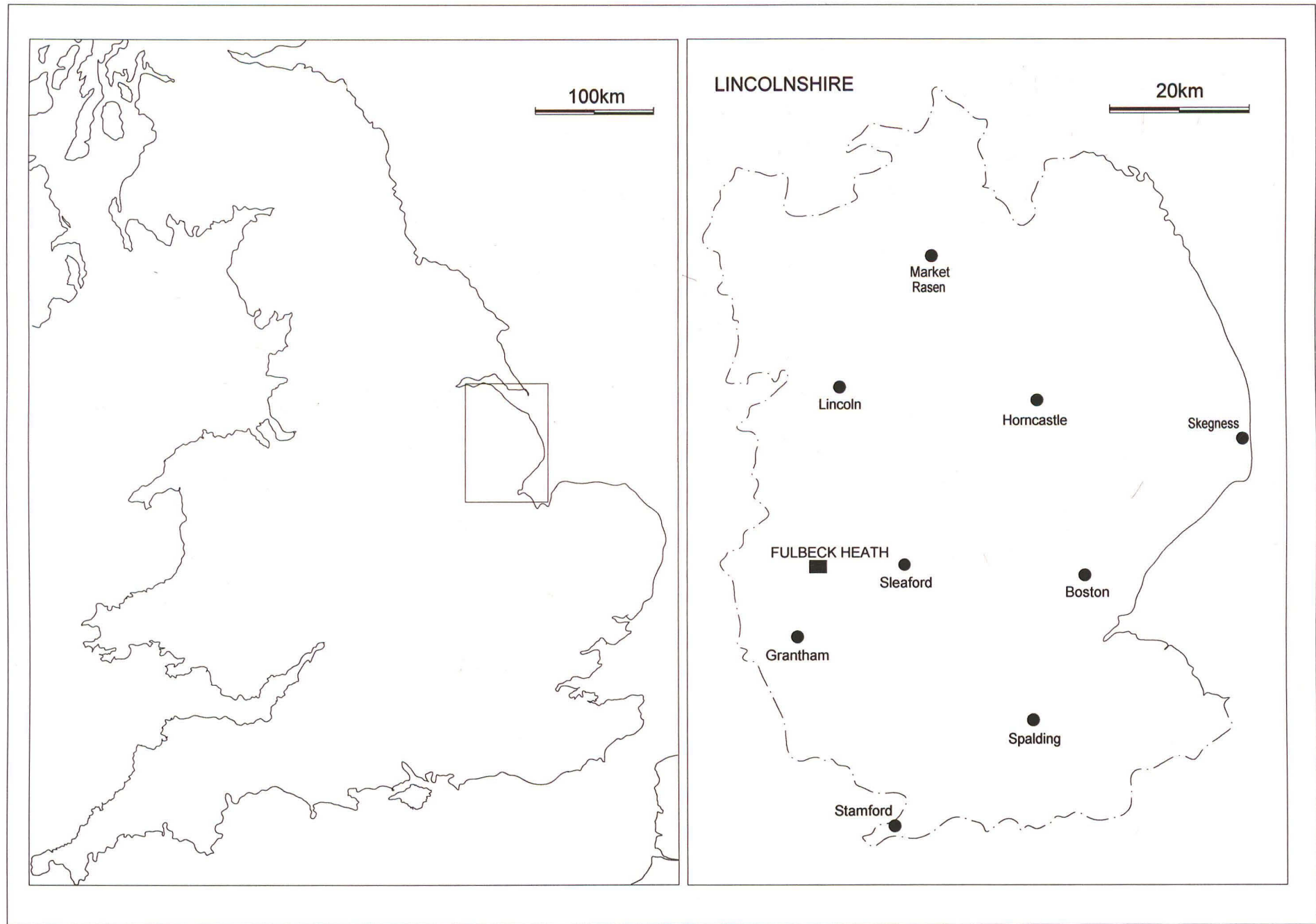
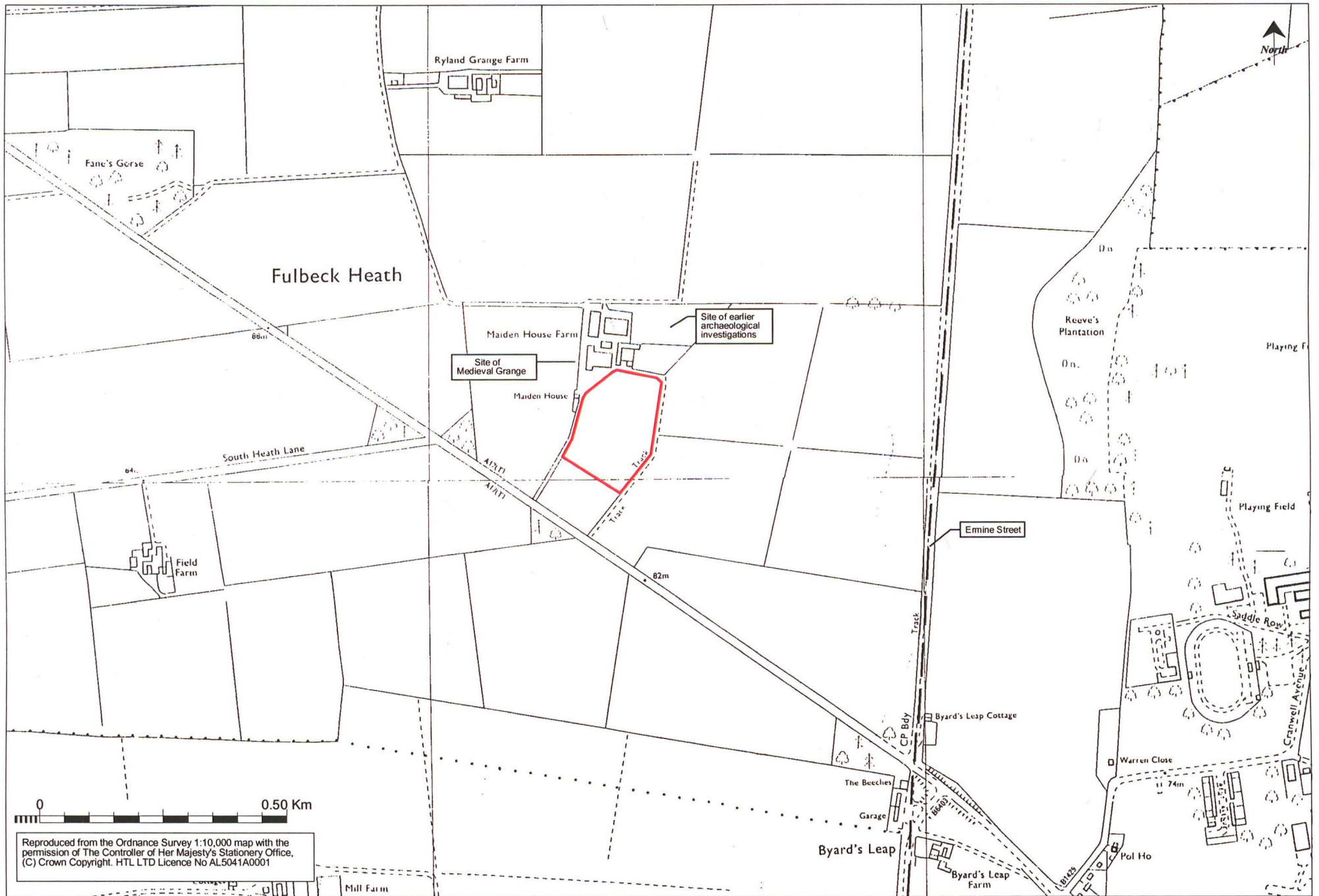


Figure 1: General Location Plan



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Figure 2 Location plan and archaeological setting

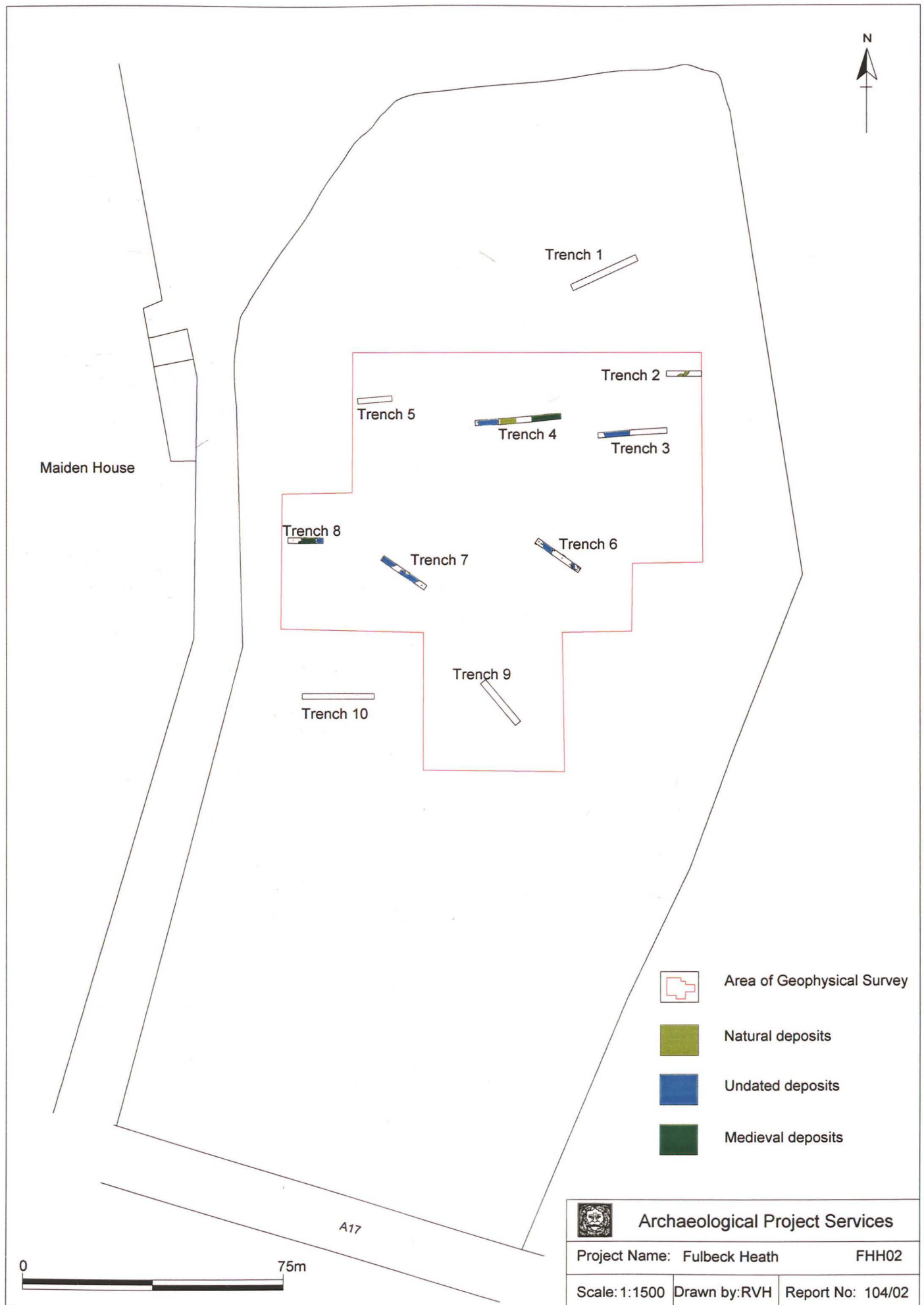


Figure 3: Trench Location and archaeological deposits

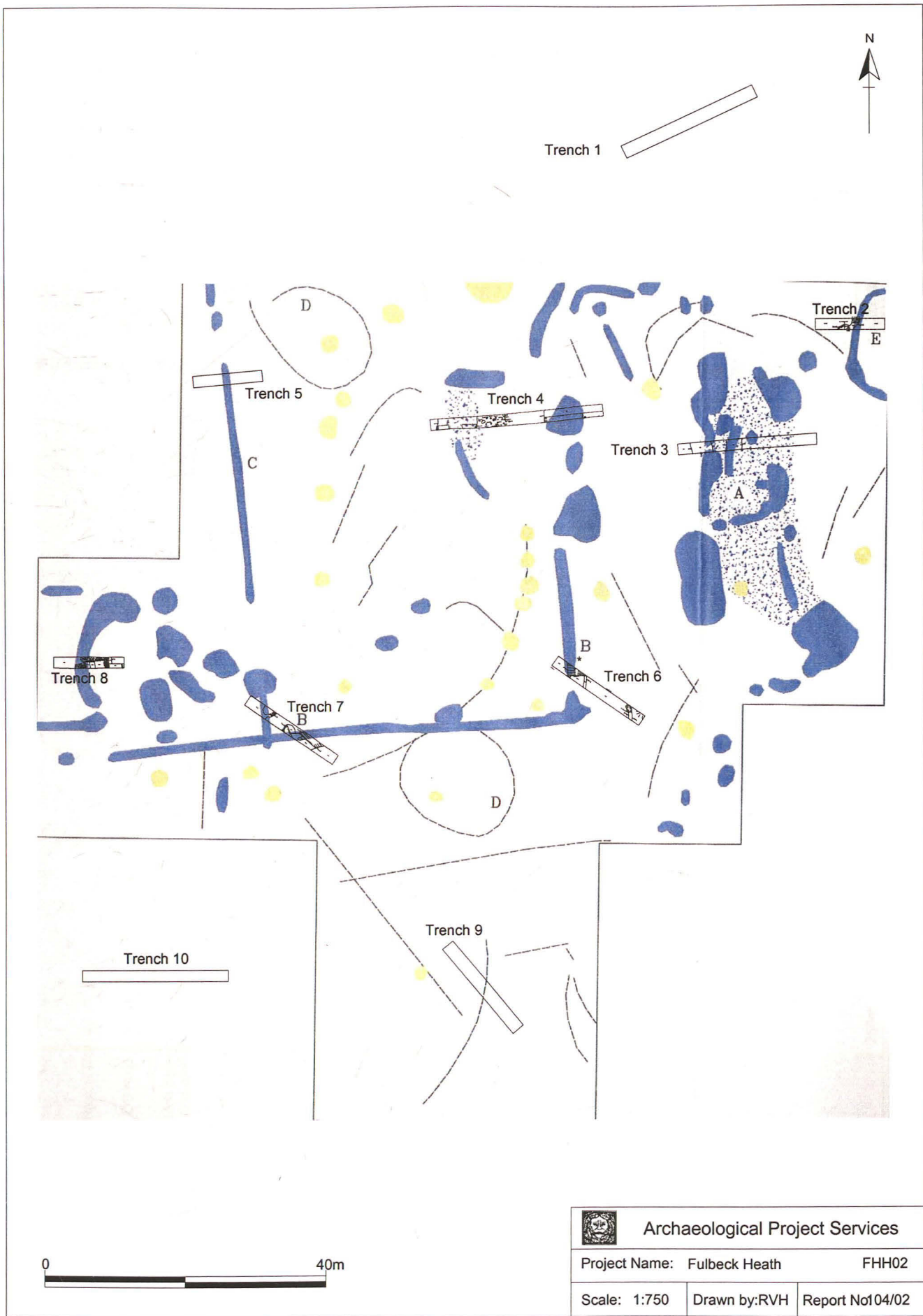



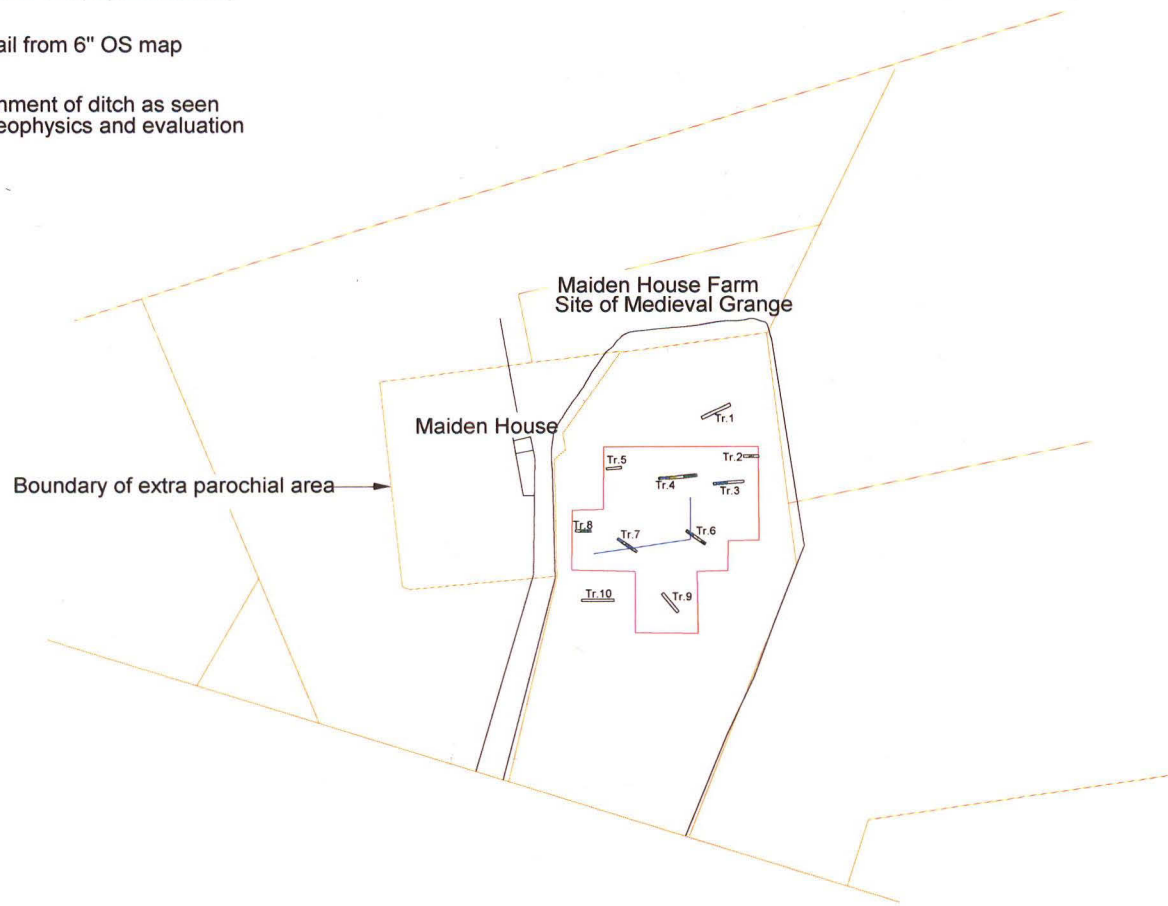


Figure 4: Geophysical survey results and archaeological remains

-  Area of Geophysical Survey
-  Detail from 6" OS map
-  Alignment of ditch as seen in geophysics and evaluation




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| Project Name: Fulbeck Heath | | FHH02 |
| Scale: 1:5000 | Drawn by: RVH | Report No: 104/02 |

Figure 5: Details from the 6" ordnance survey map and line of ditch [604] and [701].

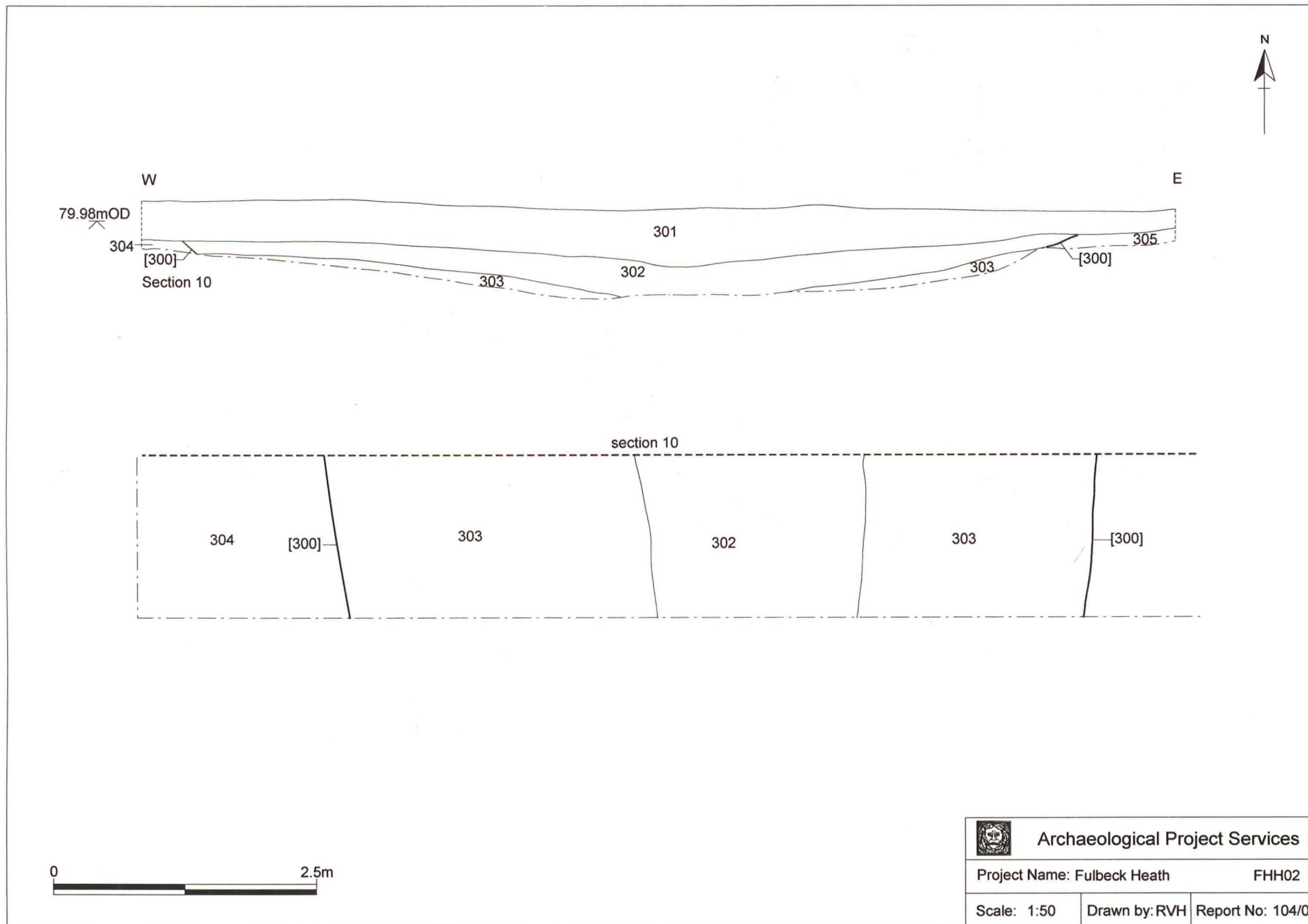
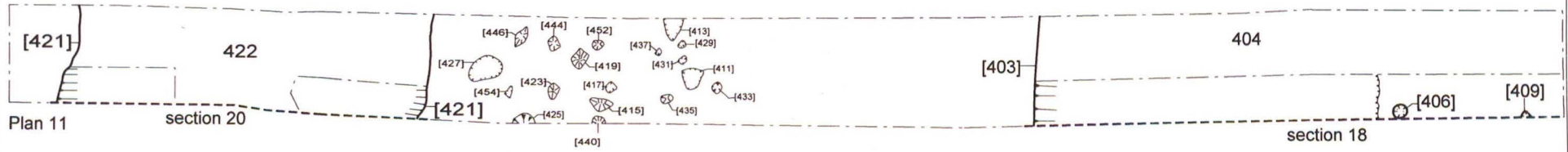


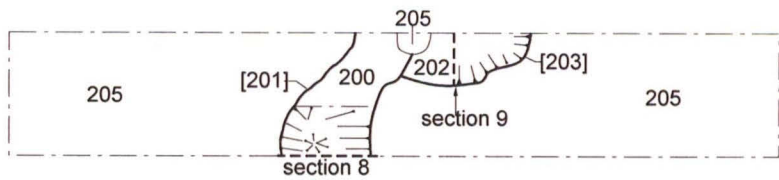
Figure 6: Trench 3. section and plan



Plan 11

section 20

section 18




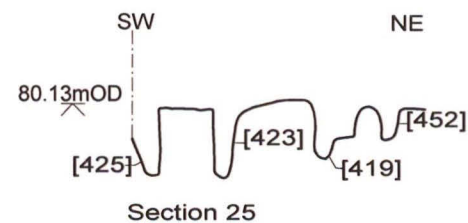
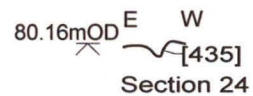
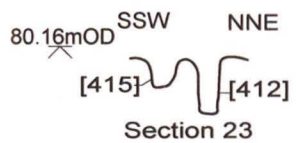
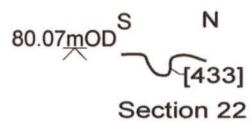
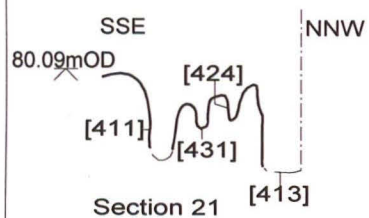
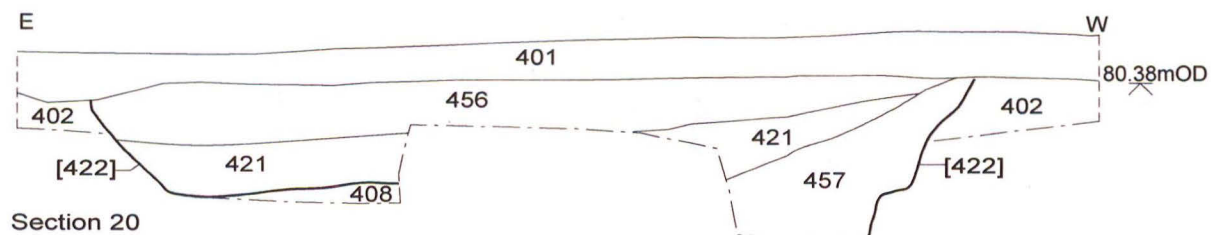
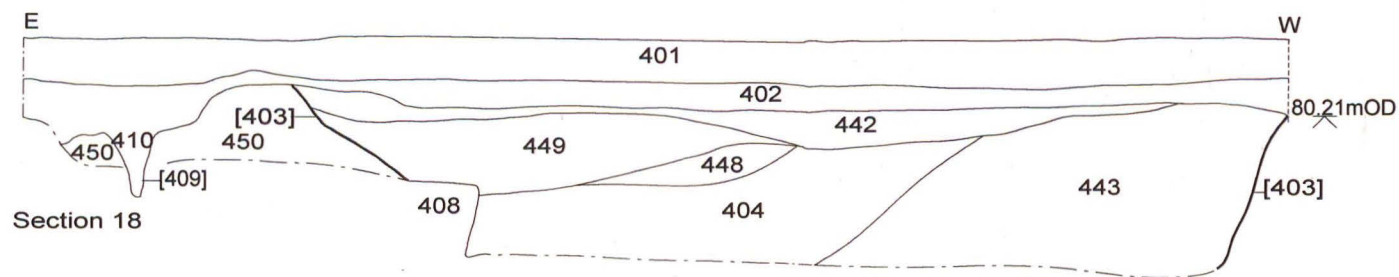
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|  | Archaeological Project Services | |
| Project Name: Fulbeck Heath | | FHH02 |
| Scale: 1:100 | Drawn by: RVH | Report No: 104/02 |

Figure 7: Trenches 4 and 2. plans




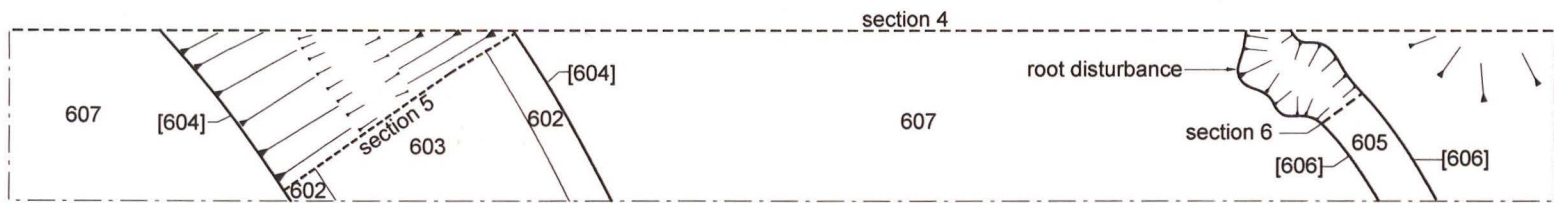
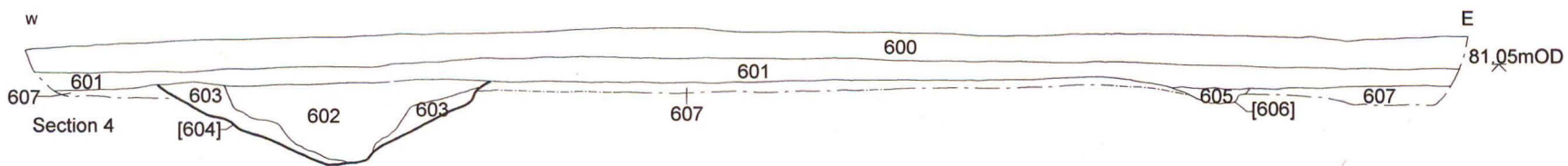
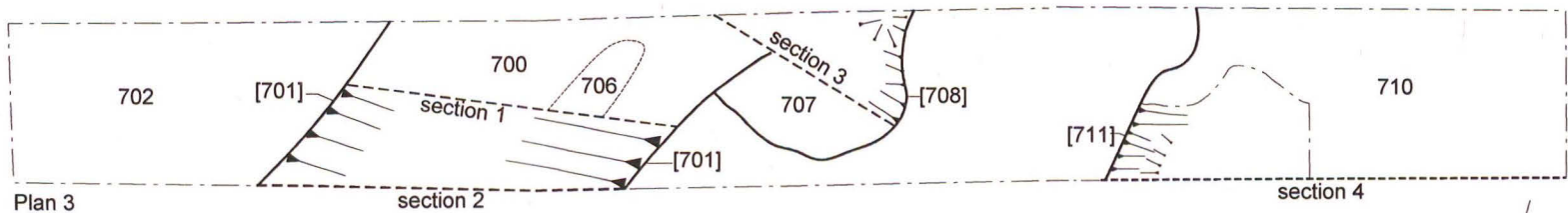
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|--|---------------|-------------------|
|  Archaeological Project Services | | |
| Project Name: Fulbeck Heath | | FHH02 |
| Scale: 1:50 | Drawn by: RVH | Report No: 104/02 |

Figure 8: Trench 4. sections




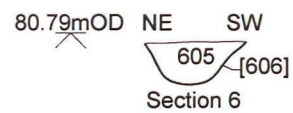
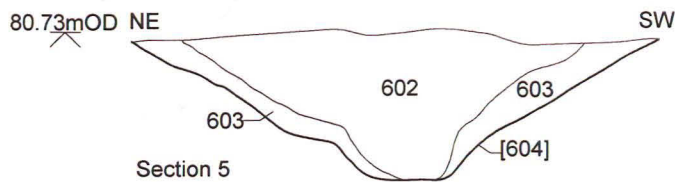
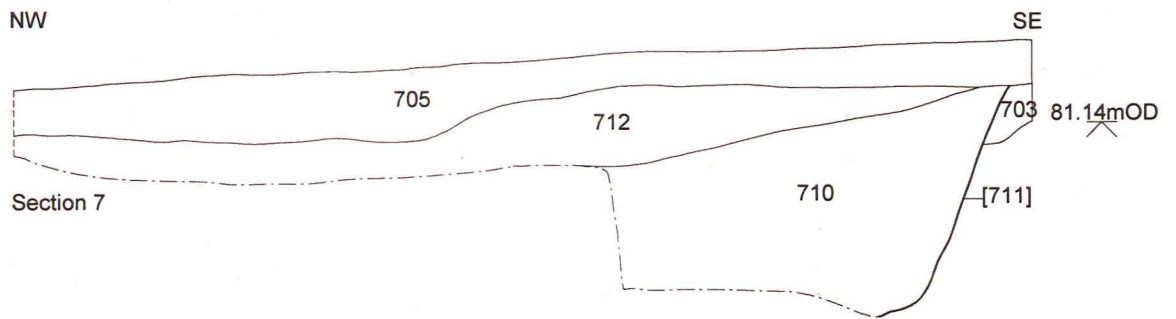
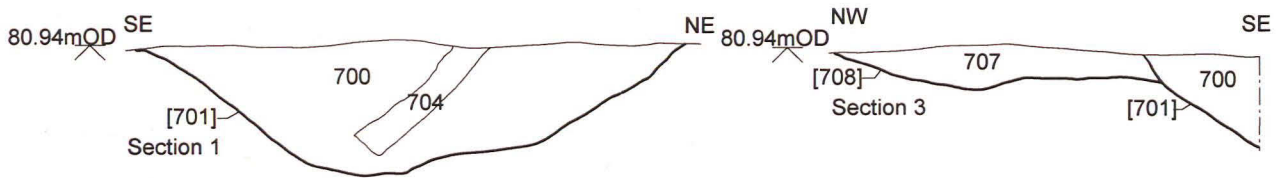
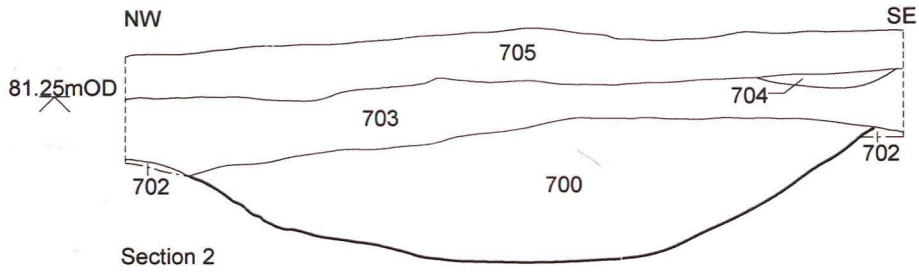
| | | |
|--|---------------|-------------------|
|  Archaeological Project Services | | |
| Project Name: Fulbeck Heath | | FHH02 |
| Scale: 1:75 | Drawn by: RVH | Report No: 104/02 |

Figure 9: Trenches 6 and 7. plans




| | | |
|---|--------------|------------------|
|  Archaeological Project Services | | |
| Project Name: Fulbeck Heath | | FHH02 |
| Scale: 1:25 | Drawn by:RVH | Report No:104/02 |

Figure 10:Trenches 7 and 8, sections.

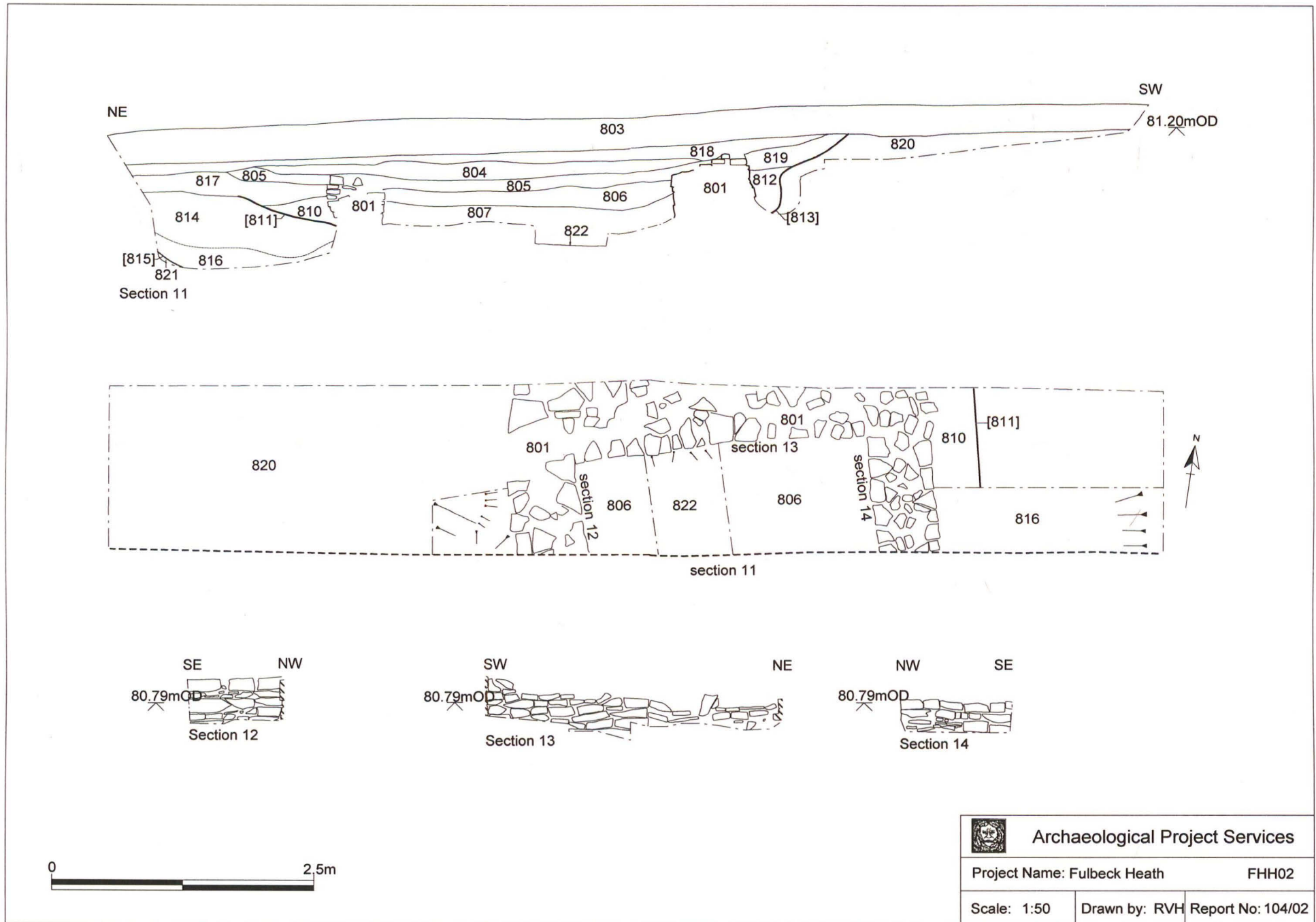

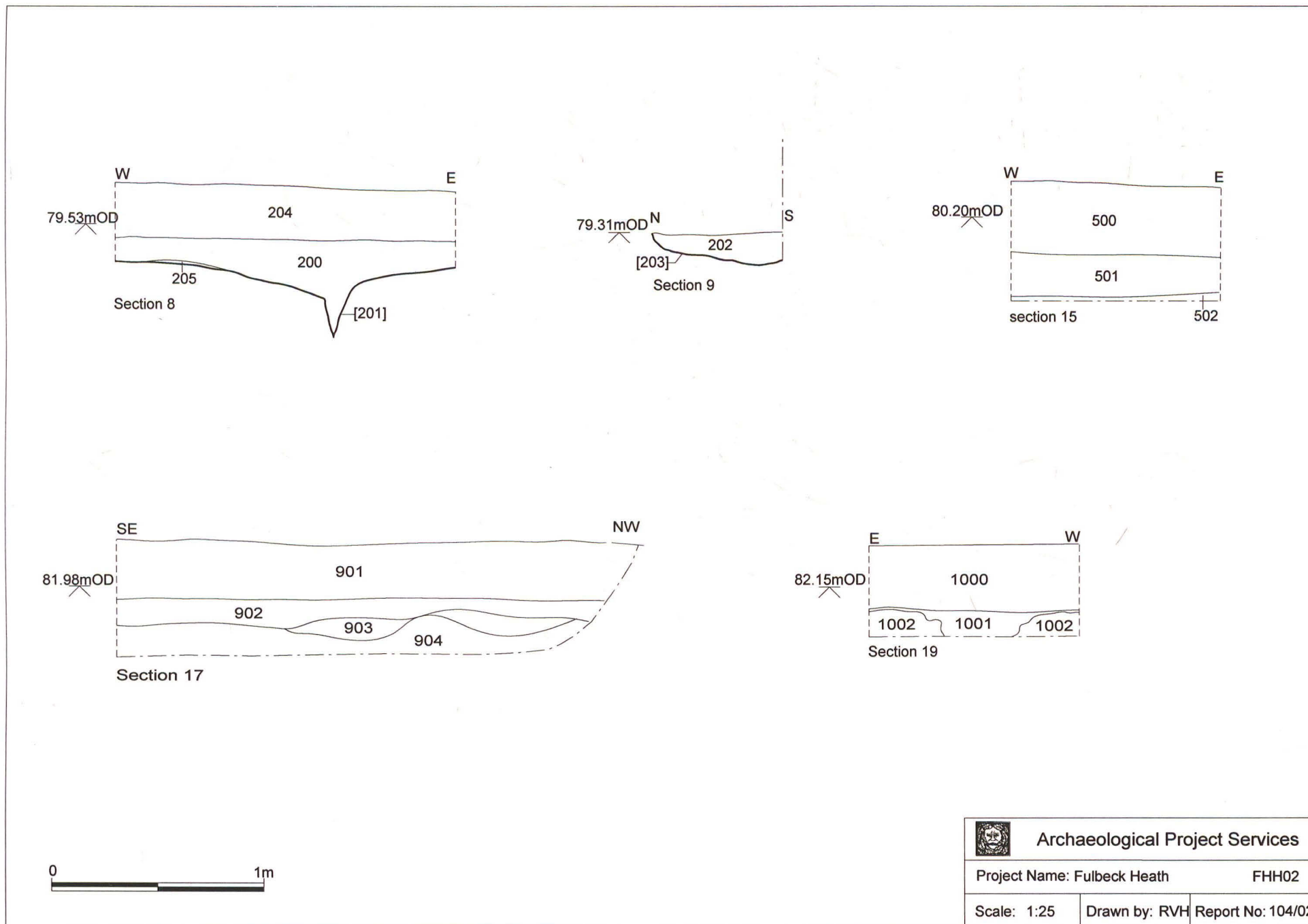


Figure 11: Trench 4. sections and plan

| | |
|--|---------------------------------|
|  Archaeological Project Services | |
| Project Name: Fulbeck Heath | FHH02 |
| Scale: 1:50 | Drawn by: RVH Report No: 104/02 |




| | | |
|--|---------------|-------------------|
|  Archaeological Project Services | | |
| Project Name: Fulbeck Heath | | FHH02 |
| Scale: 1:25 | Drawn by: RVH | Report No: 104/02 |

Figure 12: Trenches 2, 5, 9 and 10, sections

Plate 1 General view of site with Cranwell Tower in background, looking east



Plate 2 Trench 8, structure (801), looking west



Plate 3 Trench 7, post-excavation showing ditch [701] in foreground, looking west



Plate 4 Trench 6, ditch [604], looking east

Appendix 1

Specification for Archaeological Evaluation on land at Hurlingham Business Park, Fulbeck Heath, Lincolnshire.

1 SUMMARY

- 1.1 *This document comprises a specification for the archaeological field evaluation of land at Hurlingham Business Park, Fulbeck Heath, Lincolnshire.*
- 1.2 *A planning application has been submitted to erect a storage and showroom on land at Hurlingham Business Park, Fulbeck Heath, Lincolnshire. The area is archaeologically sensitive and the planning authority has determined that a predetermination archaeological evaluation is required.*
- 1.3 *Maidenhouse Farm, located at the business park, is the site of a grange of Sempringham Priory. Transcriptions of aerial photographs of the area depict cropmarks of sub-rectangular enclosures, possibly buildings, gardens or ponds, in the area of the proposed building. Previous investigations about 100m to the northeast recorded several undated pits and postholes.*
- 1.4 *Geophysical survey, undertaken as a first stage of evaluation at the site, has identified a large number of probable archaeological anomalies including a possible building platform, rectilinear enclosures and pits. Further evaluation is now required in the form of trial trenching.*
- 1.5 *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.*

2 INTRODUCTION

- 2.1 This document comprises a specification for the archaeological evaluation of land at Hurlingham Business Park, Fulbeck Heath, Lincolnshire. The site is located at National Grid Reference SK 9835 5010.
 - 2.1.1 The document contains the following parts:
 - 2.1.2 Overview
 - 2.1.3 The archaeological and natural setting
 - 2.1.4 Stages of work and methodologies to be used
 - 2.1.5 List of specialists
 - 2.1.6 Programme of works and staffing structure of the project

3 SITE LOCATION

- 3.1 Fulbeck Heath is located 10km northwest of Sleaford in the administrative district of South Kesteven, Lincolnshire. The site is to the north of the A17 highway, immediately south of Maidenhouse Farm at Hurlingham Business Park. The site is on the east side of the access road at National Grid Reference SK 9835 5010.

- 3.2 The field accommodating the site is a roughly rectangular block of land covering an area of approximately 4.5ha. Currently the area is pasture. The proposed development site itself is located near the northern limit of the field.

4 PLANNING BACKGROUND

- 4.1 The site is the subject of a planning application (S01/1350/34) submitted to South Kesteven District Council for the erection of a storage and showroom facility. An archaeological evaluation is required in order to provide information to assist the determination of that application.

5 SOILS AND TOPOGRAPHY

- 5.1 The site and surrounding area is on a gentle slope down to the east at approximately 80m OD. The site is at the boundary of soils of the Elmton 1 Association shallow brown rendzinas and Marcham Association brown rendzinas/ calcareous earths, both soils developed on Jurassic Lincolnshire Limestone (Hodge et al. 1984, 179; 242).

6 ARCHAEOLOGICAL OVERVIEW

- 6.1 Maidenhouse Farm, located immediately north of the proposed development area, is the site of a grange established by Sempringham Priory in the 12th century. The priory was dissolved in 1536, at which time its possessions, including the grange, were surrendered to the crown. Ruins that may relate to the grange were noted in the 19th century. Transcriptions of cropmarks on aerial photographs depict several sub-rectangular enclosures, which may represent buildings, gardens or ponds, immediately south of Maidenhouse Farm, in the area of proposed development.
- 6.2 Previous investigations about 100m to the northeast recorded a pit and several postholes. Due to the absence of artefacts or other occupation debris, these features were undated and thought not to represent settlement remains (Archaeological Project Services 1998).
- 6.3 Geophysical survey of the proposed development area (GSB 2002) has identified a large number of probable archaeological features, including numerous pits, rectilinear enclosures and the site of a possible building.

7 AIMS AND OBJECTIVES

- 7.1 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.
- 7.2 The objectives of the work will be to:
- 7.2.1 Establish the type of archaeological activity that may be present within the site.
 - 7.2.2 Determine the likely extent of archaeological activity present within the site.
 - 7.2.3 Determine the date and function of the archaeological features present on the site.
 - 7.2.4 Determine the state of preservation of the archaeological features present on the site.
 - 7.2.5 Determine the spatial arrangement of the archaeological features present within the site.

7.2.6 Determine the extent to which the surrounding archaeological features extend into the application area.

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

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 a 2% sample using a combination of trenches 1.6m wide and between 10m and 25m in length placed as indicated on the attached plan. 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 investigation.

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 necessarily be excavated. However, the investigation 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:
- 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
- 9.4 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.
- 9.5 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.
- 9.6 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.
- 9.7 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 investigation 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 investigation will be prepared. This will consist of:

- A non-technical summary of the results of the investigation.
- A description of the archaeological setting of the site.
- Description of the topography and geology of the investigation area.
- Description of the methodologies used during the investigation and discussion of their effectiveness in the light of the results
- A text describing the findings of the investigation.
- 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.
- Sections of the trenches and archaeological features.
- Interpretation of the archaeological features exposed and their context within the surrounding landscape.
- Specialist reports on the finds from the site.
- Appropriate photographs of the site and specific archaeological features or groups of features.
- A consideration of the significance of the remains found, in local, regional, national and international terms, using recognised evaluation criteria.

11 ARCHIVE

- 12.1 The documentation, finds, photographs and other records and materials generated during the investigation 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 investigation report will be sent to: the client, Molsom and Partners; the Community Archaeologist, South Kesteven District Council; South Kesteven District Council Planning Department; and the Lincolnshire County Sites and Monuments Record.

14 PUBLICATION

- 14.1 A report of the findings of the investigation 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, South Kesteven District 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 principle 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.

| <u>Task</u> | <u>Body to be undertaking the work</u> |
|------------------|--|
| 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: | G Taylor, APS in consultation with H Healey, independent archaeologist |
| 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 Fieldwork is expected to be undertaken by 4 staff, a supervisor and 3 assistants, and to take eight days.
- 18.2 Post-excavation analysis and report production is expected to take 12 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.
- 18.3 Contingency
- 18.3.1 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 (small quantities allowed for); Anglo-Saxon pottery (small quantities allowed for); Medieval pottery - large quantities (moderate amount expected and allowed for); faunal remains - large quantities (moderate amounts expected and allowed for); Conservation and/or Other unexpected remains or artefacts.
- 18.3.2 Other than the pump, the activation of any contingency requirement will be by the archaeological curator (South Kesteven 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, 1998 *Archaeological Watching Brief at Maiden House Farm Light Industrial Estate, Fulbeck Heath, Lincolnshire (FMH98)*, APS report no. 79/98

GSB Prospection, 2002 *Hurlingham Business Park, Fulbeck Heath, Lincolnshire*, Geophysical Survey Report 2002/28

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

Specification: Version 1, 17 April 2002

Appendix 2

Context Summary

Trench 1

| Context No. | Type | Description | Thck (m) | Interpretation |
|-------------|---------|--|----------|----------------|
| 100 | Deposit | Firm, reddish brown silty sand, mod. limestone | 0.30 | Topsoil |
| 101 | Deposit | Firm, mid-reddish brown silty sand | 0.15 | Subsoil |
| 102 | Deposit | Firm, light yellowish white limestone brash | - | Natural |
| 103 | Finds | | | |

Trench 2

| Context No. | Type | Description | Thck (m) | Interpretation |
|-------------|---------|---|----------|----------------|
| 200 | Deposit | Firm, mid-reddish brown clayey silt and limestone | 0.30 | Subsoil |
| 201 | Cut | Irregular shaped cut, 1.60m wide | 0.30 | Natural |
| 202 | Deposit | Compact, mid-reddish brown clayey silt and limestone | 0.16 | Fill of 203 |
| 203 | Cut | Sub-circular, irregular sided and based, 0.63m x 1.10m wide | 0.15 | Natural |
| 204 | Deposit | Friable, mid-greyish brown silt and limestone | 0.22 | Topsoil |
| 205 | Deposit | Compact yellowish white limestone brash | - | Natural |

Trench 3

| Context No. | Type | Description | Thck (m) | Interpretation |
|-------------|---------|---|----------|----------------|
| 300 | Cut | Unexcavated cut, 9m x 1.6m+ wide | | Quarry Pit |
| 301 | Deposit | Friable, mid-greyish brown silt, freq. limestone | 0.60 | Topsoil |
| 302 | Deposit | Compact, light reddish brown clayey silt, freq. limestone | 0.50 | Fill of 300 |
| 303 | Deposit | Compact, greyish white limestone and silt | 0.15+ | Fill of 300 |
| 304 | Deposit | Compact, yellowish white limestone brash | - | Natural |
| 305 | Deposit | Compact, mid-reddish brown clayey silt | 0.12 | Subsoil |

Trench 4

| Context No. | Type | Description | Thck (m) | Interpretation |
|-------------|---------|---|----------|--------------------|
| 400 | Finds | | | |
| 401 | Deposit | Friable, dark greyish brown silt, freq. limestone | 0.30 | Topsoil |
| 402 | Deposit | Compact, mid-reddish brown silt, freq. limestone | 0.20 | Subsoil |
| 403 | Cut | Steep sided cut, not fully excavated, 7m wide, filled by 442,449, 448 and 408 | 1.00+ | Pit |
| 404 | Deposit | Compact, mid-brown silt and limestone brash | 0.76 | Fill of 404 |
| 405 | Deposit | Compact, mid-reddish brown clayey silt, limestone frags | 0.50 | Fill of 406 |
| 406 | Cut | Circular, vertical sided, 0.20m diameter | 0.50 | Interminate |
| 407 | Deposit | Burnt limestone and charcoal | 0.01 | Burning |
| 408 | Deposit | Hard, greyish white limestone | | Natural |
| 409 | Cut | Irregular steep sided, 0.30m wide | 0.40 | Possible Post Hole |
| 410 | Deposit | Compact, mid-reddish brown silt, freq. | 0.20 | Fill of 409 |

| | | | | |
|-----|---------|--|-------|---------------|
| | | limestone | | |
| 411 | Cut | Oval, steep sided, 0.32m x 0.26m wide | 0.56 | Solution hole |
| 412 | Cut | Oval, steep sided, 0.40m x 0.30m | 0.70+ | Solution hole |
| 413 | Cut | Oval, steep sided, 0.40m x 0.30m | 0.70+ | Solution hole |
| 414 | Deposit | Loose, mid-brown silt and limestone | | Fill of 413 |
| 415 | Cut | Oval, steep sided, 0.31m x 0.22m wide | 0.21 | Solution hole |
| 416 | Deposit | Loose, mid-brown silt and limestone | 0.21 | Fill of 415 |
| 417 | Cut | Oval, steep sided, 0.20m x 0.19m wide | 0.38 | Solution hole |
| 418 | Deposit | Loose, mid-brown silt and limestone | 0.38 | Fill of 417 |
| 419 | Cut | Sub-circular, steep sided, 0.26m x 0.33m wide | 0.34 | Solution hole |
| 420 | Deposit | Loose, mid-brown silt and limestone | 0.34 | Fill of 419 |
| 421 | Deposit | Compact, mid-brownish red silt, freq. limestone | 0.42 | Fill of 442 |
| 422 | Cut | Steep sided, 5.50m wide | 1.00 | Quarry Pit |
| 423 | Cut | Sub-circular, steep sided, 0.23m x 0.18m wide | 0.12 | Solution Hole |
| 424 | Deposit | Loose, mid-brown silt | 0.12 | Fill of 423 |
| 425 | Cut | Sub-circular, steep sided, 0.25m x 0.18m | 0.46 | Solution hole |
| 426 | Deposit | Loose, light creamish brown, silt and degraded limestone | 0.46 | Fill of 425 |
| 427 | Cut | Sub-circular, steep sided, 0.56m x 0.38m wide | 0.70 | Solution hole |
| 428 | Deposit | Loose, light creamish brown silt and degraded limestone | 0.70 | Fill of 427 |
| 429 | Cut | Oval, steep sided, 0.14m x 0.12m wide | 0.32 | Solution hole |
| 430 | Deposit | Loose, mid-brown silt and limestone | 0.32 | Fill of 429 |
| 431 | Cut | Oval, steep sided, | | Solution hole |
| 432 | Deposit | Loose, mid-brown silt and limestone | | Fill of 431 |
| 433 | Cut | Circular, steep sided, 0.13m diameter | 0.15 | Solution hole |
| 434 | Cut | Oval, steep sided | | Fill of 433 |
| 435 | Cut | Sub-circular, irregular sided, 0.18m wide | | Natural |
| 436 | Deposit | Loose, mid-brown silt and degraded limestone | | Fill of 435 |
| 437 | Cut | Circular, steep sided, 0.08m wide | 0.09 | Natural |
| 438 | Cut | Sub-circular, irregular sided, 0.18m wide | | Fill of 437 |
| 439 | Deposit | Loose, mid-grey-black ash and charcoal | 0.01 | Burnt deposit |
| 440 | Cut | Sub-circular, steep sided, 0.10m x 0.15m | 0.14 | Solution hole |
| 441 | Deposit | Loose, mid-brown silty limestone | 0.14 | Fill of 440 |
| 442 | Deposit | Compact, yellowish white crushed limestone | 0.18 | Fill of 403 |
| 443 | Deposit | Compact, mid-reddish brown clayey silt | 0.80 | Fill of 403 |
| 444 | Cut | Sub-circular, steep sided, 0.18m x 0.27m | 0.14 | Solution hole |
| 445 | Deposit | Loose, mid-brown silt and degraded limestone | 0.14 | Fill of 444 |
| 446 | Cut | Sub-circular, steep sided, 0.27m x 0.16m | 0.19 | Solution hole |
| 447 | Deposit | Loose, light creamish brown silt and degraded limestone | 0.19 | Fill of 446 |
| 448 | Deposit | Compact, mid-reddish brown silt and limestone | 0.22 | Fill of 403 |
| 449 | Deposit | Firm, mid-reddish brown silt, mod. limestone | 0.40 | Fill of 403 |
| 450 | Deposit | Compact, yellowish brown limestone brash and clayey silt | 0.50 | Natural |
| 452 | | Not used | | |
| 452 | Cut | Sub-circular, steep sided, 0.27m x 0.16m | 0.30 | Solution hole |
| 453 | Deposit | Loose, mid-brown silt and degraded limestone | | Fill of 452 |

| | | | | |
|-----|---------|---|------|---------------|
| 454 | Cut | Irregular shaped cut, 0.25m x 0.20m | 0.12 | Solution hole |
| 455 | Deposit | Loose, light creamish brown silt and degraded limestone | 0.12 | Fill of 454 |
| 456 | Deposit | Compact, mid-greyish brown silt and limestone | 0.35 | Fill of 422 |
| 457 | Deposit | Compact, dark brownish red silt | 0.60 | Fill of 422 |

Trench 5

| Context No. | Type | Description | Thck (m) | Interpretation |
|-------------|---------|--|----------|----------------|
| 500 | Deposit | Friable, mid-greyish brown silt | 0.36 | Topsoil |
| 501 | Deposit | Compact, mid-reddish brown clayey silt and limestone | 0.20 | Subsoil |
| 502 | Deposit | Compact, light yellowish brown limestone brash | | Natural |

Trench 6

| Context No. | Type | Description | Thck (m) | Interpretation |
|-------------|---------|--|----------|----------------|
| 600 | Deposit | Firm, dark reddish brown silty sand, mod. limestone | 0.30 | Topsoil |
| 601 | Deposit | Firm, mid-reddish brown silty sand, mod. limestone frags | 0.20 | Subsoil |
| 602 | Deposit | Firm, mid-reddish brown silty sand and limestone | 0.85 | Fill of 604 |
| 603 | Deposit | Firm, mid-reddish brown silty sand, occ. limestone | 0.70 | Fill of 604 |
| 604 | Cut | NW-SE linear, steep sided flat base, 2.63m wide | 0.70 | Ditch |
| 605 | Deposit | Firm, mid-reddish brown silty sand | 0.22 | Fill of 606 |
| 606 | Cut | NW-SE terminus of linear, round base, 0.50m wide | 0.22 | Gully terminus |
| 607 | Deposit | Firm, light-mid reddish brown limestone and silty sand | | Natural |

Trench 7

| Context No. | Type | Description | Thck (m) | Interpretation |
|-------------|---------|---|----------|----------------|
| 700 | Deposit | Compact, mid-reddish brown clayey silt, occ lenses of grey clay | 0.70 | Fill of 701 |
| 701 | Cut | NE-SW linear, slightly concave sides and flat base, 2.90m wide | 0.70 | Ditch |
| 702 | Deposit | Compact, light greyish white silty clay and limestone brash | | Natural |
| 703 | Deposit | Compact, light reddish brown clayey silt and brash | 0.35 | Subsoil |
| 704 | Deposit | Hard, white chalk frags | 0.07 | Dump |
| 705 | Deposit | Friable, mid-greyish brown silt, freq. limestone | 0.27 | Topsoil |
| 706 | Deposit | Compact, greyish white limestone frags. | 0.15 | Fill of 701 |
| 707 | Deposit | Compact, mid-yellowish brown clayey silt and limestone | 0.22 | Fill of 708 |
| 708 | Cut | Irregular shaped and base, 1.52m+ wide | 0.22 | Indeterminate |
| 709 | Finds | | | |
| 710 | Deposit | Compact, mid-reddish brown silt and limestone | 1.00+ | Fill of 711 |
| 711 | Cut | Irregular, steep sided, not fully excavated, 1.60m+ x 5m+ wide | 1.10 | Quarry pit |
| 712 | Deposit | Loose, greyish white limestone | 0.40 | Fill of 711 |

Trench 8

| Context No. | Type | Description | Thck (m) | Interpretation |
|-------------|---------|---|----------|------------------------------|
| 801 | Masonry | Limestone wall, roughly coursed, 0.60m wide, end of building 3.05m wide x 1.60m+ long | 0.61 | Building |
| 802 | Deposit | Limestone frags and mid-reddish brown silt | | Backfill |
| 803 | Deposit | Loose, mid-dark grey silty sand, freq. limestone | 0.30 | Topsoil |
| 804 | Deposit | Loose, mid-brownish yellow sand and limestone | 0.22 | Backfill of 801 |
| 805 | Deposit | Loose, dark brown silty sand, freq. limestone | 0.09 | Backfill of 801 |
| 806 | Deposit | Loose, greyish mid-brown silty sand and limestone | 0.20 | Backfill of 801 |
| 807 | Deposit | Loose, mid-reddish brown silty sand and limestone, occ. charcoal flecks | | Backfill of 801 |
| 808 | | Same as 822 | | |
| 809 | Finds | From trench 8 (associated with building) | | |
| 810 | Deposit | Soft, mid-reddish brown silty sand, freq. limestone | 0.20 | Fill of 811 |
| 811 | Cut | SE-NW linear, gradual sided, flat base, 0.63m wide | 0.20 | Foundation cut |
| 812 | Deposit | Soft, mid-reddish brown silty sand, freq. limestone | 0.38 | Layer |
| 813 | Cut | SE-NW linear, near vertical sided, 0.28m wide | 0.38 | Foundation cut |
| 814 | Deposit | Loose, yellowish reddish brown silty sand and limestone | 0.33 | Fill of 815 |
| 815 | Cut | Not fully excavated or visible, 1.80m+ x 1.60m+ wide | 0.75 | Indeterminate cut |
| 816 | Deposit | Loose, yellowish white limestone, occ. charcoal flecks | 0.20 | Fill of 815 |
| 817 | Deposit | Loose, mid-reddish brown silty sand and limestone | 0.25 | Fill of 811 |
| 818 | Deposit | Soft, dark greyish brown silty sand | 0.10 | Subsoil |
| 819 | Deposit | Loose, mid-reddish brown silty sand and limestone | 0.23 | Fill of 813 |
| 820 | Deposit | Soft, light whitish yellow limestone and sand | 0.75+ | Natural |
| 821 | Deposit | Soft, light whitish yellow weathered limestone and sand | | Natural |
| 822 | Deposit | Compact, light whitish yellow limestone and sand | | Natural-use as poss. surface |

Trench 9

| Context No. | Type | Description | Thck (m) | Interpretation |
|-------------|---------|---|----------|----------------|
| 901 | Deposit | Friable, dark greyish brown silty sand, freq. limestone frags | 0.28 | Topsoil |
| 902 | Deposit | Friable, mid-reddish brown silty sand, freq. limestone | 0.15 | Subsoil |
| 903 | Deposit | Friable, light whitish yellow sand and limestone | 0.20 | Natural |
| 904 | Deposit | Yellowish white limestone brash | | Natural |

Trench 10

| Context No. | Type | Description | Thck (m) | Interpretation |
|-------------|------|-------------|----------|----------------|
|-------------|------|-------------|----------|----------------|

| | | | | |
|------|---------|--|------|---------|
| 1000 | Deposit | Firm, dark reddish brown | 0.30 | Topsoil |
| 1001 | Deposit | Firm, mid-reddish brown silty sand | 0.15 | Subsoil |
| 1002 | Deposit | Firm, light yellowish white, limestone brash | 0.14 | Natural |

Abbreviations:

Occ. occasional

Mod. moderate

Freq. frequent

Frag. fragments

Appendix 3

Geophysical Survey Report 2002/28 undertaken by *GSB PROSPECTION*

SITE SUMMARY SHEET

2002 / 28 Hurlingham Business Park

NGR: SK 9835 5005 (approximate centre)

Location, topography and geology

The area under investigation is within Hurlingham Business Park, 9km northwest of the town of Sleaford, Lincolnshire. The site consists of a flat field which lies to the south of existing industrial buildings. The soils can be characterised as brown rendzinas of the marcham association (343e) and comprise shallow well drained calcareous loamy soils formed from a parent of Jurassic limestone (SSEW, 1983).

Archaeology

An important grange of Sempringham priory is known to have existed near the site of Maiden House Farm and was known to hold 920 acres of land. Aerial Photographic (AP) evidence shows extensive rectilinear cropmarks within the evaluation area.

Aims of Survey

Survey was undertaken with the aim of locating any anomalies of archaeological interest within the application area. This survey forms part of a wider archaeological evaluation being undertaken by *Archaeological Project Services (APS)* in advance of proposed development.

Summary of Results *

Scanning produced a number of anomalies of potential archaeological interest. Subsequent detailed survey revealed broad pit type responses, as well as linear and rectilinear ditch type anomalies. These are considered to be of archaeological interest and could be associated with settlement activity on the site.

The anomalies appear to coincide with the rectilinear cropmarks noted from AP evidence and, as such, their interpretation is strengthened. However, due to the nature of the underlying geology, a natural origin for some of the responses cannot be dismissed.

Numerous trends have been recorded throughout the data and whilst some of these could be archaeological, the weak and indistinct nature of the anomalies means their interpretation is tentative. They could equally be natural in origin or the result of recent agricultural activity.

* It is essential that this summary is read in conjunction with the detailed results of the survey.

SURVEY RESULTS

2002 / 28 Hurlingham Business Park

1. Survey Area

- 1.1 A total of approximately 3ha was surveyed with gradiometers in scanning mode and subsequently 1ha of detailed survey was undertaken. The location of the scanned area and the position of the detailed survey blocks is shown in Figure 1 at a scale of 1:2500.
- 1.2 The survey grid was set out by **GSB Prospection** and tied in to existing features using an EDM system. Stakes were left *in situ* to aid relocation of the grid and detailed tie in information has been lodged with the client.

2. Display

- 2.1 Figures 2 to 4 are an XY trace, a dot density plot and a greyscale image produced at a scale of 1:625. Figure 5 is an interpretation diagram produced at the same scale.
- 2.2 The display formats are discussed in the *Technical Information* section at the end of the text.

3. General Considerations - Complicating factors

- 3.1 Generally, conditions for survey were good with the site being relatively free from obstructions with a ground cover consisting of short grass. A southern portion of the site had been subject to modern landscaping, with the creation of a pond and new access road, and the northern end of the field was wooded. No survey was undertaken within these areas.
- 3.2 Numerous small isolated ferrous responses have been identified in the data and these are considered to be the result of modern ferrous debris in the topsoil. The most prominent of these have been noted on the interpretation diagram, but are not referred to in the text unless considered relevant.
- 3.3 Letters in parentheses in the text refer to anomalies highlighted on the interpretation diagram.

4. Results of Scanning

- 4.1 With gradiometers in scanning mode, the evaluation area was examined along traverses spaced at intervals of approximately 10m. During this operation, fluctuations in the magnetic signal were observed on the instruments' display panel. Any significant variations were investigated more closely to determine their likely origin and those anomalies considered to have archaeological potential were marked with canes for detailed recorded survey.
- 4.2 Scanning revealed a low level of background response ($\pm 0.5\text{nT}$) across the site. However, a concentration of anomalies of potential interest were noted and these were marked with canes for detailed recorded survey.

5. Results of Detailed Survey

- 5.1 A number of broad pit type anomalies are visible in the data and are concentrated at the western and eastern edges of the survey block. The responses may be of archaeological interest and could indicate the presence of large pits, possibly associated with occupation activity. However, given that the underlying geology is limestone, it is conceivable that some or all of the anomalies could relate to natural features, such as, solution holes.
- 5.2 Within the eastern concentration of pit type anomalies is an area of increased magnetic response (A). Whilst this area of increased response shows no clear archaeological pattern, the elevated levels of response could represent a general increase in magnetic susceptibility resulting from settlement activity. Given the rectangular form of the responses, it could possibly indicate the ploughed out remains of a building platform. However, a natural origin for the anomalies cannot be discounted.
- 5.3 Rectilinear (B) and linear (C) ditch type anomalies are apparent in the centre of the data. They lie between the two concentrations of pit type responses and appear to form part of a rectilinear enclosure. The anomalies coincide with the cropmarks noted from APs, although no direct correlation was possible. The presence of these ditch type responses strengthens an archaeological interpretation for the pit type anomalies.
- 5.4 Two circular linear trends (D), one in the northern corner of the block and the other adjacent to anomaly (B), could be of archaeological significance. However, the weak nature of the anomalies means their interpretation is tentative.
- 5.5 A curvilinear response (E) in the eastern corner of the data could also be of interest but again the weak nature of the response means its interpretation is cautious.
- 5.6 Numerous other weak linear and curvilinear trends have been noted throughout the area. These could be of archaeological interest, although the weak and indistinct nature of the responses means they could equally be natural in origin or the result of recent agricultural activity.

6. Conclusions

- 6.1 Survey has successfully identified a number of broad pit type responses along with linear and rectilinear ditch type anomalies. These anomalies would appear to be archaeological and may indicate archaeological deposits associated with occupation activity, with possible evidence for field enclosures. This interpretation is strengthened as the observed responses appear to coincide with cropmarks noted from APs. However, given the underlying geology a natural origin for some of the anomalies cannot be discounted.
- 6.2 Numerous other weaker trends have been recorded throughout the survey block and whilst some of these could potentially be of archaeological interest, the weak and indistinct nature of the anomalies means an archaeological interpretation is tentative.

Project Co-ordinator: L Harvey
Project Assistants: J Leigh

Date of Survey: 11th to 12th March 2002
Date of Report: 20th March 2002

References:

SSEW, 1983 *Soils of England and Wales. Sheet 4, Eastern England.* Soil Survey of England & Wales.

TECHNICAL INFORMATION

The following is a description of the equipment and display formats used in **GSB Prospection (GSB)** reports. It should be emphasised that whilst all of the display options are regularly used, the diagrams produced in the final reports are the most suitable to illustrate the data from each site. The choice of diagrams results from the experience and knowledge of the staff of **GSB**.

All survey reports are prepared and submitted on the basis that whilst they are based on a thorough survey of the site, no responsibility is accepted for any errors or omissions.

Instrumentation

(a) Fluxgate Gradiometer - Geoscan FM36

This instrument comprises of two fluxgates mounted vertically apart, at a distance of 500mm. The gradiometer is carried by hand, with the bottom sensor approximately 100-300mm from the ground surface. At each survey station, the difference in the magnetic field between the two fluxgates is conventionally measured in nanoTesla (nT), or gamma. The fluxgate gradiometer suppresses any diurnal or regional effects. Generally features up to one metre deep may be detected by this method. Readings are normally logged at 0.5m intervals along traverses 1.0m apart.

(b) Resistance Meter - Geoscan RM15

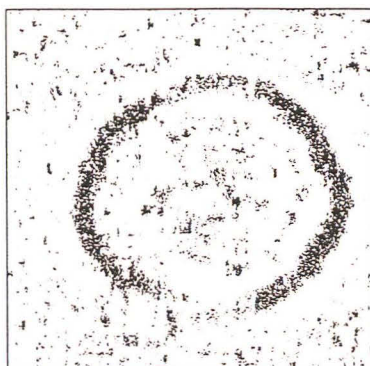
This measures the electrical resistance of the earth, using a system of four electrodes (two current and two potential.) Depending on the arrangement of these electrodes an exact measurement of a specific volume of earth may be acquired. This resistance value may then be used to calculate the earth resistivity. The "Twin Probe" arrangement involves the pairing of electrodes (one current and one potential) with one pair remaining in a fixed position, whilst the other measures the resistance variations across a fixed grid. The resistance is measured in Ohms and the calculated resistivity is in Ohm-metres. The resistance method as used for area survey has a depth resolution of approximately 0.75m, although the nature of the overburden and underlying geology will cause variations in this generality. The technique can be adapted to sample greater depths of earth and can therefore be used to produce vertical "pseudo sections". In area survey readings are typically logged at 1.0m x 1.0m intervals.

(c) Magnetic Susceptibility

Variations in the magnetic susceptibility of subsoils and topsoils occur naturally, but greater enhanced susceptibility can also be a product of increased human/anthropogenic activity. This phenomenon of susceptibility enhancement can therefore be used to provide information about the "level of archaeological activity" associated with a site. It can also be used in a predictive manner to ascertain the suitability of a site for a magnetic survey. Sampling intervals vary widely but are often at the 10m or 20m level. The instrument employed for measuring this phenomenon is either a field coil or a laboratory based susceptibility bridge. The field coil measures the susceptibility of a volume of soil. The laboratory procedure determines the susceptibility of a specific mass of soil. For the latter 50g soil samples are collected in the field. These are then air-dried, ground down and sieved to exclude the coarse earth (>2mm) fraction. Readings are made using an AC-coil and susceptibility bridge, with results being expressed either as SI/kg x 10⁻³ or m³/kg.

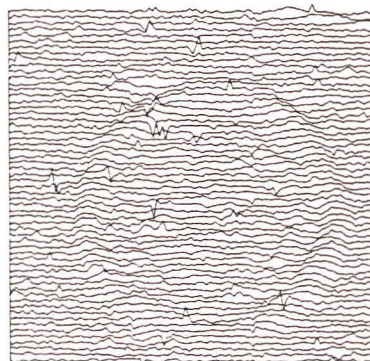
Display Options

The following is a description of the display options used. Unless specifically mentioned in the text, it may be assumed that no filtering or smoothing has been used to enhance the data. For any particular report a limited number of display modes may be used.



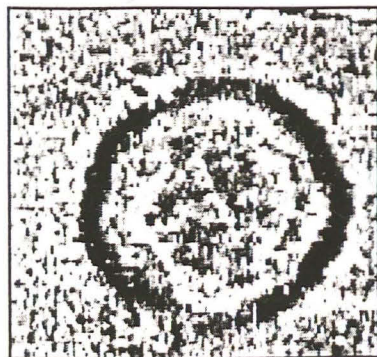
(a) Dot Density

In this display minimum and maximum cut-off levels are chosen. Any value that is below the minimum will appear white, whilst any value above the maximum will be black. Values that lie between these two cut-off levels are depicted with a specified number of dots depending on their relative position between the two levels. Assessing a lower than normal reading involves the use of an inverse plot that reverses the minimum and maximum values, resulting in the lower values being presented by more dots. In either representation, each reading is allocated a unique area dependent on its position on the survey grid, within which numbers of dots are randomly placed. The main limitation of this display method is that multiple plots have to be produced in order to view the whole range of the data. It is also difficult to gauge the true strength of any anomaly without looking at the raw data values. However, this display is favoured for producing plans of sites, where positioning of the anomalies and features is important.



(b) XY Plot

This involves a line representation of the data. Each successive row of data is equally incremented in the Y axis, to produce a stacked profile effect. This display may incorporate a hidden-line removal algorithm, which blocks out lines behind the major peaks and can aid interpretation. The advantages of this type of display are that it allows the full range of the data to be viewed and shows the shape of the individual anomalies. The display may also be changed by altering the horizontal viewing angle and the angle above the plane. The output may be either colour or black and white.



(c) Greyscale

This format divides a given range of readings into a set number of classes. These classes have a predefined arrangement of dots or shade of grey, the intensity increasing with value. This gives an appearance of a toned or grey-scale. Similar plots can be produced in colour, either using a wide range of colours or by selecting two or three colours to represent positive and negative values. While colour plots can look impressive and can be used to highlight certain anomalies, greyscales tend to be more informative.

Terms commonly used in the graphical interpretation of gradiometer data

Ditch / Pit

This category is used only when other evidence is available that supports a clear archaeological interpretation e.g. cropmarks or excavation.

Archaeology

This term is used when the form, nature and pattern of the response is clearly or very probably archaeological but where no supporting evidence exists. These anomalies, whilst considered anthropogenic, could be of any age. If a more precise archaeological interpretation is possible then it will be indicated in the accompanying text.

? Archaeology

The interpretation of such anomalies is often tentative, with the anomalies exhibiting either weak signal strength or forming incomplete archaeological patterns. They may be the result of variable soil depth, plough damage or even aliasing as a result of data collection orientation.

Areas of Increased Magnetic Response

These responses show no visual indications on the ground surface and are considered to have some archaeological potential.

Industrial

Strong magnetic anomalies, that due to their shape and form or the context in which they are found, suggest the presence of kilns, ovens, corn dryers, metal-working areas or hearths. It should be noted that in many instances modern ferrous material can produce similar magnetic anomalies.

Natural

These responses form clear patterns in geographical zones where natural variations are known to produce significant magnetic distortions e.g. palaeochannels or magnetic gravels.

? Natural

These are anomalies that are likely to be natural in origin i.e geological or pedological.

Ridge and Furrow

These are regular and broad linear anomalies that are presumed to be the result of ancient cultivation. In some cases the response may be the result of modern activity.

Ploughing Trend

These are isolated or grouped linear responses. They are normally narrow and are presumed modern when aligned to current field boundaries or following present ploughing.

Trend

This is usually an ill-defined, weak or isolated linear anomaly of unknown cause or date.

Areas of Magnetic Disturbance

These responses are commonly found in places where modern ferrous or fired materials are present e.g. brick rubble. They are presumed to be modern.

Ferrous Response

This type of response is associated with ferrous material and may result from small items in the topsoil, larger buried objects such as pipes or above ground features such as fencelines or pylons. Ferrous responses are usually regarded as modern. Individual burnt stones, fired bricks or igneous rocks can produce responses similar to ferrous material.

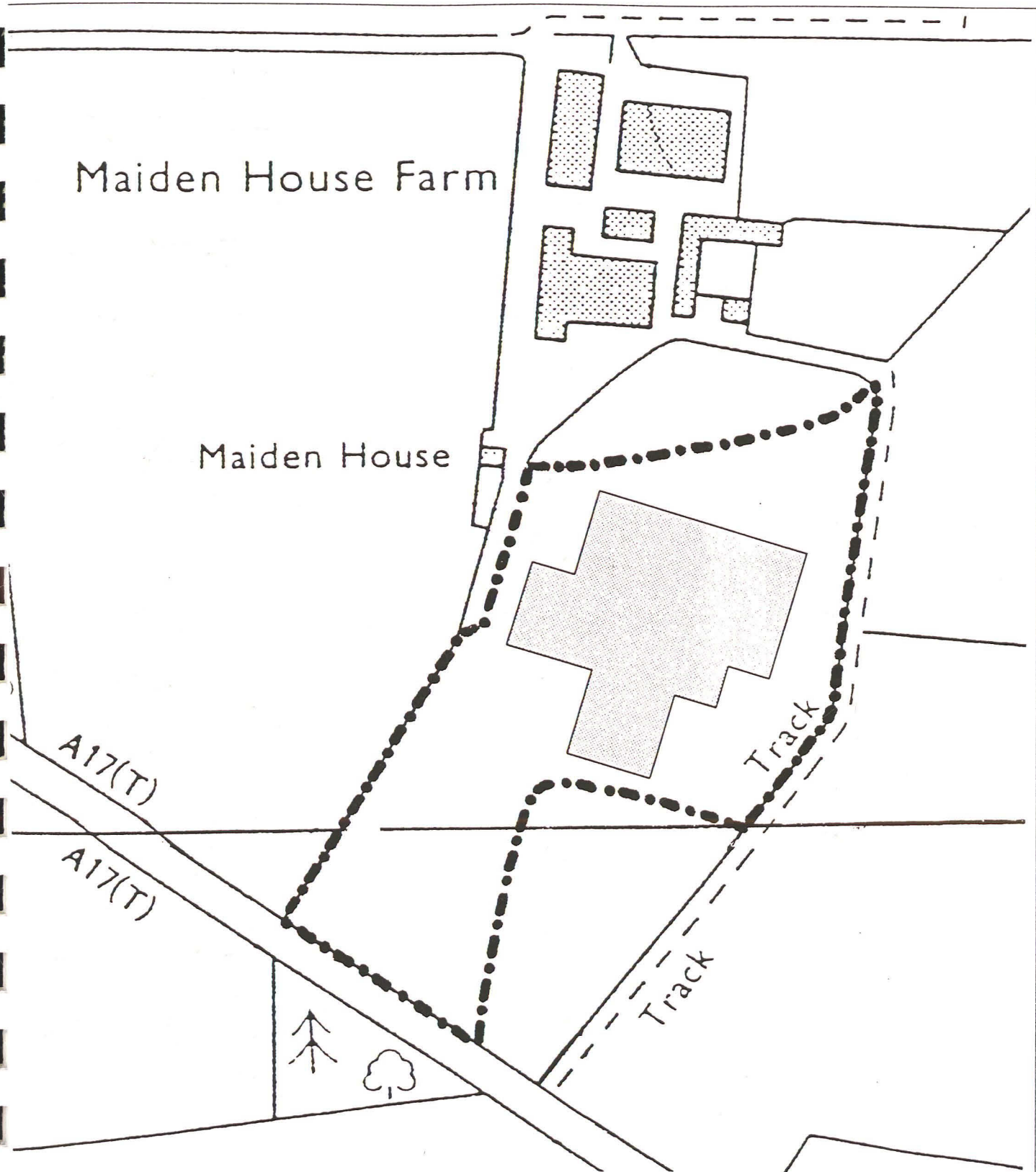
NB This is by no means an exhaustive list and other categories may be used as necessary.

List of Figures

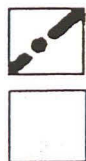
| | | |
|----------|--------------------------|--------|
| Figure 1 | Location of Survey Areas | 1:2500 |
| Figure 2 | XY trace | 1:625 |
| Figure 3 | Dot density plot | 1:625 |
| Figure 4 | Greyscale image | 1:625 |
| Figure 5 | Interpretation diagram | 1:625 |

HURLINGHAM BUSINESS PARK

Location of Survey Areas



Reproduced from the Ordnance Survey 1:10000 map
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Approximate Extent
of Scanned Area

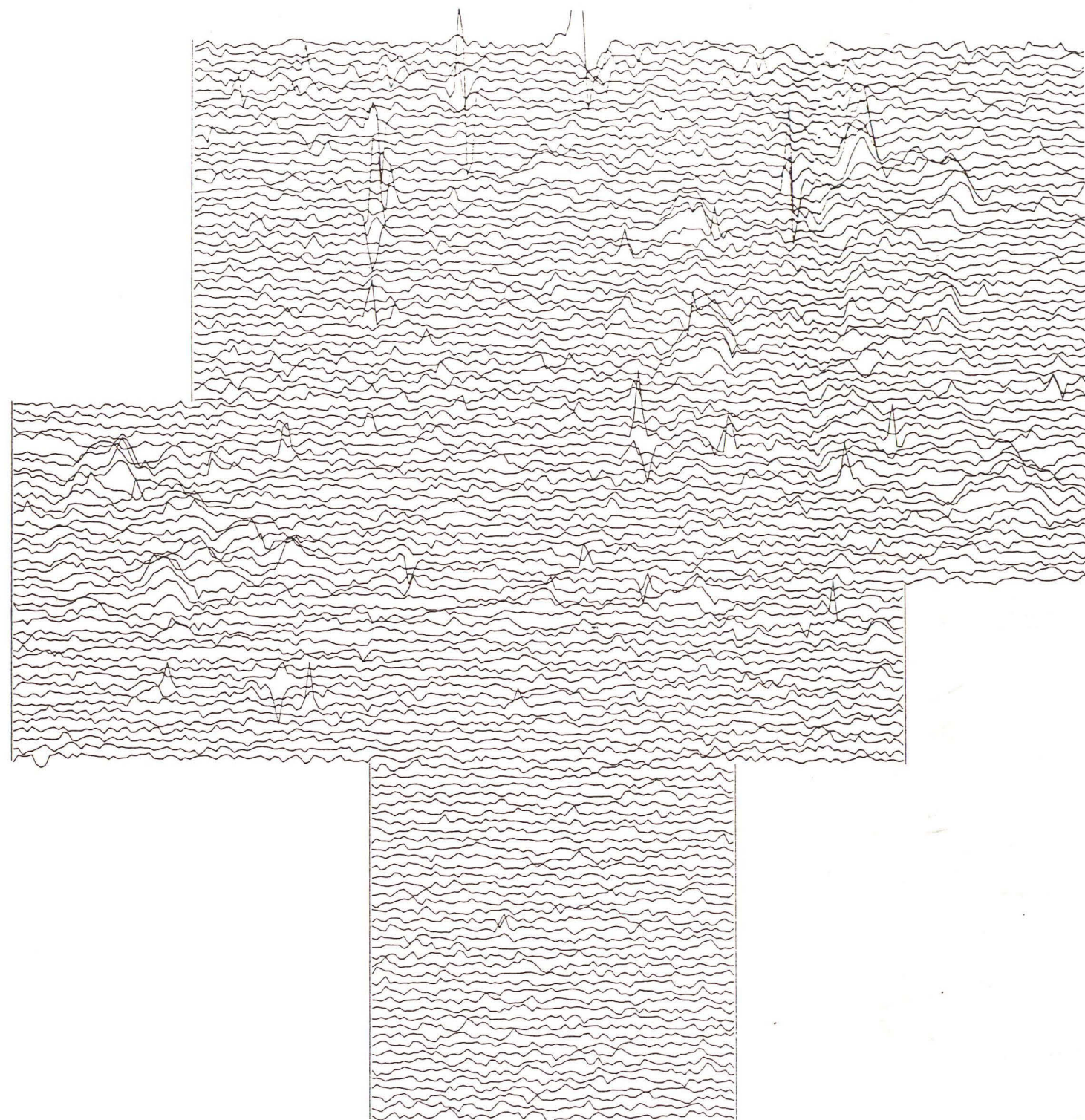
Detailed Survey



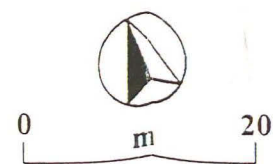
1:2500

Figure 1

HURLINGHAM BUSINESS PARK



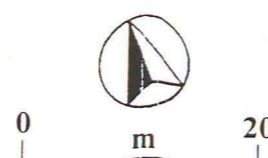
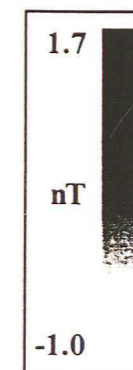
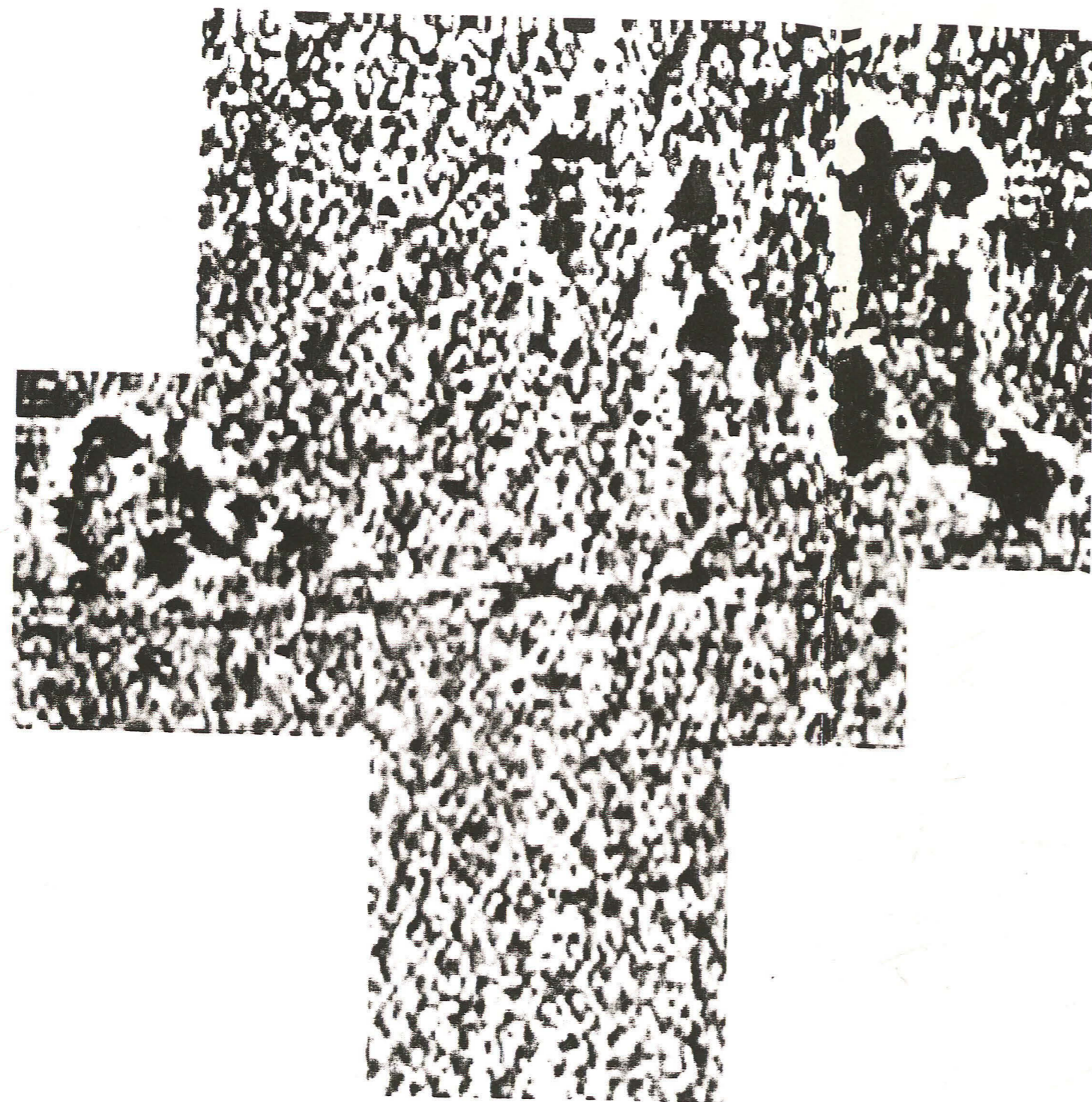
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Appendix 4

THE FINDS

by Paul Cope-Faulkner, Rachael Hall,
Hilary Healey, Tom Lane and Gary 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 Lincolnshire ceramic type series. A total of 79 fragments of pottery weighing 361g and representing 15 separate vessels was recovered from 7 different contexts. In addition to the pottery, a moderate quantity of other objects, predominantly tile and metal, comprising 29 items weighing a total of 459g, was retrieved. Faunal remains were also recovered.

Provenance

The material was recovered from fills (006 and 019).

All of the medieval pottery was made in moderate proximity to Fulbeck, at Nottingham 40km to the west, Potterhanworth and Lincoln, about 20km to the north. Similarly, the Romano-British pottery fragments are relatively local, probably made in south Lincolnshire, perhaps in the Bourne area.

Range

The range of material is detailed in the tables.

A single fragment of prehistoric pottery, dating to the Bronze Age, is the earliest material recovered, though the remainder and bulk of the assemblage is medieval, dating from the 11th to 14th century.

Table 1: The Pottery

| Context | Fabric Code | Description | No. | Wt (g) | Context Date |
|---------|-------------|--|-----------------|--------|--|
| 404 | NSP | Nottingham splash-glaze ware jug, 12 th -mid 13 th century | 63 (1 vessel) | 202 | 13 th -14 th century |
| | NSP | Nottingham splash glaze ware? 12 th -13 th century | 1 | 9 | |
| | POTT | Potterhanworth ware, 13 th -14 th century | 1 | 5 | |
| | GREY | Grey ware, abraded, 2 nd -3 rd century | 1 | 5 | |
| | PREH | Bronze Age pottery, fresh | 1 | 17 | |
| 421 | GREY | Grey ware, abraded | 1 | 3 | 2 nd -3 rd century |
| 601 | DST | Developed Stamford ware | 1 | 7 | 11 th -mid 13 th century |
| 603 | GREY | Grey ware, abraded | 1 | 1 | 2 nd -3 rd century |
| 806 | POTT | Potterhanworth ware, 1 links to piece from 809, 13 th -14 th century | 3 | 35 | 13 th -15 th century |
| | LSW2/3? | Lincoln ware, jug, 13 th -15 th century | 1 | 10 | |
| | NSP | Nottingham splash glazed ware, 11 th -mid 12 th century | 1 | 2 | |
| | GREY | Grey ware, abraded, 2 nd -3 rd century | 1 | 2 | |
| 809 | POTT | Potterhanworth ware, sooted externally, links to piece from 806 | 1 | 52 | 13 th -14 th century |
| 810 | NSP | Nottingham splash glazed ware | 2 (same vessel) | 11 | 12 th -mid 13 th century |

Two pieces of a Potterhanworth ware cooking pot, from (806) and (809) are linking sherds but the break at the junction is clearly an ancient fracture. This cross-link implies a temporal or functional relationship between the two separate contexts.

All of the medieval pottery is of the period 12th-14th century and was probably in use at the same time. The largest group in this medieval aspect of the assemblage is provided by the highly-fragmented sherds, over 60 separate pieces, of a single jug, recovered from (404).

Although only a single fragment of Bronze Age pottery was recovered, it is fairly fresh and unworn and is likely to have been found close to its original place of deposition. In contrast, several small sherds of Romano-British pottery were recovered and all are abraded. As such, these are likely to represent manuring scatter. This would imply that the area was agricultural land during the Roman period. This, in turn, indicates that the presence of Romano-British occupation in the general vicinity, though not at the site itself.

Table 2: *The Other Artefacts*

| Context | Material | Description | No. | Wt (g) | Context Date |
|---------|--------------|---|-----------|--------|--|
| 103 | Glass | Colourless base fragment of rectangular bottle | 1 | 6 | 20 th century |
| 400 | Iron | Nails, rectangular section, 1 bent | 4 | 8 | |
| | Iron | Rectangular strip, 34mm x 8mm x 1mm | 1 | 3 | |
| | Iron | Rectangular plate fittings, one with circular perforation 6mm dia., 48mm x 32mm x 1mm; other 49mm x 30mm x 1mm | 2 | 20 | |
| 501 | CBM | Glazed roof ridge tile, Bourne A fabric | 1 | 167 | 13 th -14 th century |
| 609 | Iron | Nails, rectangular section, 1 with triangular head in plane of shaft, rising to a rounded point, both bent | 2 | 9 | |
| 801 | CBM | Glazed ridge tile?, medieval | 3(2 link) | 107 | Medieval |
| | CBM | Roof tile, reduced core, 12mm thick | 1 | 23 | |
| 806 | Iron | Nail, rectangular section with triangular head in plane of shaft, rising to a flattened point, bent, medieval | 1 | 4 | Medieval |
| 809 | Iron | Nails, rectangular section, 2 with triangular head in plane of shaft, rising to a flattened point, 1 flattened over, all bent, medieval | 8 | 31 | Medieval? |
| | Iron | Rod, rectangular section | 1 | 8 | |
| | Iron | Triangular plate, 77mm wide x 78mm high, 2mm thick, 2 circular perforations in 2 corners, 4mm dia | 1 | 47 | |
| | Iron | Plate, amorphous, 1mm thick | 1 | 9 | |
| | Copper alloy | Single loop buckle | 1 | 13 | |
| | Copper alloy | Balance arm fragment, late 13 th -14 th century | 1 | 4 | |

Note: CBM = Ceramic building material

Part of a decorative crest from a medieval ridge tile was recovered from (501). This has a pronounced crowning ridge (over 20mm high) with a semi-circular serration about 40mm wide and stabbing on either side of the crest. This decorative style is known from kilns at Bourne, and the fabric is also recognizable as Bourne ware. A further, plain, roof tile fragment is probably also in a Bourne fabric. There are pieces of two other glazed tiles from (809). These are probably also ridge tiles, but no crests or other defining aspects survive on the pieces. In addition, these tiles contain large gravel fragments in their fabric. As such, they are clearly not Bourne products and may have been made much closer to the site in the general Fulbeck area. Glazed ridge tiles would be expected on higher status buildings of the medieval period.

A plain, single loop buckle was recovered from (809). This retains traces of a silvery coating. Such buckles are very conservative in style and are consequently difficult to date. However, this appears to be fairly modern, perhaps 19th century. A second copper alloy object was recovered from the same context. This is the pivot section of a balance arm, though there is only one pivot-point. There is simple incised, or chiselled decoration near the pivot point and the piece is very similar to a complete balance arm previously found (Rogers 1993, fig 2). This particular type of coin balance, or tumbrel, was used to weigh silver pennies issued between 1279 and 1526 (*ibid*).

Several short, 30-40mm long, iron nails with triangular heads were recovered during the investigation. These are horseshoe nails. One of the nails has its head turned over, within the body of the head not at the junction with the shaft, probably to clench the horseshoe. A second nail is bent over at the base of the shaft, a feature resulting from the nail being bent over and hammered back into the wall of the horse's hoof. Nails of this type were used with horseshoes of the mid 11th-early 14th century (Clark 1986, 2). These nails could derive from smithing at the site or, more probably, from a buried horse and horse bones were recovered (see below). The absence of horseshoes is unusual though, suggesting that they were removed and recycled.

Table 3: Faunal Remains

| Context | Species | Description | No. | Wt (g) | Comments |
|---------|--------------|--------------|-----|--------|---|
| 400 | unknown | unidentified | 3 | 4 | slightly chalky |
| 404 | horse | mandible | - | 560 | slightly chalky and very fragmentary |
| | cattle sized | unidentified | 20 | 68 | very chalky |
| | sheep | molar | 1 | 2 | |
| 421 | horse | radius | 1 | 277 | single break |
| | horse | ulna | 1 | 42 | partly fused to the above radius |
| | sheep sized | radius | 1 | 12 | |
| 700 | cattle sized | scapula | 1 | 88 | 3 linked, very chalky |
| | cattle sized | unidentified | 1 | 36 | very chalky |
| | sheep | tibia | 1 | 24 | |
| | bird | unidentified | 4 | 8 | |
| | unknown | unidentified | 20 | 28 | very fragmentary and chalky |
| 707 | bird | various | - | 22 | many very small fragments, probable chicken |
| 806 | cattle sized | mandible | 1 | 34 | |
| | sheep sized | mandible | 1 | 2 | |
| | sheep | molar/canine | 4 | 8 | |
| | unknown | unidentified | 5 | 8 | |
| 814 | cattle | tibia | 1 | 66 | |

The bone is in generally poor chalky condition which has not aided identification in some circumstances. The range of species accords well with the site once having been a monastic grange, although more sheep should probably be expected. Sempringham priory produced in the region of 25 sacks of wool a year and probably maintained flocks in excess of 700 beasts (Owen 1981, 66). Horse bones are present and form a sizeable percentage of the assemblage and, with supporting evidence from horseshoe nails, may indicate that Trench 4 lay close to a stable block.

Table 4: The Molluscs

| Context | Species | Description | No. | Comments |
|---------|--------------|-------------|-----|----------|
| 700 | Banded snail | Shells | 3 | complete |
| 707 | Banded snail | Shells | 3 | complete |
| | Garden snail | Shells | 2 | complete |

Several complete snail shells were recovered. The majority of these are banded snails, *Cepaea nemoralis*, though there are also two garden snails, *Helix aspersa*. Both are dry land species but occur widely, the latter species often associated with man, and are not useful indicators of past environments (Kerney and Cameron 1979, 203-5).

Condition

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

Documentation

There have been few previous archaeological investigations at Fulbeck, though examination of a nearby part of the same site identified archaeological remains but did not yield any artefacts. Details of archaeological sites and discoveries in the area are maintained in the files of the South Kesteven Community Archaeologist and the Lincolnshire County Council Sites and Monuments Record.

Potential

The various aspects of the assemblage have differing potentials. Although only a single piece, the Bronze Age pottery is fresh and unworn and is likely to signify prehistoric activity in the close proximity. In consequence, this has moderately high local potential and significance.

The Romano-British artefacts are likely to represent manuring scatter and are of limited local potential but do signify the presence of an occupation site of the period somewhere in the general vicinity.

Much of the assemblage dates to the medieval period and is generally not abraded. As a group, the medieval artefacts indicate occupation of the period at the site. Glazed roof tiles indicate the presence of medieval buildings, and structures of moderately high status usage. As a result, the large medieval component of the assemblage is of high local potential and significance.

The absence of any material later than the 15th century is informative and suggests that the site was abandoned at that time.

References

Clark, J., 1986 *Medieval Horseshoes*, Finds Research Group 700-1700 Datasheet 4

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

Owen, D.M., 1981, *Church and Society in Medieval Lincolnshire*, History of Lincolnshire Vol. V

Rogers, D. J., 1993 *Tumbrels*, Finds Research Group 700-1700 Datasheet 16

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

Appendix 5

AN ASSESSMENT OF CHARRED PLANT MACROFOSSILS AND OTHER REMAINS FROM AN EVALUATION EXCAVATION AT FULBECK HEATH, LINCOLNSHIRE (FHH02)

Val Fryer, Church Farm, Sisland, Loddon, Norwich, Norfolk, NR14 6EF
May 2002

Introduction

Evaluation excavations at Fulbeck Heath, Lincolnshire were undertaken by Archaeological Project Services. Features of Roman and medieval date were recorded, and samples for the extraction of the plant macrofossil assemblages were taken from a Roman ditch fill (sample 1) and two medieval pit fills (samples 2 and 8).

Methods

The samples 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 x16, and the plant macrofossils and other remains noted are listed on Table 1. Nomenclature within the Table follows Stace (1997). All plant remains were preserved by charring. Modern contaminants, including fibrous roots, seeds/fruits and arthropods were present in all samples.

The non-floating residues were collected in a 1mm mesh sieve and will be sorted when dry. Ecofacts and artefacts will be removed for further specialist analysis.

Results of assessment

Plant macrofossils

Cereal remains and/or seeds/fruits of common weed species were present at varying densities in all three samples. Preservation was poor to moderate; a high proportion of the grains were severely puffed and distorted, and some chaff elements were abraded and fragmented.

Cereals

Oat (*Avena* sp.), barley (*Hordeum* sp.) and wheat (*Triticum* sp.) grains were recorded, with wheat being predominant. Bread wheat (*T. aestivum/compactum*) type rachis nodes were noted in all three samples and a possible rivet wheat (*T. turgidum*) type rachis node was found in sample 2. Silica skeletons, principally of cereal awn and glume beaks, were common in sample 8.

Wild flora

Seeds/fruits of common segetal weeds were noted (frequently as single specimens) in samples 2 and 8 and included stinking mayweed (*Anthemis cotula*), lesser knapweed (*Centaurea nigra*), corn gromwell (*Lithospermum arvense*), indeterminate small grasses (Poaceae), dock (*Rumex* sp.), knawel (*Scleranthus annuus*) and cornsalad (*Valerianella dentata*). A single saw-sedge (*Cladium mariscus*) fruit from sample 3 was the only wetland plant macrofossil recorded.

Other plant macrofossils

Charcoal fragments were noted in all samples. Other plant macrofossils included indeterminate culm nodes and inflorescence fragments.

Other materials

Small fragments of black porous 'cokey' material are probably derived from the combustion of organic remains, including cereal grains, at very high temperatures. Other materials were extremely rare and the single small mammal/amphibian bone in sample 2 may be a modern contaminant.

Discussion

Sample 1, from the basal fill of a ditch, contains an extremely low density of charred material. Mollusc shells are moderately common. However, all have excellent preservation of surface structures and colour, and are therefore probably modern in origin. Although the single bread wheat rachis node may be contemporary with the context, it is equally likely to be intrusive from overlying deposits.

Samples 2 and 8 (from pits [403] and [422] respectively) contain similar assemblages dominated by grains and chaff, principally of wheat. Weed seeds are rare, but culm nodes and culm fragments (straw) are present in both samples. It is perhaps of note that whilst a high density of the grains are badly puffed and distorted, the chaff is reasonably well preserved, with silica skeletons of delicate chaff elements present in sample 8. This may indicate that residues from separate episodes of burning are present in both samples, with the grains being burnt either repeatedly or once at a high temperature, and much of the chaff being burnt in a slower, more controlled fashion. Such assemblages may possibly occur in hearth or oven contexts, where the grains are derived from accidental spillages and the chaff being the residue of fuel or kindling. Although weed seeds are rare in these two samples, the presence of stinking mayweed seeds and a saw-sedge fruit may indicate that cereals were being produced on heavy clay soils or marginal damp ground.

Conclusions and recommendations for further work

In conclusion, charred remains are extremely rare in the Roman assemblage and contemporaneity with the context cannot be proved. The medieval samples may be derived from hearth or oven waste including spilled grains and chaff elements, the latter used as kindling or fuel.

Although samples 2 and 8 contain quantifiable assemblages (i.e. 200+ specimens) it is considered unlikely that further analysis of only two samples would significantly add to the interpretation of the site at this stage. Should further material become available, this decision may need to be reviewed.

If further excavation work is to be undertaken as a result of the evaluation, a detailed strategy for environmental sampling should be finalised with the relevant specialists at the earliest possible stage.

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
pmc = possible modern contaminant

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

| | |
|---------------------------|--|
| 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, <i>e.g.</i> [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, <i>etc.</i> 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. |
| 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. |
| Natural | Undisturbed deposit(s) of soil or rock which have accumulated without the influence of human activity |
| 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. |
| Romano-British | Pertaining to the period dating from AD 43-410 when the Romans occupied Britain. |

Appendix 8

The Archive

The archive consists of:

- 130 Context records
- 43 Drawing sheets
- 8 Daily record sheets
- 12 Context record sheets
- 1 Section record sheets
- 1 Plan record sheets
- 4 Photographic record sheets
- 5 Level sheets
- 1 Sample record sheets
- 10 Environmental sample sheets
- 1 Box 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: 2002.217
Archaeological Project Services Site Code: FHH02

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

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