Archaeological Services & Consultancy Ltd

ARCHAEOLOGICAL EVALUATION:
STAFFORD ORCHARD PARK
QUORN
QUORNDON
LEICESTERSHIRE

NGR: SK 5635 1660

on behalf of Quorndon Parish council

A J Hancock BSc PGDip and J Richards BA PIFA

May 2008

ASC: 1051/QSO/2

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Site Data

ASC project code:	QSO	*ASC project no:*	1051
OASIS ref:	pending	*Event/Accession no:*	X.A46.2008
County:	Leicestershire		
Village/Town:	Quorn		
Civil Parish:	Quorndon		
NGR (to 8 figs):	SK 5635 1660		
Extent of site:	1.6 hectares		
Present use:	Public Park		
Planning proposal:	Improvement of public park facilities		
Planning application ref/date:	Pre-determination		
Local Planning Authority:	Charnwood		
Date of fieldwork:	Geophysical Survey: Topographic Survey: Trial Trenching: 21st – 23rd April 2008		
Commissioned by:	Quorndon Parish Council The Parish Office 7 High Street Quorn Leicestershire LE12 8DS		
Client:	As above		
Contact name:	Councillor Kathryn Paterson		

Internal Quality Check

Primary Author:	A. J. Hancock	*Date:*	13th May 2008
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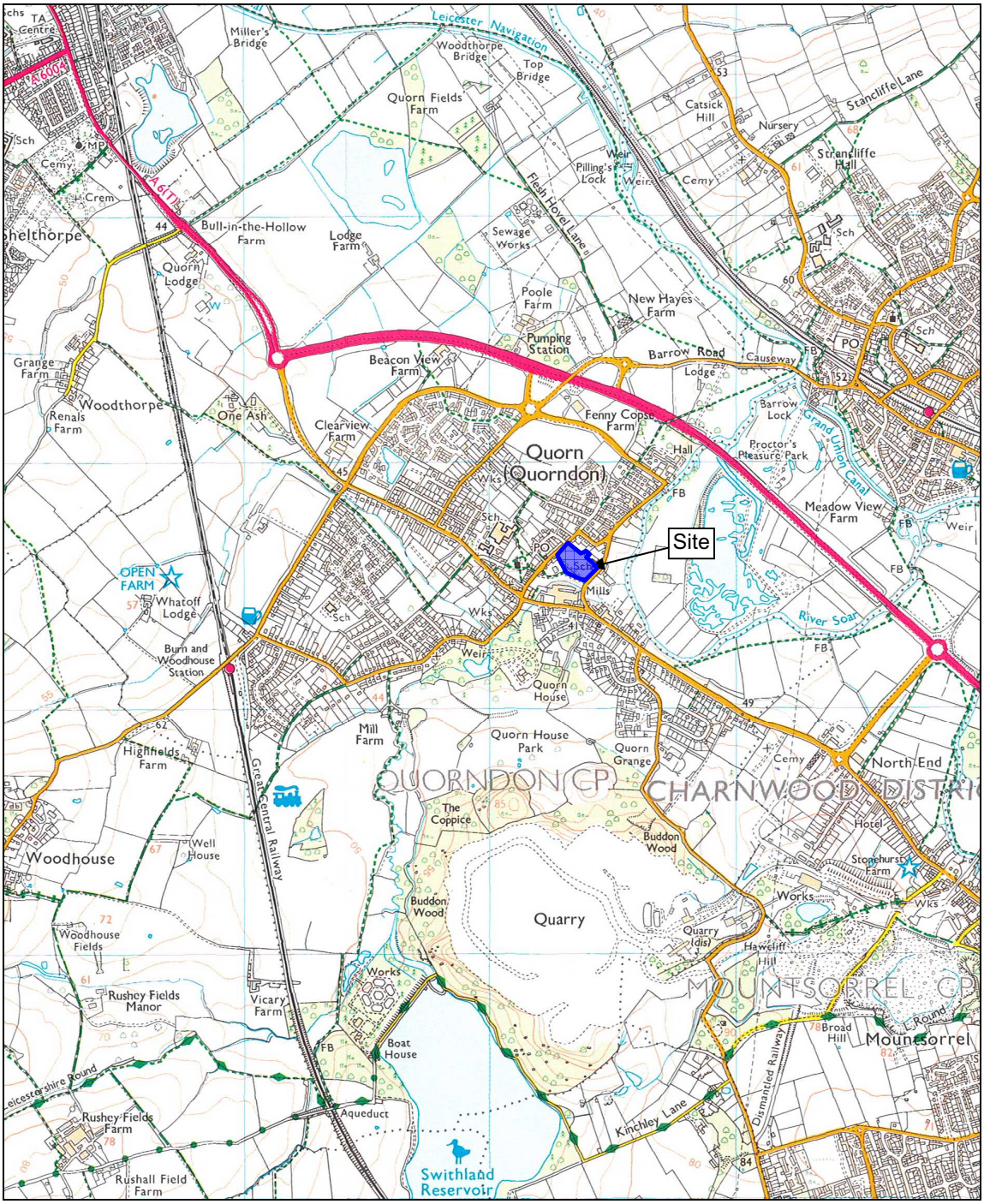

Figure 1: General location *(scale 1:25,000)*

Summary

In April 2008 ASC Ltd carried out geophysical survey, earthwork survey and evaluation trenching at Stafford Orchard Park, Quorn, Leicestershire. Leicestershire Historic Environment Record notes the presence of earthworks that may define medieval settlement plots at the northwest and southeast of the site. The archaeological work was carried out to assess the archaeological potential of the site in advance of proposed improvement to recreational facilities.

The geophysical survey data contained no evidence of settlement activity at the northwest and southeast of the site. However, significant magnetic disturbance resulting from modern activity was evident at both areas and could mask underlying archaeological features. A small number of possible features of uncertain character and date were identified at the north centre of the site.

Definitive evidence of the presence of medieval settlement plots at the proposed locations was also absent from the earthwork survey. However, poorly developed or truncated earthworks were evident at the north centre of the site. The earthworks were of uncertain character and date although two rectilinear platforms/terraces and one sub-oval platform may be present.

The evaluation trenching identified four shallow gullies/ditches, three pits, and six post holes at the southeast of the site. Two flint artefacts and one possible early Anglo Saxon pot sherd were recovered, although all appear to be earlier objects incorporated into later features. Two of the gullies/ditches were parallel, 15m apart, and ran orthogonal to Station Road. The location of a medieval burgage (settlement) plot could be suggested. However, the absence of medieval domestic detritus and the results of analysis of an environmental sample may indicate that the features were located in a rural context peripheral to the main area of medieval settlement.

1. Introduction

1.1 In April 2008 *Archaeological Services and Consultancy Ltd* (ASC) carried out an evaluation at Stafford Orchard Park, Quorn, Leicestershire. The project was commissioned by *Quorndon Parish Council*, and was carried out according to two briefs (Clark 2007a and Clark 2007b) prepared on behalf of the local planning authority (LPA), *Charnwood Borough Council,* by their archaeological advisor (AA), the *Historic and Natural Environment Team* of *Leicestershire County Council*, and a project design prepared by ASC (Hancock 2008).

1.2 *Planning Background*

The pre-determination evaluation was required under the terms of *Planning Policy Guidance Note 16* (PPG16), in order to inform proposals for the development of the site.

1.3 *The Site*

1.3.1 *Location & Description*

The evaluation area (hereafter site) is located at the southwestern margin of the village of Quorn, Leicestershire in the civil parish of Quorndon (Fig. 1).

The site consists of a sub-rectangular parcel of land which is centred at SK 5635 1660 and covers an area of *c.*1.6 hectares (Fig. 2). The site is used as a public recreation ground, much of it is grassed, although a skateboard half pipe, a metalled basketball pitch, and a small shelter are present at the School Lane end. Metalled surfaces of a play area are present at the southwest of the site.

The site is bounded at the northwest by Station Road and at the southeast by School Lane. Boundary fencing of residential properties delimits the northeastern extent, and part of the southwestern edge of the site. A physical boundary is absent along the remainder of the southwest edge of the site although the sites extent is delimited by a metalled footpath at this area (Fig. 2).

1.3.2 *Geology & Topography*

Soil cover over the majority of the site is likely to consist of soils of the Wick 1 Association, described as *"deep well drained coarse loamy and sandy soils".* Soils of the Fladbury 2 Association may be present at the east of the site and are described as *"stoneless clayey soils variably affected by groundwater"* (Soil Survey 1983, Sheet 3). The soils overlie Devensian sand and gravels of the Syston Terrace which were deposited over Triassic mudstone of the Gunthorpe Formation. Alluvium may be present at the east of the site. The site exhibits a gentle northwest-southeast slope which descends *c.*1.0m from 42.70m AOD to 41.68m AOD.

1.3.3 *Proposed Development*

The proposed development will consist of landscaping and improvement to recreational facilities. The majority of these works will be in the southeast of the site; detailed plans of the proposed development have not been drawn up.

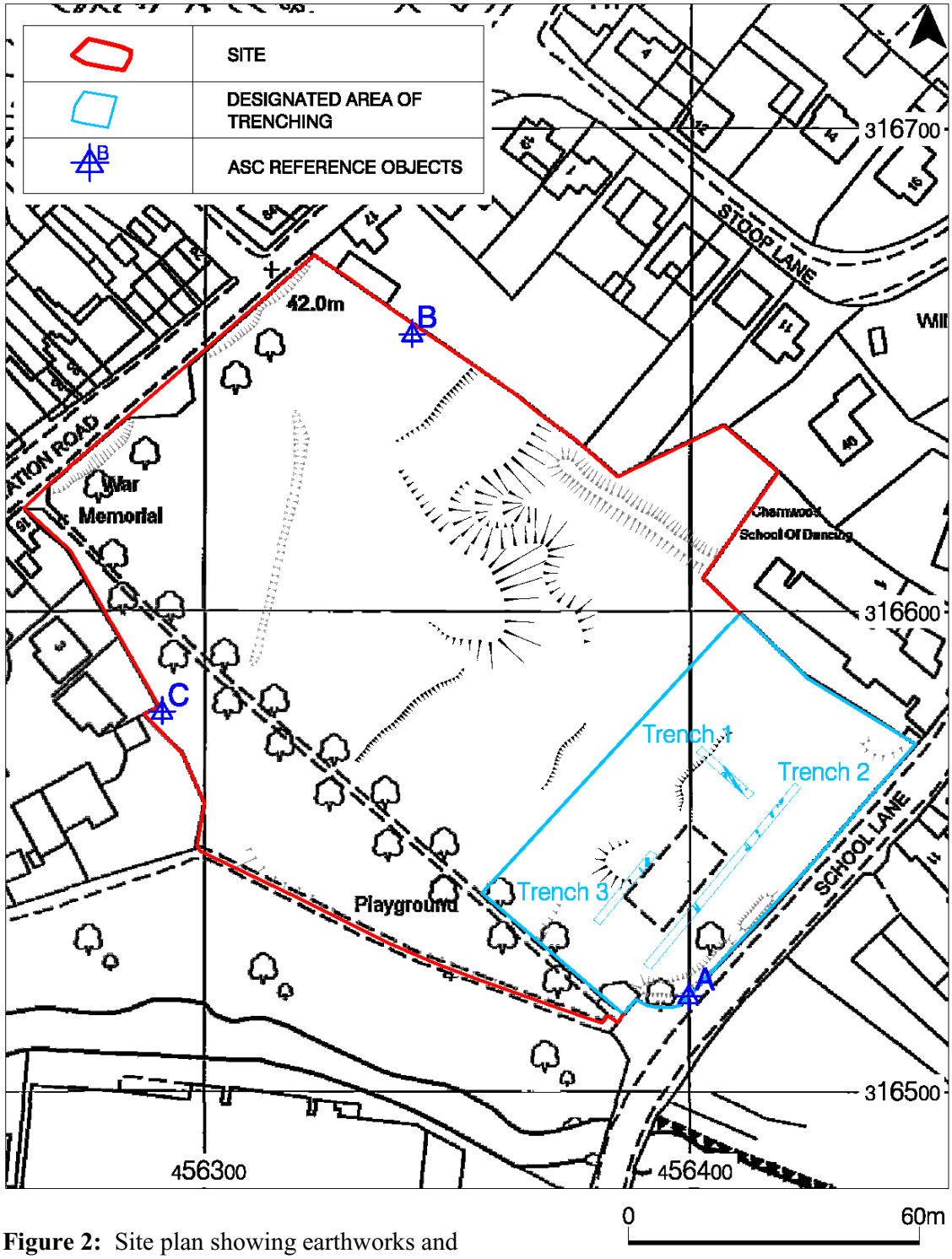

Figure 2: Site plan showing earthworks and location of evaluation trenches *(Scale 1:1250)*

2. Aims & Methods

2.1 *Aims*

In line with the requirements of the briefs Sections 8.1 and 8.2 (Clark 2007a) and Section 9.3.1 (Clark 2007b), the aims of the evaluation were:

- Geophysical Survey: "to establish the presence or otherwise of buried archaeological remains, and to inform and target any subsequent stages of archaeological investigation".
- Topographical Survey and Evaluation Trenching: "to assess the location, extent, significance and character of surviving archaeological remains"

2.2 *Standards*

The work conformed to the relevant sections of the Institute of Archaeologists' *Standard & Guidance Notes* (IFA 2001) and *Code of Conduct* (IFA 2000a), to county specific guidelines for rural excavation *Guidelines and Procedures for Archaeological Work in Leicestershire and Rutland* (Leicestershire County Council 1997) and to the relevant sections of MAP2 (EH 1991) and its revision MORPHE (EH 2006). The work also conformed to the relevant sections of ASC's own *Operations Manual,* to English Heritage geophysical survey guidelines (David 1995) and to IFA geophysical survey guidelines (Gaffney *et al* 2002). The topographic survey conformed to the requirements of a Level 2 survey as described in *Recording Archaeological Field Monuments: A Descriptive Specification* (RCHME 1999). Digital data was treated and archived in accordance with Archaeology Data Service guidelines (Richards & Robinson 2000, Schmidt 2003).

2.3 *Methods*

The work was carried out according to the briefs Section 9.3.2 (Clark 2007a) and Sections 9.1 and 9.2 (Clark 2007b), which required:

- Detailed magnetometer survey of all suitable areas of the *c.*1.6 hectare site at a sample interval of 0.25m x 1.0m.
- Topographic survey of the 1.6 hectare site in accordance with the specification for Level 2 earthwork survey (RCHME 1999).
- Trenching of 4% (135 square metres) of a defined 3375m^2 area adjacent to School Lane (Fig. 2). The location and distribution of trenches were agreed with the Senior Planning Archaeologist after examination of the results of geophysical and topographic surveys and the types of archaeology that HER records indicated could be present.

2.4 *Constraints*

Constraints were not encountered during the topographic and geophysical surveys. A skateboard half pipe, a metalled basket ball court, a small shelter at the southeast of the site and well established trees fronting School Lane severely limited the possible location of trenches.

3. Archaeological & Historical Background

3.1 Introduction

The following section provides a summary of the readily available archaeological and historical background to the development site and its environs. The site lies within an area of archaeological and historical interest, and has the potential to reveal evidence of a range of periods.

This section has been compiled from information held by Leicestershire Historic Environment Record (HER) and Leicestershire Record Office and from observations made during a site visit carried out on 29th February 2008.

3.2 *Prehistoric* *(before 600BC)*

Finds or archaeological features of this period are not recorded within the boundary of the site. Flint tools that may date to the Mesolithic period have been recovered *c.*1km WNW of the site and flint tools of the Neolithic (HER: MLE7144) and later prehistoric periods (MLE7400), along with sherds of possible Bronze Age pottery (HER: MLE15961), were recovered during gravel extraction *c.*700m ESE of the site.

3.3 *Iron Age* *(600BC-AD43)*

Finds or features of this period are not recorded within the site. Evidence suggesting Iron Age settlement (HER: MLE469) was recovered during gravel quarrying *c.*700m ESE of the site.

3.4 *Roman* *(AD43-c.450)*

Finds or features of this period are not recorded within the site. The HER records verbal reports of the discovery of several Roman coins at a location *c.*100m to the east of the site (HER: MLE7769). The remains of a small Roman town (HER: MLE8775, MLE470), and a NE-SW aligned Roman road (HER: MLE8764) are probably present *c.*700m southeast of the site (Liddle 1995). Reports of discovery of structural features (HER: MLE832), pottery (HER: MLE8767 and MLE9370), a lead die (HER: MLE8768), a 2nd/3rd century brooch (HER: MLE834), an inhumation burial possibly interred during this period (HER: MLE836), and findspots of coins (HER: MLE7763, 7765, 7767, 7768) certainly suggest intense activity of this period in the near vicinity of the site.

3.5 *Anglo Saxon* *(c.450-1066)*

Finds or features of this period are not known from the site. The findspot of part of an Anglo Saxon wrist clasp is noted *c.*1km WNW of the site and gravel extraction *c.*700m ESE of the site revealed finds (HER: MLE471), and an inhumation burial (HER: MLE472) that could suggest the location of an early Anglo Saxon cemetery.

3.6 *Medieval* *(1066-1500)*

The site lies within the medieval core of the village (HER: MLE839). Quorn is not mentioned in the Domesday Survey and the origin of the village appears to be later than 1066. The earliest parts of the Church of St Bartholomew date to the Norman period (Pevsner and Williamson 2003). Leicester Abbey owned the tithes of three mills in the Quorn area and their sites are tentatively identified *c.*1km southwest

(HER: MLE803) and *c.*300m to the northwest (HER: MLE806 and 807). With the exception of 5 Station Road, parts of which date to the late 15th/ early 16th century (HER: MLE827), extant medieval buildings do not survive within the village. Faint traces of earthworks are present within the site (HER: MLE831) and it is suggested that they define the location of medieval house plots fronting School Lane and Station Road. Other medieval earthworks surround the modern village and include the suggested remains of a Manor house (HER: MLE815), a lodge (HER: MLE800), a rabbit warren (HER: MLE812), and a section of the pale (HER: MLE 822) of Quorndon Park (HER: MLE814), which was owned by the Earls of Chester and predated 1273.

3.7 ***Post-Medieval*** *(1500-1900)*

A map of 1752 shows the site as "Stafford Orchard", very few buildings are represented although the map confirms that the current boundaries of the site were already established (Farnham 1912). Later 1st Ed. OS mapping of 1884 shows that the boundaries of the site remained unaltered and suggests that the site may have remained in use as an orchard. The majority of the buildings recorded by the HER within the historic core of the village date to the late post-medieval period.

3.8 ***Modern*** *(1900-present)*

Ordnance Survey maps show that the boundaries of the site remained unaltered. Gradual infilling of village open space and development of surrounding fields occurred, especially in the latter half of the 20th century. The OS mapping indicates that the site had fallen out of use as an orchard in the late 19th / early 20th century. A memorial to soldiers of the American Airborne killed during the Second World War was erected in the northwest corner of the site in 1952 and it has been public open space since at least this date. The historic core of the village is now designated as a conservation area.

4 Results

4.1 *Introduction*

The results of these three stages of evaluation are presented individually in the following sections. Detailed information regarding the trial trenches and their contents appears in Appendix 1.

4.2 *Geophysical Survey* (Figs. 3 - 5)

4.2.1 Detailed magnetometer survey was undertaken over all suitable areas of the site (Fig. 3). A large number of isolated dipolar anomalies ("iron spikes" – Appendix 6) are distributed across the survey area. These "iron spike" anomalies are indicative of small ferrous objects or other strongly magnetic material incorporated into the topsoil/subsoil and they are usually caused by modern cultural debris. Iron spikes may identify archaeological artefacts, although in this instance it is proposed that the large number is consistent with modern use of the site as a recreation ground.

4.2.2 Large areas of magnetic disturbance are identified at the peripheries of the site and surrounding a goal post located at the northwest centre of the site. All are caused by modern ground disturbance, modern earthworks, modern recreational facilities, or proximity to iron fencing.

4.2.3 Dispersed smaller areas of magnetic disturbance are identified distributed across the survey area. Small-scale industrial archaeological activity may cause this type of anomaly, yet the recent history of the site suggests that a more likely origin is relatively modern ground disturbance, or the presence of modern thermoremanent material or larger ferrous objects incorporated into the topsoil/subsoil.

4.2.4 A north south aligned weak negative linear magnetic trend is evident at the northwest of the survey area. The position of this magnetic anomaly correlates with a linear depression identifying the slumped backfill of a modern drain run. The negative magnetic trend bisects a large dipolar anomaly to the north of the large area of magnetic disturbance caused by the goal posts. The position of the large dipolar anomaly correlates with the observed position of a ferrous drain access cover.

4.2.5 A weakly positive linear anomaly **(A)** is identified at the north centre of the survey area and could identify a section of cut and infilled archaeological ditch. However, it is noted that the WSW-ENE alignment of the anomaly corresponds with an extant boundary located a short distance to its east and that it is located at an area containing shallow earthworks (Section 4.3). The linear anomaly may be caused by the remnants of a shallow boundary ditch and define the position of a former continuation of the extant boundary, or may correlate with an area of slightly deeper topsoil forming part of the earthworks.

4.2.6 A large area of strong magnetic enhancement **(B)** is present at the north centre of the survey area. This type of magnetic anomaly could identify a strongly

thermoremanent archaeological feature such as a kiln. However, the intensive modern use of the site suggests that the presence of a modern thermoremanent feature such as the base of a large fire is equally likely.

4.2.7 Five smaller areas of weaker magnetic enhancement are also identified. This type of anomaly often signifies the presence of a cut and infilled pit. However, modern intrusive activity may also result in similar magnetic anomalies. The intense modern disturbance evident throughout the survey area suggests that a recent origin may be more likely.

4.3 ***Topographic Survey*** (Fig. 5)

4.3.1 A north-south aligned linear depression **(EA)** at the north of the survey area defines an area of slumped back fill of a modern drain run (Plate 1).

4.3.2 A northwest-southeast aligned linear earthwork **(EB)** at the north centre of the survey area seemed unrelated to other earthworks in this area (see following sections). Communication with a representative of Quorndon Parish Council confirmed that it was constructed by the Environment Agency during the 1990's as a flood defence (Plate 2).

4.3.3 Two tentatively identified, poorly developed or truncated rectilinear terraces or platforms **(EC** and **ED)** are present at the northeast of the survey area. Even less pronounced although similarly aligned earthworks **(EF** and **EG)** were also identified at the south centre of the survey area. Other modern earthworks were identified at the peripheries of the survey area although they are not discussed further.

4.3.4 A poorly developed or truncated sub-oval platform **(EE)** was present at the centre of the survey area. It descended gradually *c.*0.5m on its eastern side to a level area that was bisected by modern earthwork **EB** (Plate 3).

4.3.5 Two further irregular earthworks **(EH** and **EI**) were also identified at the southeast of the survey area. These earthworks lay close to a basketball court, a shelter and a skateboard half pipe and may originate from activity associated with construction of the modern recreational facilities.

4.4 ***Trial Trenching*** (Figs. 6 and 7: Plates 4-12)

One 18m x 1.6m trench and one 15m x 1.6m trench were positioned to target slight earthworks noted during the topographic survey. A further 50m x 1.6m trench was located to determine the presence or absence of features defining remnants of medieval burgage plots. The trenches were machine stripped to the natural strata or the level of archaeological features under close archaeological supervision. Four gullies/ditches, three pits, and six post holes were revealed and subsequently hand excavated. A plan of the relative positions of trenches and features is shown in Figure 6 and sections across the features in Figure 7.

4.4.1 **Trench 1**

A 15m x 1.6m northwest-southeast aligned trench was located to target a slight NE-SW orientated curvilinear earthwork. Machining revealed that *c.*0.5m of top soil (101) overlay *c.*0.2m of dark orangey red sandy clay subsoil (102) occasionally mottled with light yellowish orange sand. The subsoil overlay the natural strata, a poorly sorted mid yellowish grey gravel (112). Cut features associated with the slight earthwork were not observed. However, four archaeological features were present.

A 0.60m wide and 0.28m deep north-south aligned gully or truncated ditch [107] with a shallow u shaped profile was cut through the subsoil and into the natural strata (Plate 5). The gully/ditch crossed the southern half of the trench and contained two fills; the upper was a reddish brown silty clay (105) and the lower was an orange silty clay with frequent flint pebble inclusions (106). Dating evidence was not recovered from the either fill.

A steep sided pit [104] with a flat base (Plate 4) was located immediately west of ditch [107]. Part of the pit lay beyond the southwestern edge of Trench 1 although enough was revealed to suggest that it was sub-circular with a diameter of *c.*1.30m. The pit fill was a homogeneous dark blackish brown silty clay containing possible charcoal inclusions (103). A tentatively identified and undiagnostic flint core fragment (Appendix 4) was recovered during processing of a bulk environmental sample <1> taken from (103). A moderate number of charred cereal grains and weed seeds typical of those associated with medieval agriculture were present in the bulk sample (Monckton 2008).

Two shallow post holes [109] and [111] were located slightly east of ditch [107]. The post/stake holes were *c.*0.28m and *c.*0.20m in diameter respectively and both were *c.*0.08m deep. Dating evidence was not recovered from the mid grey brown silty clay fills (108, 110) of these features.

4.4.3 **Trench 2**

A 50m x 1.6m southwest-northeast aligned trench was located to determine the presence or absence of features suggesting the former presence of medieval burgage plots fronting School Lane. A *c.*0.3m deep top soil (201) overlay a dark orangey red sandy clay subsoil (202) containing occasional mottles of light yellowish orange sand. Six archaeological features were observed cut into the subsoil.

A shallow, *c.*0.1m deep, terminal end of a gully or ditch [208] was located in the northern third of Trench 2 (Plate 8). Gully/ditch [208] aligned with the section of gully/ditch examined in Trench 1 [107], and could define its southern extent. A retouched flint flake (Appendix 4) was recovered from the mid grey brown silty clay fill (207) of gully/ditch [208]. A similarly aligned shallow ditch/gully terminus [206] was located *c.*3.8m north of gully/ditch [208], (Plate 7). No dating evidence was recovered from this feature.

A sub-oval possible post hole [216] with a *c.*0.08m deep concave profile was located *c.*0.35m south of ditch [208]. Dating evidence was not recovered from the mid grey brown silty clay fill (215) of the possible post hole.

A *c.*0.07 deep sub-circular possible post hole [214] with an uneven base was located *c.*1.5m northeast of gully/ditch [208] (Plate 6). Dating evidence was not recovered from its mid grey brown silty clay fill (213). Slightly northeast of possible post hole [214] lay a sub-circular feature [204] partially revealed at the northwestern edge of Trench 2 with a suggested diameter of *c.*1.8m (Plate 6). Hand excavation illustrated that feature [204] had poorly defined edges and an irregular base. Dating evidence was not recovered from the mid grey brown silty clay fill (203). It is tentatively suggested that the poorly defined edges and irregular base may suggest a natural origin, *e.g.* remnants of a tree throw, although the similarity of the fill (203) to the fills of definite archaeological features could indicate that it defined the position of a truncated pit.

Two sections of NNW-SSE aligned gullies or truncated ditches [210, 212] crossed Trench 2, *c.*2.7m and *c.*19.3m southwest of gully/ditch [208] respectively. Both exhibited relatively shallow concave profiles although the more westerly [212] was deeper at *c.*0.2m and slightly wider at 1.0m (Plate 10) in comparison with the *c.*0.1m deep and *c.*0.6m wide eastern gully/ditch [210], (Plate 9). Dating evidence was not recovered from the mid grey brown silty clay fill (209) of gully/ditch [210] or the dark blackish brown silty clay fill (211) of gully/ditch [212].

4.4.4 **Trench 3**

An 18m x 1.6m northeast-southwest aligned trench was located to examine a slight sub-circular earthwork. A *c.*0.31m deep top soil (301) overlay a dark orangey red sandy clay subsoil (302) containing occasional mottles of light yellowish orange sand. A tight cluster of two pits and two post holes were observed cut into the subsoil at the northeastern end of the trench.

The sub-circular pits (contexts [308] and [310]) were 1.1m in diameter, 0.32m deep and 0.75m in diameter, 0.28m deep respectively (Plate 12). Pit [308] was filled with dark brown silty clay (307) containing occasional pieces of burnt clay and may have cut and truncated the northwestern side of pit [310]. Pit [310] was also filled by dark brown silty clay (309). A single abraded body sherd of pottery, tentatively identified as dating to the early Anglo-Saxon period (N Cooper, ULAS. *pers comm*) was recovered from the fill (309) of pit [310].

Ditch [212], observed in Trench 2, did not continue into Trench 3 as could be expected from its alignment, and could either terminate or change alignment at some point between the two trenches.

The two shallow irregular post holes [304] and [306] were approximately 0.30m in diameter and 0.10m deep (Plate 11). No finds were recovered from their dark brown clayey silt fills (303, 305).

Plate 1: Slumped backfill of modern drain

Plate 2: Modern flood defence

Plate 3: General shot of area of slight earthworks at north centre of site

Plate 4: Section of Pit [104]

Plate 5: Section of Ditch [107]

Plate 6: Pit/Tree throw [204] and Post hole [214]

Plate 7: Ditch/Gully terminus [206]

Plate 8: Ditch/Gully terminus [208] and Post hole [216]

Plate 9: Section of Ditch/Gully [210]

Plate 10: Section of Ditch [212]

Plate11: Section of Post holes [304] and [306]

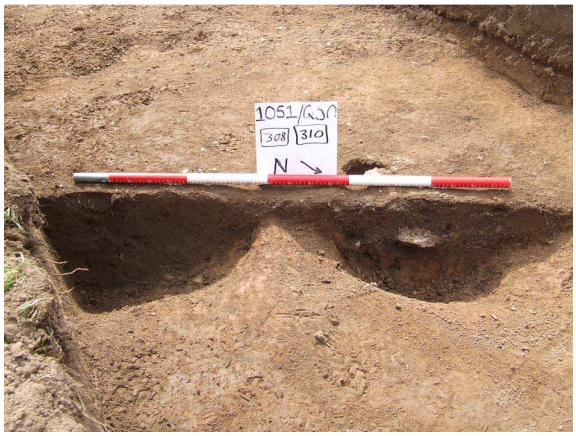

Plate12: Section of Pits [308] and [310]

Figure 3: Greyscale plot of gradiometer data

Figure 4: XY trace plot of raw gradiometer data

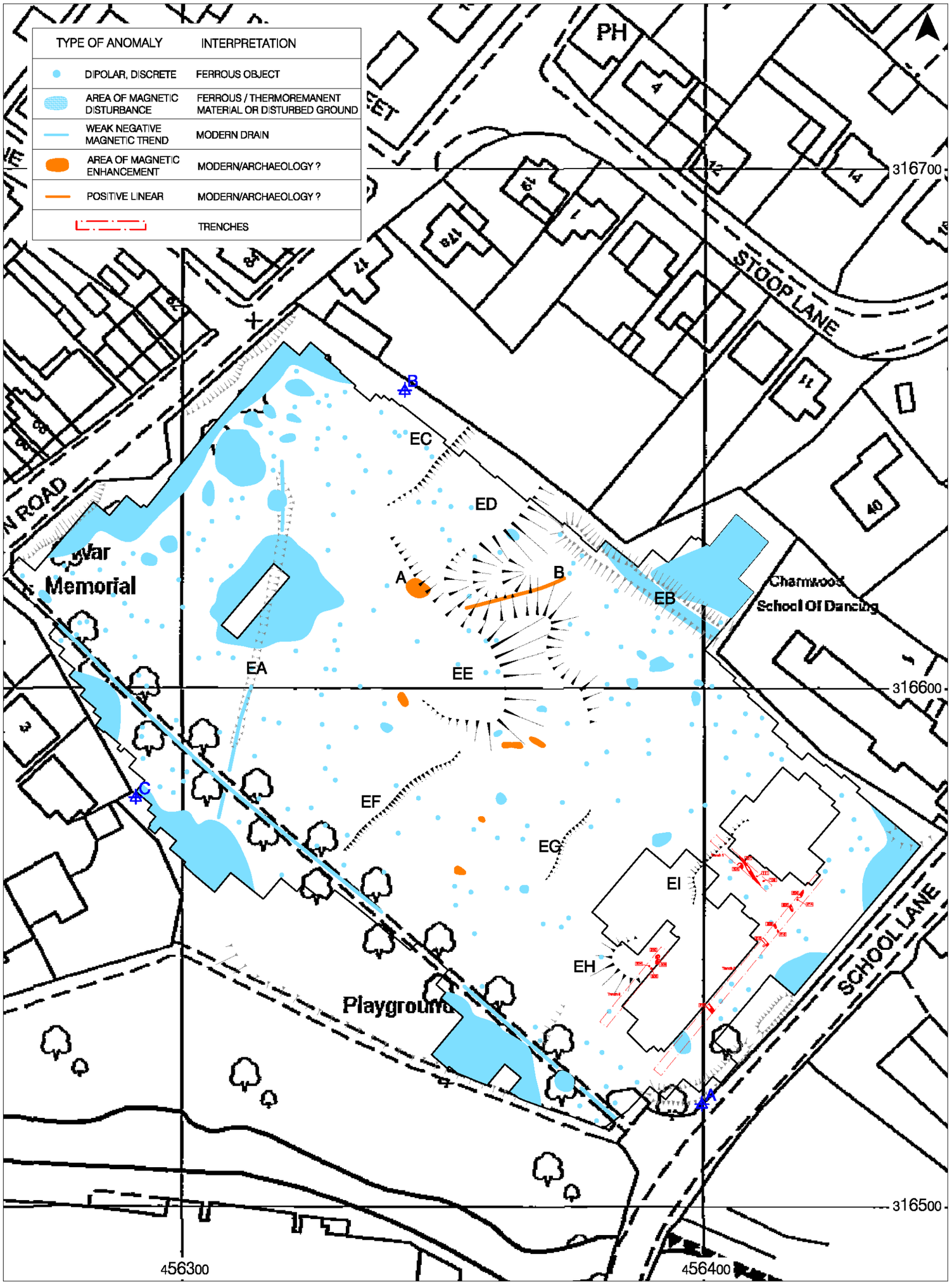

Figure 5: Interpretation of gradiometer data showing earthwork survey and location of trenches

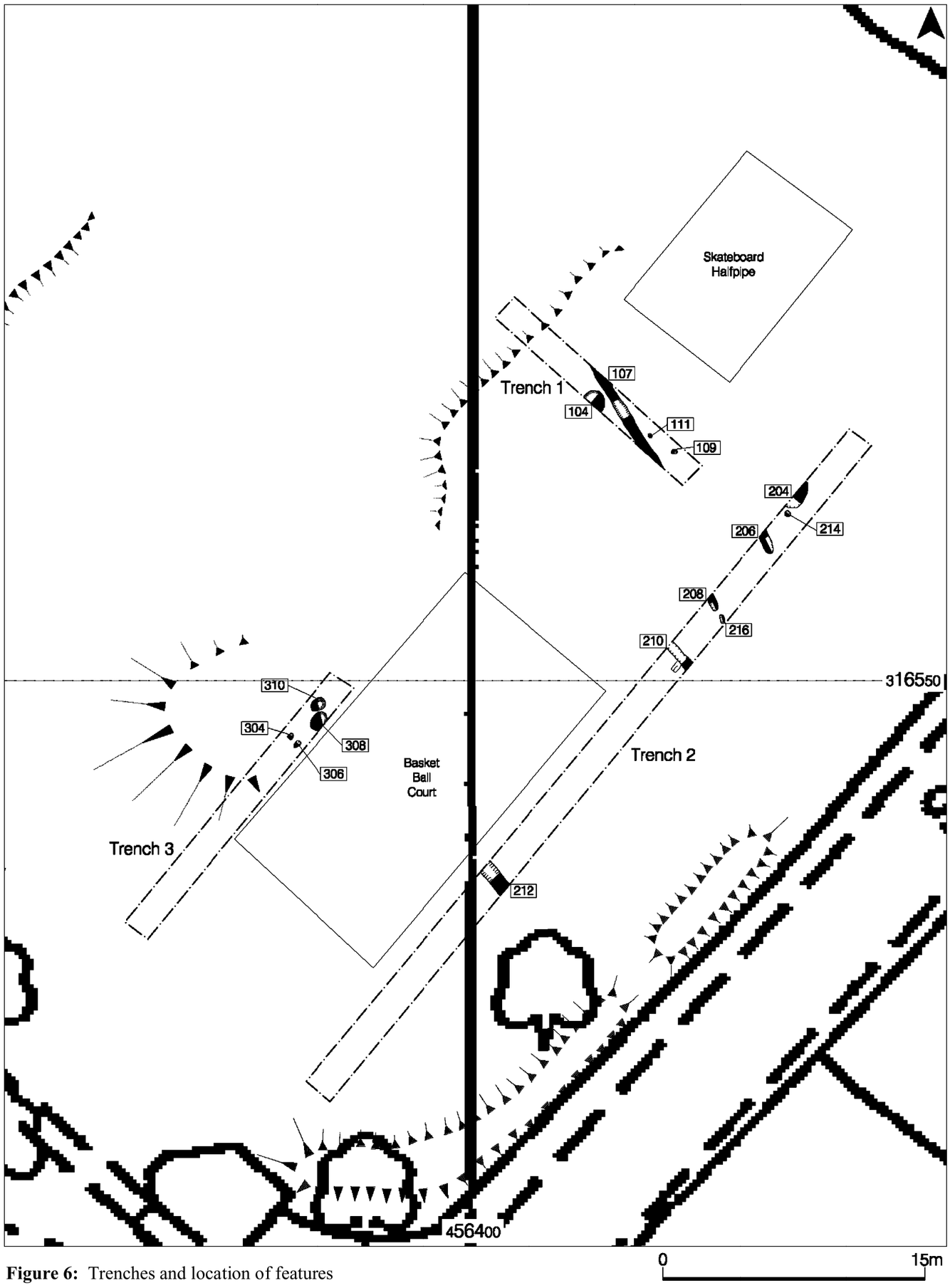

Figure 6: Trenches and location of features

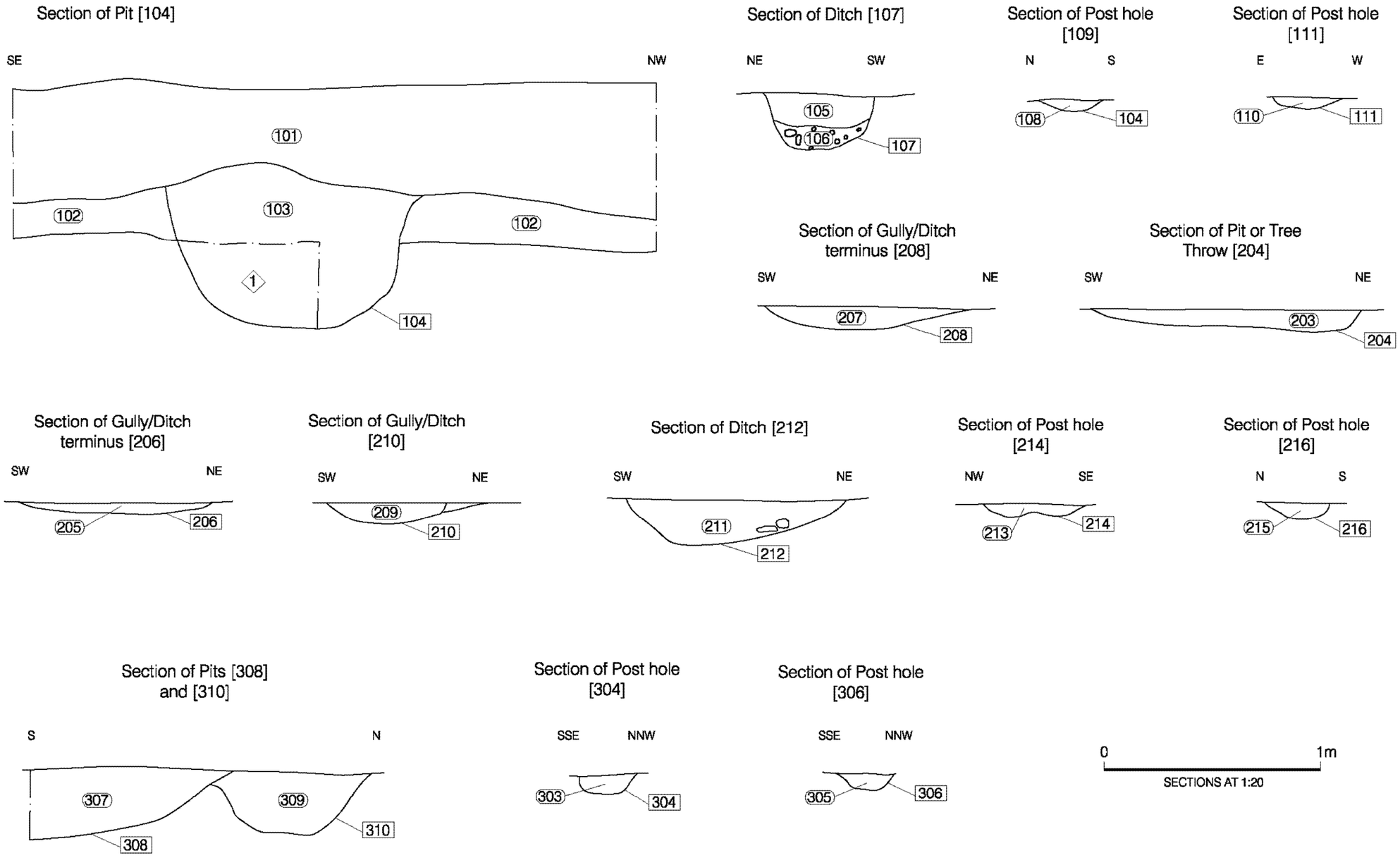

Figure 7: Sections through features

5. Conclusions

5.1 The results of the geophysical survey did not contain evidence suggesting the presence of the remnants of medieval house plots. Significant modern magnetic disturbance was present, especially around the peripheries of the survey area and may mask evidence of medieval settlement features fronting Station Road and School Lane. A large area of strong magnetic enhancement **(A)**, five smaller and magnetically weaker areas of magnetic enhancement and a short linear positive anomaly **(B)** could identify a kiln or fire, infilled pits and a shallow infilled ditch respectively (Fig. 5). The antiquity of these features is unclear although it is noted that five are associated with an area of shallow earthworks.

5.2 Earthworks locating medieval settlement plots fronting Station Road or School Lane were not identified during the earthwork survey. However, poorly developed or truncated earthworks of unknown date are present and have a foci at the north centre of the survey area. The form and function of the earthworks is not clear, although a small number of rectilinear terraces/platforms, *e.g.* **EC** and **ED**, and one sub-oval platform **EE** may be present (Fig. 5). A small number of modern earthworks were also identified and these are discussed in Section 4.3.

5.3 The evaluation trenches revealed four gullies/ditches, six post holes, and three pits at the Station Road end of the site. The more substantial of these were cut through the subsoil and into the natural deposit. Two flints and one abraded, possible early Anglo Saxon, pot sherd were recovered from the features but appear residual, *i.e.* earlier objects incorporated into later features

5.4 Two of the gullies/ditches, [210] and [212], were parallel, separated by a distance of *c.*15m and orientated orthogonal to Station Road. The presence of a medieval burgage (settlement) plot could be suggested although the absence of medieval domestic detritus and results of analysis of an environmental sample may indicate that these features were located in a rural area peripheral to the focus of the medieval settlement.

6. Acknowledgements

The evaluation was commissioned by *Quorndon Parish Council*. The writer is grateful to Councillor Kathryn Paterson for her assistance. The project was monitored by Richard Clark on behalf of the local planning authority. Thanks are due to Angela Monkton of *University of Leicester Archaeological Services* (ULAS) for analysis of the environmental remains, to Nick Cooper, also of *ULAS*, for his comments on the pottery and to Holly Duncan, finds specialist at *Albion Archaeology,* for assessment of the flints.

The project was managed for ASC by Alastair Hancock BSc PGDip. The geophysical survey and topographic survey were carried out by Alastair Hancock and Ralph Brown BA. Trial trenching was carried out by Jenny Richards BA PIFA and Chris Swain. The report was prepared by Alastair Hancock (geophysics and topographic survey) and Jenny Richards (trial trenching) and edited by Bob Zeepvat BA MIFA.

7. Archive

7.1 The project archive will comprise:

1. Briefs
2. Project Design
3. Initial Report
4. Clients site plans
5. Site records
6. Finds records
7. Finds
8. Sample records
9. Site record drawings
10. List of photographs
11. B/W prints & negatives
12. Original specialist reports and supporting information
13. CDROM with copies of all digital files.

7.2 The archive will be deposited with *Leicestershire County Council Museums Service.*

8. References

Standards & Specifications

Clark R 2007a *Brief for Archaeological Investigation by Geophysical Survey, Stafford Orchard Park, Quorn, Leicestershire.* Historic and Natural Environment Team. Leicestershire County Council.

Clark R 2007b *Brief for Archaeological Evaluation of Stafford Orchard Park, Quorn, Leicestershire.* Historic and Natural Environment Team. Leicestershire County Council.

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Appendix 1: Trench Summary Tables

Trench 1

Max Dimensions (m)					
Length	14.35	**Width**	1.60	**Depth**	1.01

Levels	
Trench base north	40.80m OD
Trench top north	41.81m OD
Trench base south	41.35m OD
Trench top south	41.87m OD

NGR Co-ordinates			

Orientation	NW-SE
Reason for Trench	Targeted evaluation trenching

Context	Type	Description and Interpretation	Width (max: mm)	Thickness (max: mm)	Depth (BGL: mm)
101	Layer	Dark orange brown loose humic clayey silt. Topsoil	-	500	-
102	Layer	Light orange brown friable silty clay. Subsoil	-	200	500
103	Fill	Very dark blackish brown silty clay. Fill of pit. Environmental sample taken	1340	1013	417
104	**Cut**	Sub-circular, steep sided cut of pit, sharp break of slope to flat base			
105	Fill	Friable reddish brown silty clay. Upper fill of ditch	600	191	417
106	Fill	Friable orange brown clay, frequent inclusions of flint pebbles. Lower fill of gully		158	
107	**Cut**	Steep sided, flat bottomed cut of gully		348	
108	Fill	Friable mid grey brown silty clay. Fill of post hole	213	75	417
109	**Cut**	Very shallow, sub-circular, concave base. Cut of post hole			
110	Fill	Friable mid grey brown silty clay. Fill of post hole	269	75	417
111	**Cut**	Very shallow, sub-circular, concave base. Cut of post hole			
112	Layer	Mid greyish orange gravel with large pebbles. Natural	-	-	984

Trench 2

Max Dimensions (m)					
Length	48.58	**Width**	1.60	**Depth**	1.23

Levels (All from Benchmark on St Bartholomew's Church - 46.674m AOD)	
Trench base east	40.54m OD
Trench top east	41.78m OD
Trench base west	41.10m OD
Trench top west	41.39m OD

NGR Co-ordinates			

Orientation	NE-SW
Reason for Trench	Targeted evaluation trenching

Context	Type	Description and Interpretation	Width (max: mm)	Thickness (max: mm)	Depth (BGL: mm)
201	Layer	Dark orange brown loose humic clayey silt. Topsoil. As 101	-	300	-
202	Layer	Light orange brown friable silty clay. Subsoil. As 102	-	200	300
203	Fill	Friable mid grey brown silty clay. Fill of pit or tree throw	1825	213	300
204	**Cut**	Irregular, sub-circular cut of pit or tree throw			
205	Fill	Friable mid grey brown silty clay. Fill of gully terminus	552	103	300
206	**Cut**	Shallow, gently sloping sides, concave base. Cut of rounded gully terminus.			
207	Fill	Friable mid grey brown silty clay. Fill of gully terminus. Contained flint flake.	430	257	300
208	**Cut**	Shallow, gently sloping sides, concave base. Cut of gully terminus.			
209	Fill	Friable mid grey brown silty clay. Fill of gully.	511	309	300
210	**Cut**	Steep sided, concave base. Cut of gully. Uncertain edge to western side.			
211	Fill	Dark blackish brown silty clay. Fill of ditch.	816	550	300
212	**Cut**	Steep sided, concave base. Cut of ditch			
213	Fill	Friable mid grey brown silty clay. Fill of post hole	337	221	300
214	**Cut**	Irregular, sub-circular cut of post hole.			
215	Fill	Friable mid grey brown silty clay. Fill of post hole	540	170	300
216	**Cut**	Irregular ovoid cut of post hole.			

Trench 3

Max Dimensions (m)					
Length	18.60	**Width**	1.60	**Depth**	0.69

Levels	
Trench base east	40.91m OD
Trench top east	41.31m OD
Trench base west	41.14m OD
Trench top west	41.83m OD

NGR Co-ordinates			

Orientation	NE-SW
Reason for Trench	Targeted evaluation trenching

Context	Type	Description and Interpretation	Width (max: mm)	Thickness (max: mm)	Depth (BGL: mm)
301	Layer	Dark orange brown loose humic clayey silt. Topsoil. As 101	-	311	-
302	Layer	Light orange brown friable silty clay. Subsoil. As 102	-	-	311
303	Fill	Friable dark grey brown silty clay. Fill of post hole	276	120	311
304	**Cut**	Irregular, sub-rectangular, steep sided cut of post hole, with concave base.			
305	Fill	Friable dark grey brown silty clay. Fill of post hole	300	106	311
306	**Cut**	Irregular, sub-circular, steep sided cut of post hole, packing stone still present.			
307	Fill	Friable dark grey brown silty clay. Fill of pit. Contained sherd of pottery.	1193	417	311
308	**Cut**	Circular, steep sided, concave base. Cut of pit			
309	Fill	Friable dark grey brown silty clay. Fill of pit.	914	380	311
310	**Cut**	Sub-circular, steep sided, concave base. Cut of pit.			

Appendix 2: Finds Concordance

Context	Pottery		Flint	
	(no)	(g)	(no)	(g)
103			1	15
207			1	3
307	2	5		

Appendix 3: List of Photographs

SITE NAME: Stafford Orchard Park, Quorn			**SITE NO/CODE: 1051/QSO**
Shot	B&W	Digital	Subject
1		✓	General shot of park, facing SE
2	✓	✓	Slumped backfill of modern drain, facing SSW
3	✓	✓	Modern flood defence, facing ESE
4	✓	✓	General shot of area of slight earthworks at north centre of site, facing NNW
5	✓	✓	General shot Trench 1
6	✓	✓	General shot Trench 2
7	✓	✓	General shot Trench 3
8	✓	✓	Section of Pit [104]
9	✓	✓	Section of ditch [107]
10	✓	✓	Pit/Tree throw [204] and Post hole [214]
11	✓	✓	Ditch/Gully terminus [206]
12	✓	✓	Ditch/Gully terminus [208] and Post hole [216]
13	✓	✓	Section of Ditch/Gully [210]
14	✓	✓	Section of Ditch [212]
15	✓	✓	Section of Post holes [304] and [306]
16	✓	✓	Section of Pits [308] and [310]

Appendix 4: Specialist Reports

Assessment of Flints

By Holly Duncan (Albion Archaeology)

Introduction

Neither piece of flint is clearly diagnostic of date. The denticulated flake from Context 207 is lacking its proximal end and therefore the method of manufacture (soft-hammer versus hard-hammer) cannot be determined. Denticulated pieces are less common in late Neolithic-early Bronze Age assemblages when compared to the early Neolithic and those of the Mesolithic tend to have bolder denticulations than the example from Context 207 (Butler 2005, 110; 130 and 168-69). This example appears to have suffered some post-depositional damage and maybe residual within the context.

The flint from Context 103 is questionable. Although there appear to be remains of two blade-like removal scars, they occur on a thermal flake of poor quality flint, which is damaged at both ends. It is possible that the flint nodule was tested for quality, discarded and subsequently damaged.

Description

Context 103: Core fragment(?). Thermal flake. Brown-grey flint with light grey and tan imperfections, poor quality. Cortex remaining across half of 'dorsal' surface, along with two blade-like removals. A third, possibly later, flake scar also occurs on the same surface. Damage to both 'distal' and 'proximal' ends. Possibly originated as a core, which then suffered both thermal and secondary damage? Length 35.2mm; width 34mm; thickness 12mm; weight 14.2g. Recovered from environmental sample <1>

Context 207: Denticulated flake. Incomplete, proximal end, including bulb of percussion, broken off. Brown-grey flint of good quality. Secondary flake, cortex remaining on distal end. Worn serrations/denticulations along one straight lateral edge point of percussion from the dorsal side (about nine teeth per 10mm). Opposing, slightly convex lateral edge has irregular nicking, suggesting post-depositional damage. Three flake/blade removal scars on dorsal surface. Sub-triangular in cross-section. Length 29mm; width 16.9mm; thickness 5.2mm; weight 2.9g.

Assessment of Environmental Evidence

By Angela Monckton (ULAS)

Introduction

The site was excavated by ASC Ltd of Milton Keynes directed by Jenny Richards and a sample was taken to recover charred plant remains, which can provide evidence of agriculture, diet, and activities of the people in the past. The feature sampled was a pit that contained a flint core, and Saxon pot was recovered nearby, it was hoped that the sample would aid the interpretation of the feature.

In Leicestershire and Rutland evidence from charred plant remains is now accumulating from villages and towns as well as from the city of Leicester (Monckton 2004) in order to investigate the local economy and life in the region.

Methods

The sample from context (103) of pit 104 was processed by wet sieving in a tank with a 0.5mm mesh and flotation into a 0.3mm mesh sieve. The residues were air dried and the fraction over 4mm sorted for all remains that are included elsewhere. The flotation fraction (flot) was air dried and submitted for analysis.

The sample was examined and sorted for plant remains using a x10-30 stereo microscope. The plant remains were identified by comparison with modern reference material at the University of Leicester Archaeological Services. The remains were counted and listed (tables 1), the plant names follow Stace (1991) and are charred seeds in the broad sense unless described otherwise.

Results

A moderate amount of charred plant remains were found including cereal grains and weed seeds present in the flot of the sample.

The cereals: The majority of the identified grains were of wheat (*Triticum* sp), mainly of the characteristic short broad shape of free-threshing wheat. A barley grain (*Hordeum vulgare*) were found which had the impression of the cereal sprout so was thought to be germinated. Oat grains (*Avena* sp.) were also found in some of the samples, these were probably cultivated oats from the size of the grains but this could not be confirmed in the absence of chaff. A few of these grains appeared to be germinated. Some cereal grains could not be identified further because they were incomplete and abraded. No chaff was found except for a few fragments of cereal barbs (awns).

Wild plants: Weed seeds were fairly numerous and were mainly weeds of disturbed ground or arable land such as stinking mayweed (*Anthemis cotula*), which became common in medieval times and is a plant of heavy soils and is thought to be associated with the use of the mould board plough (Grieg 1991). Other arable weeds included scentless mayweed (*Tripleurospermum inodorum*), which was sparsely present. A group of weeds typical of disturbed ground such as is found in settlements, garden-type cultivation or of spring sown crops included goosefoots (*Chenopodium* sp) and docks (*Rumex* sp). Leguminous plants

included probable vetch (*Vicia* sp.) and clover type plants (*Medicago, Melilotus* or *Trifolium*), which can occur as arable weeds but also grow on grassland. Others plants of grassy vegetation included eyebright or bartsia (*Euphrasia* or *Odontites*). Seeds of the large grasses (Poaceae), including brome grass (*Bromus* sp.), were found, which was a common weed of cultivated fields. Additional weed species are listed below (table 1.).

Discussion

The deposit contains wheat, which is mainly identified as free-threshing wheat, possibly bread wheat, which differs from the glume wheats such as spelt and emmer found in the prehistoric period in the region. Bread wheat is found mainly from the Saxon period onwards in the region although free-threshing wheat may occur occasionally in the prehistoric period (Monckton 2004). Barley is also present but wheat is more common than barley in the deposit, with oats also present which are more common in the medieval period. The weed seeds present are dominated by stinking mayweed, which is a very common medieval weed; it occurs sporadically in the Roman period in the region but is a characteristic medieval weed associated with the mould-board plough and the more intensive cultivation of heavy soils. Other weeds include cornflower, which is also more common in the medieval period. The charred plant remains suggest that this is a medieval deposit.

In the deposit weed seeds outnumber cereal grains and little evidence of chaff was found. This may suggest that the cereal grains represent domestic waste from food preparation including cereal cleaning waste from removal of weed contaminants, all burnt and dumped or accumulated in the pit. The most common weeds are large grasses and stinking mayweed, the latter suggesting the cultivation of heavy soils. Some plants of lighter soils are also present including scentless mayweed and cornflower suggesting that the crops may have been cultivated in different fields and mixed during use or disposal. All the plants found here have also been found in medieval samples from Leicester at the Shires and Causeway Lane (Moffett 1993, Monckton 1999). It is not possible to draw further conclusions from a single poorly dated sample but there is an ongoing strategy in Leicestershire and Rutland to sample rural medieval sites to investigate the local economy (cf Dyer 2002). It is also a priority to recover any Saxon samples, and to recover any medieval wheat chaff in order to identify the cereals, unfortunately none was found here. Any opportunities to sample such deposits should therefore be taken to maximize this information because interventions in villages are very restricted.

Conclusions

The sample contained a moderate number of typical medieval cereals and weeds. This may represent part of a scatter of small scale cleaning of cereals for consumption and food preparation waste, burnt perhaps in a domestic hearth and dumped in the feature.

Acknowledgements

I am grateful to ASC Ltd for processing the sample. This work was carried out at the University of Leicester Archaeological Services.

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Table 1. Charred plant remains from Quorn (QSO.1051).

.Sample	**1**	
Context	**103**	
Feature	**104**	
Feature type	**pit**	
Cereal grains		
Triticum free-threshing grains	9	Wheat, free-threshing
Triticum sp grains	1	Wheat
Hordeum vulgare L. grains	1	Barley
Avena sp. Grains	9	Oat
Cereal grains	10	Cereal
Cereal/Poaceae grains	2	Cereal/Grass
Cereal chaff		
Awns	2	Cereal barbs
Wild plants		
Chenopodium album L.	2	Fat-hen
Chenopodium sp.	3	Goosefoot
Rumex sp	1	Docks
Vicia sp.	1	Vetch
Medicago/Melilotus/Trifolium	1	Clover type
Euphrasia/Odontites	1	Eyebright/Bartsia
Crepis sp	5	Hawks-beard
Tripleurospermum inodorum (L.) S-Bip	2	Scentless Mayweed
Anthemis cotula L.	33	Stinking Mayweed
Centaurea cyanus L.	1	Corn-flower
Asteraceae	5	Daisy family
Bromus sp	1	Brome grass
Poaceae (large)	9	Grasses large
Poaceae	6	Grasses
Indeterminate seeds, charred.	3	Indeterminate seeds
Other remains		
Uncharred seeds	1	Uncharred seeds
Total charred items	107	
Volume sample	30	Litres
Flot volume	5	Mls
Charred items per litre of sediment	3.6	items per litre

Appendix 5: Magnetic Survey: Technical Information

1. Magnetic Susceptibility and Soil Magnetism

1.1 Iron makes up about 6% of the Earth's crust and is mostly present in soils and rocks as minerals such as maghaemite and haematite. These minerals have a weak, measurable magnetic property termed ***magnetic susceptibility***. Human activities can redistribute these minerals and change (enhance) others into more magnetic forms. These effects are often observable by measuring the magnetic susceptibility of the topsoil, which can enable identification of areas where human occupation or settlement has occurred by virtue of the attendant increase (enhancement) in magnetic susceptibility. If the enhanced material subsequently fills features, such as ditches or pits, localised isolated and linear magnetic anomalies can result whose presence can be detected by a magnetometer (fluxgate gradiometer).

1.2 In general, it is a contrast between the magnetic susceptibility of deposits filling cut features, such as ditches or pits, and the magnetic susceptibility of the surrounding matrix, i.e. topsoils, subsoils and rocks, into which these features have been cut that causes the most recognisable archaeological responses. This is primarily because there is a tendency for magnetic ferrous compounds to become concentrated in the topsoil, thereby making it more magnetic than the subsoil or bedrock. Linear features cut into the subsoil or geology, such as ditches, that have been silted up or have been backfilled with topsoil will therefore usually produce a positive magnetic response relative to the background soil levels. Discrete feature, such as pits, can also be detected. Less magnetic material such as masonry or plastic service pipes that intrude into the topsoil may give a negative magnetic response relative to the background level.

1.3 An alternative method of enhancement to the magnetic properties of soil or archaeological features is through sustained heating. This can lead to the detection of features such as hearths, kilns or burnt areas through thermoremanent magnetism.

2. Types of Magnetic Anomaly

2.1 In the majority of instances anomalies are termed ***'positive'***. This means that they have a positive magnetic value relative to the magnetic background on any given site. However, some features can manifest themselves as ***'negative'*** anomalies that, conversely, means that the response is negative relative to the mean magnetic background. Such negative anomalies are often very faint and are commonly caused by modern, non-ferrous, features such as plastic water pipes. Infilled natural features may also appear as negative anomalies on some geologies.

2.2 Where it is not possible to give a probable cause of an observed anomaly a '?' is appended.

2.3 It should be noted that some anomalies that are interpreted as modern in origin might be caused by features that are present in the topsoil or upper layers of the subsoil. Removal of soil to an archaeological or natural layer can therefore remove the origin of the anomaly.

2.4 The types of response mentioned above can be divided into five main categories, which are used in the graphical interpretation of the magnetic data:

Isolated dipolar anomalies (iron spikes)

These responses are typically caused by ferrous material either on the surface or in the topsoil. They cause a rapid variation in the magnetic response giving a characteristic 'spiky' trace. Although ferrous archaeological artefacts could produce this type of response, unless there is supporting evidence for an archaeological interpretation, little emphasis is normally given to such anomalies, as modern ferrous objects are common on rural sites, often being present as a consequence of manuring.

Areas of magnetic disturbance

These responses can have several causes often being associated with burnt material, such as slag waste or brick rubble or other strongly magnetised/fired material. Ferrous structures such as pylons, mesh or barbed wire fencing and buried pipes can also cause the same disturbed response. This type of anomaly is characterised by very strong, 'spiky' variations in the magnetic background. A modern origin is usually assumed unless there is other supporting information.

Linear trend

This is usually a weak or broad linear anomaly of unknown cause or date. An agricultural origin, either ploughing or land drains is a common cause.

Areas of magnetic enhancement/positive isolated anomalies

Areas of enhanced response are characterised by a general increase in the magnetic background over a localised area whilst discrete anomalies are manifest by an increased response (sometimes only visible on an X–Y trace plot) on two or three successive traverses. In neither instance is there the intense dipolar response characteristic of an area of magnetic disturbance or of an 'iron spike' (see above). These anomalies can be caused by infilled discrete archaeological features such as pits or post holes or by kilns, with the latter often being characterised by a strong, positive double peak response. They can also be caused by pedological variations or by natural infilled features on certain geologies. Ferrous material in the subsoil can also give a similar response. It can often therefore be very difficult to establish an anthropogenic origin without intrusive investigation or other supporting information.

Linear and curvilinear anomalies

Such anomalies have a variety of origins. They may be caused by agricultural practice (recent ploughing trends, earlier ridge and furrow regimes or land drains), natural geomorphological features such as palaeochannels or by infilled archaeological ditches.

3. Methodology

3.1 Gradiometer Survey

There are two main methods of using the fluxgate gradiometer for commercial evaluations. The first of these is referred to as ***scanning*** and requires the operator to visually identify anomalous responses on the instrument display panel whilst covering the site in widely spaced traverses, typically 10-15m apart. The instrument logger is not used and there is therefore no data collection. Once anomalous responses are identified, they are marked in the field with bamboo canes and approximately located on a base plan. This method is usually employed as a means of selecting areas for detailed survey when only a percentage sample of the whole site is to be subject to detailed survey. In favourable circumstances, scanning may be used to map out the full extent of features located during a detailed survey.

The second method is referred to as ***detailed survey*** and employs the use of a sample trigger to automatically take readings at predetermined points, typically at 0.5m intervals, on zig-zag traverses 1m apart. These readings are stored in the memory of the instrument and are later dumped to computer for processing and interpretation.

A Bartington Grad 601-2 fluxgate gradiometer was used for the detailed gradiometer survey. Readings were taken, on the 0.1nT range, at 0.25m intervals on zig-zag traverses 1m apart within 20m by 20m square grids.

3.2 Data Processing and Presentation

The detailed gradiometer data has been presented in this report in X-Y trace and greyscale formats. The former option shows the 'raw' data with no processing other than grid biasing whilst in the latter the data has been selectively filtered to remove spurious errors such as striping effects and edge discontinuities caused by instrument drift and inconsistencies in survey technique caused by poor field conditions.

An X-Y plot presents the data logged on each traverse as a single line with each successive traverse incremented on the Y-axis to produce a 'stacked' plot. A hidden line algorithm has been employed to block out lines behind major 'spikes' and the data has been clipped at 5nT. The main advantage of this display option is that the full range of data can be viewed, dependent on the clip, so that the 'shape' of individual anomalies can be discerned and potentially archaeological anomalies differentiated from 'iron spikes'. Archaeosurveyor was used to create the X-Y trace plots.

Archaeosurveyor was used to process the data and produce the greyscale images and XY trace plots. All greyscale plots are displayed using a linear incremental scale.

Appendix 6: Survey Location Information

1. The geophysical survey blocks were established using a Pentax R-326EX total station. Survey block points were set out at 60m intervals with the total station and points at 20m intervals were set out as required using 100m tapes. The earthwork survey was carried out using the same equipment.

2. The geophysical survey grids and earthwork survey were superimposed onto an Ordnance Survey digital map base. Overall there was a good correlation between the local survey and the digital map base and it is estimated that the average 'best fit' error is better than ±2m. It should be noted that Ordnance Survey 1:2500 mapping data have an error of ±1.9m at 95% confidence. This potential error must be considered if co-ordinates are measured off for relocation purposes from points other than those listed below or if anomalies are relocated using GPS technology.

Station	Easting	Northing	Height AOD
A (wooden stake)	456359.52	316520.48	41.700
B (wooden stake)	456342.57	316657.20	42.459
C (wooden stake)	456290.98	316579.28	42.598

ASC Ltd cannot accept responsibility for errors of fact or opinion resulting from data supplied by a third party or for the removal of any of the survey reference points.

Appendix 7: ASC OASIS Form

PROJECT DETAILS			
Project Name:	Stafford Orchard Park, Quorn, Leicestershire		
Short Description:	*In April 2008 ASC Ltd carried out geophysical survey, earthwork survey and evaluation trenching at Stafford Orchard Park, Quorn, Leicestershire. Leicestershire Historic Environment Record notes the presence of earthworks that may define medieval settlement plots at the northwest and southeast of the site. The geophysical survey data contained no evidence of settlement activity at the northwest and southeast of the site. Definitive evidence of the presence of medieval settlement plots at the proposed locations was also absent from the earthwork survey. However, poorly developed or truncated earthworks were evident at the north centre of the site. The evaluation trenching identified four shallow gullies/ditches, three pits, and six post holes at the southeast of the site. The features may be of Medieval date*		
Project Type: (indicate all that apply)	Geophysics / Topographic Survey / Trial Trenching		
Site status: (eg. none, SAM, Listed)	None	Previous work: (eg. SMR refs)	None
Current land use:	Recreation ground	Future work: (yes / no / unknown)	unknown
Monument type:	Burgage plots?	Monument period:	Medieval
Significant finds: (artefact type & period)	Two residual flints and one abraded Anglo Saxon pot sherd		
PROJECT LOCATION			
County:	Leicestershire	OS reference: (8 figs min)	SK 5635 1660
Site address: (with postcode if known)	Stafford Orchard Park, Quorn, Leicestershire		
Study area: (sq. m. or ha)	1.6 hectare	Height OD: (metres)	*c.*42m
PROJECT CREATORS			
Organisation:	Archaeological Services & Consultancy Ltd		
Project brief originator:	Richard Clark	Project design originator:	A Hancock
Project Manager:	A Hancock	Director/Supervisor:	A Hancock
Sponsor / funding body:	Quorn Parish Council		
PROJECT DATE			
Start date:	April 2008	End date:	April 2008
PROJECT ARCHIVES			
	Location (Accession no.)	Content (eg. pottery, animal bone, files/sheets)	
Physical:	Leics County Council Museums Service X.A46.2008	Flint x2, Pot x1	
Paper:	As above	Briefs, Project Design, Report, Site records	
Digital:	As above	Project Design, Report, Illustrations, Photographs	
BIBLIOGRAPHY (Journal/monograph, published or forthcoming, or unpublished client report)			
Title:	Archaeological Evaluation: Stafford Orchard Park, Quorn, Leicestershire		
Serial title & volume:	ASC Ltd Report ref. 1051/QSO/02		
Author(s):	A J Hancock and J Richards		
Page nos	1-36	Date:	13/05/08