Land off Downham Road, Ely, Cambridgeshire:

Archaeological Desk Based Assessment, Geophysical Survey and Trenched Evaluation



Grahame Appleby, Alister Bartlett, Jacquie Hutton



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With contributions by Katie Anderson, Lawrence Billington, Matt Brudenell, Craig Cessford, Bryan Crossan, David Hall, Vicki Herring, Dawn Mooney, and Vida Rajkovača

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NON-TECHNICAL SUMMARY

As part of the assessment of archaeological potential on the site of the Proposed Sports & Leisure Development, Downham Road, Ely (centred on TL 5300 8130), an initial archaeological desk based assessment was commissioned by Carter Jonas on behalf of East Cambridgeshire District Council. Subsequently the decision was made to initiate detailed pre determination evaluation consisting of a geophysical survey and trenched evaluation. The results of all three elements are included in this report.

The site is located approximately 1.5km west of the centre of Ely. Archival, aerial and cartographic sources demonstrate that the site is located in an area with known archaeology, including early prehistoric Iron Age, Roman and Saxon activity, and extensive medieval and later agricultural features. Geophysical survey indicated the presence of some archaeological features, although the site was dominated by the ploughed out remains of ridge and furrow agriculture. The trenching programme demonstrated that masked beneath this, particularly in the southern part of the site, was evidence of Middle Saxon occupation with associated field systems with a background presence of Iron Age and Romano-British activity. The north area predominantly contained medieval ridge and furrows in addition to a few undated linear features.

Acknowledgments

The Project was managed for CAU by Alison Dickens, and monitored on behalf of Cambridgeshire County Council (CAPCA) by Andy Thomas. CHER data was coordinated by Sally Thompson at the County Council and liaison with the client and tenant was facilitated by Jenny Page and Richard Seamark at Carter Jonas.

The fieldwork and data processing for the geophysical survey were conducted by P. Cottrell and F. Prince of Bartlett-Clark Consultancy.

On site the machine excavation was conducted with great care by Robin from Dickersons Ltd. The archaeology was excavated and interpreted by Dan Britton, Shannon Hogan, Laura James, Lizzy Middleton, Nick Overton, Emma Rees, Haley Roberts, Andy Whelan, and Alastair Wright. The area was surveyed by Donald Horne and plans digitised by Iain Forbes. Jason Hawkes and Jennifer Wills sorted and catalogued the finds and Bryan Crossan and Vicki Herring produced the illustrations.

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The Cambridge Archaeological Unit were commissioned by Carter Jonas, on behalf of East Cambridgeshire District Council, to make assessment of the archaeological potential on the site of the Proposed Sports & Leisure Development at Downham Road, Ely (centred on TL 5300 8130). Following development of the programme together with Carter Jonas and Andy Thomas at Cambridgeshire Archaeology, Planning and Countryside Advice (CAPCA) this consisted of three elements:

- A desktop assessment undertaken in December 2008
- Geophysical survey undertaken in February 2009
- Trenched evaluation undertaken in March 2009

This document is a report of all three stages of the programme.

1 DESKTOP ASSESSMENT

Grahame Appleby

1.1 Introduction

The proposed development area (PDA) is located approximately 1.5km west of the centre of Ely, adjacent to the A10 bypass (centred TL 5300 8130).

The principal objective of the study is to determine the presence/absence of known archaeological sites within the PDA and study area environs, and to assess the potential for archaeological remains surviving within the PDA.

1.2. Relevant Policy

Archaeology is covered by both local and national policy. Nationally the primary policies affecting archaeology are **Planning Policy Guidance Notes 15 and 16 (PPG15, PPG16)**, introduced in 1994 and 1991. These have played a crucial role in prompting and guiding the development of local policy. In Ely, the relevant policies are the **Cambridgeshire and Peterborough Structure Plan** and the **East Cambridgeshire District Local Plan**.

The main tenant of PPG16 is that Archaeological remains should be seen as a finite and non-renewable resource, in many cases highly fragile and vulnerable to damage and destruction. Appropriate management is therefore essential to ensure that they survive in good condition. In particular care must be taken to ensure that archaeological remains are not needlessly or thoughtlessly destroyed. Specifically Section 30 states that:

"In cases when planning authorities have decided that planning permission may be granted but wish to secure the provision of archaeological excavation and the subsequent recording of the remains, it is open to them to do so by the use of a negative condition i.e. a condition prohibiting the carrying out of development until such time as works or other action, e.g. an excavation, have been carried out by a third party. In such cases the following model is suggested:

"No development shall take place within the area indicated (this would be the area of archaeological interest) until the applicant has secured the implementation of a

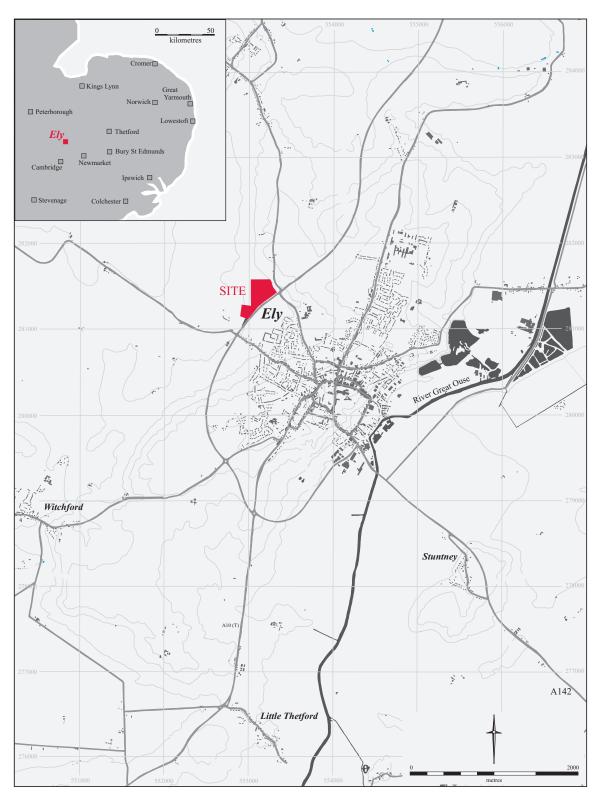


Figure 1. Site location

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programme of archaeological work in accordance with a written scheme of investigation which has been submitted by the applicant and approved by the Planning Authority."

1.3. Baseline Conditions

The PDA extends over 9.49 hectares and lies north and adjacent to the A10 bypass and west of the B1411 approximately, 1.5km west of the centre of Ely (Figure 1). Agricultural land is located to the west of the A10. The study area and PDA are located within the administrative district of East Cambridgeshire District Council.

Layout of Study Data

The desktop assessment considers a study area extending for a 0.5km radius from the PDA. Appendix 1 lists Gazetteer points, shown on Figure 2, and are referenced in the text in bold e.g. (1). Listed buildings and archaeological features falling within the historic centre of Ely are excluded, but where relevant are considered in the discussion.

Topography and Geology

The PDA is pasture and playing fields situated between the B1411, Hurst Lane byway and the A10 Ely bypass and on a slight westward facing slope at c. 5-10m AOD. The underlying geology is Kimmeridge clay (BGS Solid and Drift Geology Sheet 173), with Nordelph peat to the west.

Known and Potential Archaeology and Historical Background

An account of the history and archaeology of Ely, and in particular of the west side of Ely, has been covered in depth elsewhere and will not be repeated here (Salzman 1938; Mudd 2001; Gibson 1998; Mortimer *et al.* 2005). Nonetheless, the following summary places the PDA within its wider archaeological context.

Evidence for prehistoric, Roman and early-late Saxon ditched enclosures, field systems, cemeteries and a Late Saxon settlement overlain by Medieval cultivation strips has come from excavations and evaluations carried out by the Cambridge Archaeological Unit at Cornwell and Cotmist Fields, West Fen Road and Westfield Farm (see Gibson 1995; Knight 1999; Mortimer 2000; Regan 2001; Newman 2007). Excavations undertaken on Trinity, Carter and Runciman Lands (TL 52786 80303) indicate the presence of a Late Iron Age settlement and evidence for Romano-British cultivation (Masser & Evans 1999; Masser 2001). Another Late Iron Age site was identified at TL 53373 80237, along St. John's Road on higher elevation towards the city centre (Abrams 2000; see also Evan 2003: 9-10). Finds of Neolithic and Bronze Age flints, pottery are recorded from the island of Ely and Bronze Age and later metalwork from the fen skirtland surrounding the island. Located on land adjacent to the west of the PDA excavations in 1999 at Hurst Lane ahead of the construction of a reservoir revealed two major Iron Age settlement foci, including structures and enclosure, and a later Romano-British fieldsystem, probably established in the 1st to 2nd centuries AD; very little later Roman pottery was recovered from the site (Evans 2003; Evans *et al.* 2007).

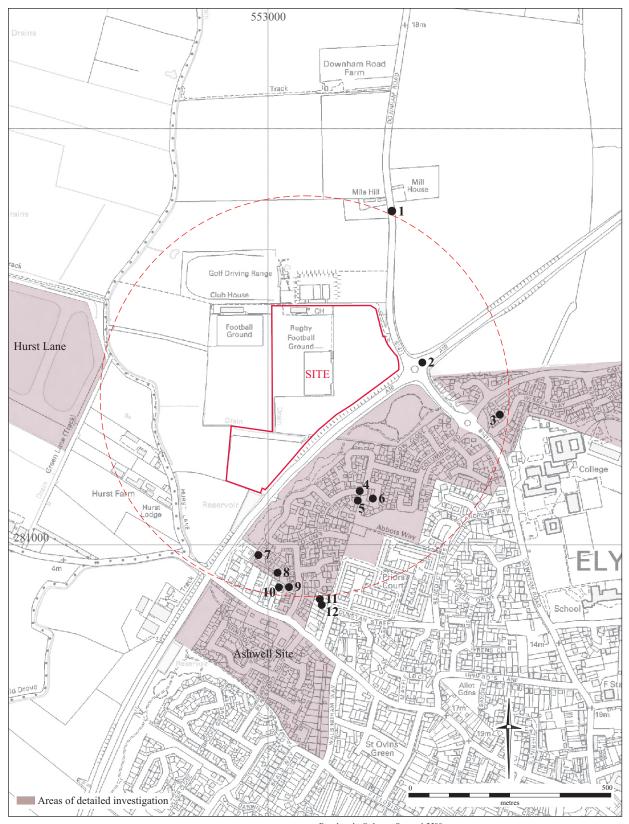


Figure 2. Gazetteer map

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The background to Anglo-Saxon period settlement on the Isle of Ely is an important factor when considering west Ely, given the significance of the cemetery revealed at Westfield Farm. Holton-Krayenbuhl's (2005) summary of the historical evidence details that the first documentary reference to Ely records the foundation of a monastery by Etheldreda (or Æthelthryth) c. AD 673; this was a double house (for both monks and nuns) and she was its first abbess. The history of the monastery, and of the Church at Ely, from its foundation until the 10th century is given in Book I of *Liber Eliensis* (Blake 1962: 1–62). This records that Etheldreda established her monastery on a new site a mile away from an existing settlement at *Cratendune*, where ancient objects and coins were still being found. The location of both *Cratendune*, and of this first monastery, have both therefore been the subject of much debate.

No direct archaeological evidence of Etheldreda's monastery has yet been found. One possibility is the location of the present Cathedral, but there are also alternatives: the parish church of St Mary's and the site of St John's Hospital are both viable options (Holton-Krayenbuhl 2005). The arguments in favour of each are, however, weak. Recent excavations in the Cathedral grounds uncovered a pit containing an extensive deposit of mid Saxon pottery of the 8th century and later, although no earlier material was recovered (Cessford forthcoming). There is no archaeological evidence for an early date for St Mary's, but it does occupy an unusually dominant position adjacent to the Cathedral. An Anglo-Saxon origin for the St John's hospital site (now St John's Farm) rests primarily on the discovery of a fragment of stone sculpture in one of the barn walls, which has been tentatively identified as part of an 8th-century frieze, and therefore possibly a remnant of the first stone church at Ely (Cobbett 1934; Henderson 1997).

Recent archaeological work has revealed a number of settlements and cemeteries belonging to this period, notably the cemetery at Westfield Farm with one richly furnished female inhumation. The cemetery is tentatively dated to the late 7th century based on the grave goods recovered from a single burial. The east - west orientation of the burials confirm the Christian origins of the cemetery, and a total of six individuals were identified in the two phases of machining. On first appearance this appears to be a small cemetery with the graves well spaced out. A contemporary early Middle Saxon settlement is to be found at Cotmist Field approx. 1 km to the north-west of this cemetery (Mortimer 2000), yet this seems too distant to be directly related, there being relatively little evidence for Saxon occupation, enclosure or cultivation within the intervening land. While the settlement at West Fen Road was probably not established until the second quarter of the 8th century (Mortimer et al. 2005: 25), a small number of possibly early Anglo-Saxon sherds were found to the east at 2 West End (Kenney 1999). Otherwise, the early Anglo-Saxon settlement record from Ely is rather blank. A small number of cemeteries are known; at Witchford aerodrome a cemetery of around 30 skeletons was observed being levelled during urgent war work (Fowler 1948: 70-6); grave-goods recovered (including saucer brooches, a square-headed brooch, an annular brooch, spearheads and a sword) suggest that it dated to the 6th century. To the north of the city, further probably 6th-century burials were recorded during the construction of the Newbarns Road housing estate in 1959 (Med. Arch. 1960: 134). Nearer to the site, evaluation in 2002 to the south of Witchford Road revealed an area of ploughed-out burials, but these were undated (Carlyle 2002).

Particularly pertinent to the current PDA is the study of the Saxon and medieval settlement at West Fen Road (Mortimer et al. 2005), which gives a comprehensive archaeological

background with the emphasis on western Ely. These excavations demonstrated the presence on the west side of Ely of a rural 'producer' site, which undoubtedly supplied the now well documented urban settlement and port facilities of Medieval Ely (Cessford *et al.* 2006); the field systems identified at here could possibly have belonged to the West Fen Road settlement, or to a similar site closer by. An evaluation within the study area (9) revealed no archaeological features (Upson-Smith *et al.* 2002).

Past and Current Land Use

Past and current land use is characterised by former fenland and drainage of the area for agricultural use. The construction of the A10 Ely bypass demarcates the southern boundary of the site. With the exception of the golf course, playing fields and associated buildings, the area west of the A10 remains dominated by the former fen and agricultural fields; numerous field-drains are observable on aerial photographs of the area. The PDA itself is largely pasture with football and hockey pitches on the northwest side.

1.4 The Archaeological Desk Based Assessment

The objective of the study is to collate and assess existing information relating to the archaeology and history of the area within and immediately surrounding the development area. This will be used to assess both areas of archaeological potential and determine the likely survival of such remains.

Sources

Principal sources consulted for this study were:

- Cambridgeshire Historical Environment Record (HER)
- Published and unpublished archaeological reports
- Aerial photographic evidence
- Historic map sequence 1659 1900
- Ordnance Survey (OS) maps 1884/85 First edition to present

Aerial Photography

Earlier examination of aerial photographic sources of the study area ahead of archaeological fieldwork identified traces of ridge and furrow, headlands and boundary ditches. These were attributed to the Iron Age and Romano-British periods (see Palmer 1997, 1998).

Prehistoric (to AD 43)

Evidence of prehistoric utilisation and settlement activity on the western part side of the Isle of Ely consists of a number of artefact scatters found during fieldwalking along the route of the A10 bypass (2) and excavation at (10). At this latter site, nearby Bronze Age settlement activity was suggested due to the nature of the flint artefacts recovered. The evidence for occupation on the western slope of the island and fen skirtland during the Iron Age is more substantial and includes evidence recovered during the A10 fieldwalking programme (2) and enclosures and isolated linear features were identified during geophysical surveying (6b). An

evaluation ahead of the construction of a pipeline and pumping station (8) revealed a several ditches and pits, indicative of settlement activity, and the recovery of two decorated items that suggests this was a relatively high status settlement (Gibson 1995). Pottery recovered from the settlement (10) dated to c. 1/10 to 50/60 AD, with the number of sherds recovered high. Evidence for structures and food-processing, daub and quern stones, were also found; however, further fieldwork indicated the settlement was not as extensive as previously thought, although the site was a focus of activity during the Late Iron Age and Romano-British periods. A number of nearby boundary or drainage ditches were identified nearby (11, 12b), and probably relate to this settlement, although the primary Late Iron Age foci is more likely to be the dense settlement at Hurst Lane reservoir (Evans et al. 2007).

Roman (c. AD 43 – 450)

There is sparse evidence for Romano-British activity within the study area, although recognised within the wider Ely environs. Fieldwalking along the route of the A10 bypass identified Roman activity (2), with elements of Late Iron Age and Romano-British field boundaries and enclosures found in the southeast of the study area (6b, 10, 11), ideally located to exploit the fen-edge.

Saxon and Medieval (c. 450 – 1549)

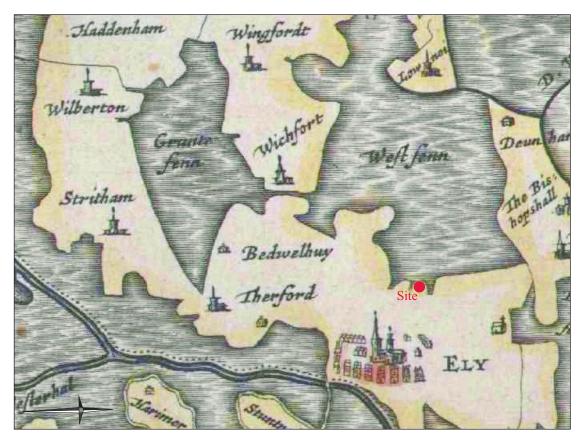
Saxon and medieval archaeology within the study area is substantial. Aerial photographic survey of the study area and adjacent landscape has revealed traces of probable ridge and furrow (3, 4, 6a). A possible Saxon or early Medieval enclosure ditch and probable boundary ditches were revealed during a recent evaluation (12a, 12b). Further fieldwork adjacent to the previous two sites further elucidated the nature of the Saxon and Medieval enclosure and field boundary system, with pits and gullies located within one of the enclosures (11). The low number of finds recovered from these sites dating from this period suggests they were outside the main settlement focus, this most likely being the Saxon and Medieval settlement immediately south of West Fen Road and just outside the study area (Mortimer *et al.* 2005) but extending northwards to the other side of West Fen Road where, although there was no unequivocal evidence of buildings, this seems to be a linear extension of the settlement area (*ibid*, Mudd 2000). The settlement appears to be at least partly laid out within the areas of Late Iron Age and Roman occupation, making use of some of the (presumably still visible) Romano-British enclosures. This has been interpreted as a *de novo* foundation probably in the second quarter of the 8th century (Mortimer *et al* 2005; 144).

Post-Medieval (1550 – present)

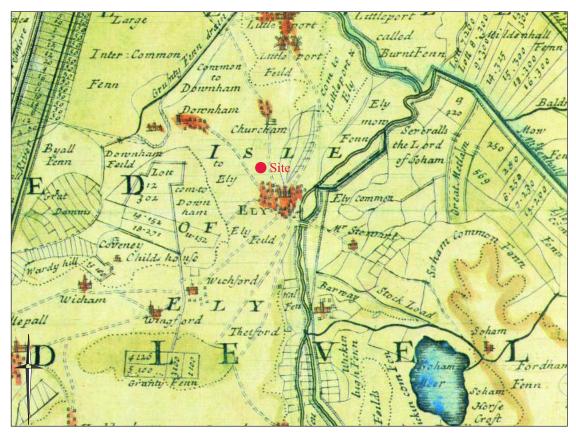
Post-Medieval activity within the study area consists of the site of a former smock mill on Downham Road (1), first built in 1729; only the circular base survives, traces of possible ridge and furrow (3, 6a), and a ditch (7). Included within this category, but omitted from the gazetteer, are post-Medieval drainage ditches and recent road and housing developments.

1.5 Cartographic And Photographic Evidence

The cartographic evidence for the study area dates from the 15th century; however, these early maps provide insufficient detail of the study area and PDA and were consequently not considered any further. The earliest detailed cartographic evidence is Jan Bleau's map of 1645



Blaeu 1645



Moore 1684

Figure 3. Historic maps

(Figure 3). This shows the study area, 'West Fen' and the Isle of Ely prior to large-scale drainage from the later 17th century onwards. Significantly, Bleau's map also demonstrates that the PDA is situated on the slightly higher ground on the western side of the Isle of Ely. The later Ordnance Survey cartographic sequence, dating from the 1830s to the present day, is instructive as it demonstrates that the current field boundaries of the PDA were established prior to the construction of the A10 in the 1980s, with the north, south, and western boundaries remaining extant since the late 19th century. The current sports facilities, field boundaries and A10 are first recorded on the revised 1:10,000 and 1:25,000 scale maps dating from 1988.

Date	Description
1645	Jan Bleau's map of the Fens
1695	Robert Morden's map of Cambridgeshire
1772	John Dugdale's map of the Fens
1784	Thomas Conder's map of Cambridgeshire
1829	Drainage Board map of the 'Bedford Level'
1863	John Dower's map of Cambridgeshire
1830s	Ordnance Survey Old Series
1885-88	OS 1:2,500 scale map, 1 st edition and subsequent revisions
1889-92	OS 1:10,560 scale map, 1 st edition and subsequent revisions
1958	OS 1:10,560 scale map, National Grid 1 st edition
1972	OS 1:2,500 scale map, National Grid 1 st edition
1974	OS 1:10,000 scale map, 1 st metric edition
1988	OS 1:25,000 scale Pathfinder sheet 941: Ely (North) and Littleport
2006	OS 1:25000 scale map, Explorer sheet 228: March and Ely

Table 1: Cartographic reference series

1.6 Discussion

The PDA and wider study area lie in a landscape of extensive archaeological and historical activity and straddles the topographical transition from the higher, eastern ground of the Isle of Ely to the lower former wetland of West Fen – the fen-edge or skirtland (Figure 3). Aerial photographic and archaeological fieldwork along this transitional zone within the immediate and wider environs demonstrate that evidence for human exploitation, settlement and agricultural activity is present dating from the Neolithic to the present day at approximately 0.3km intervals (see Figure 4 for recent excavation locations and Evans 2002 and 2003 for a general synthesis of the area). This spatial distribution is similar to the settlement pattern seen within the Addenbrooke's hinterland (Evans et al. 2008) and alerts us to the possible presence of further settlement activity within the study area. Importantly, results from fieldwork has revealed increasing settlement density from the later Bronze Age to Late Iron Age, in the case of the latter period, notably at Hurst Lane reservoir (Evans et al. 2007) and north of West Fen Road (Mudd 2000), between 2 and 10m AOD. Fieldwork conducted by the Fenland Survey project has also established the presence of several Iron Age occupation sites and debris along the fen-edge and slightly higher ground in the Ely environs (Hall 1996: 35). Of note within the wider fen-edge surrounding Ely several Bronze Age artefacts, including spears, swords and axes, have been recovered during drainage works and as chance finds (see Evans 2002; Fox 1923). The discovery of these items, albeit it rare, draws attention to the known phenomenon of acts of deposition within wet and fen-edge environments during the Bronze and Iron Age; however, there is a very low probability of encountering similar objects within the PDA, especially those areas where there has already been ground disturbance.

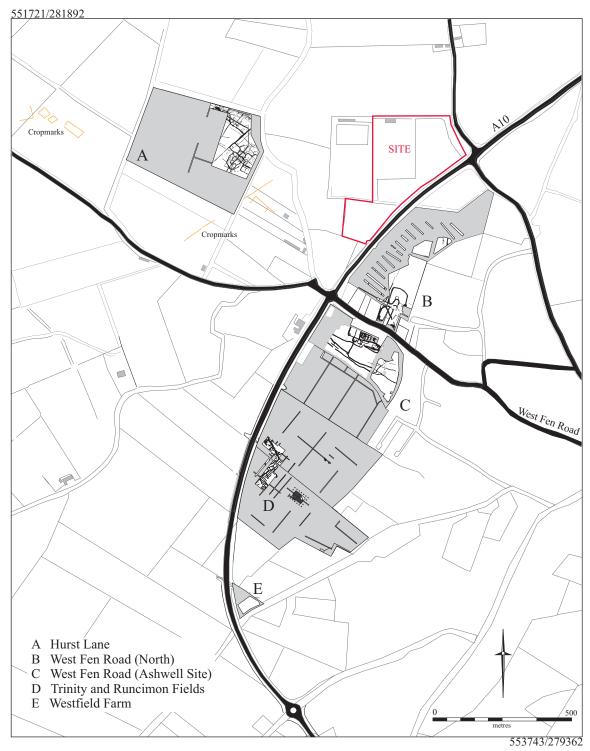


Figure 4. Previous archaeological investigations (showing Iron Age and Roman features)

Using the 0.3km interval and elevation model and the known archaeological characteristics for prehistoric settlement along the western edge of Ely, it is more likely that the site, with several large enclosures, sub-enclosures and 12 roundhouses and structures, at Hurst Lane reservoir (Evans *et al.* 2007) represents the main middle and later Iron Age settlement focus in this area, with less dense occupation located beside West Fen Road¹. At this latter site evidence for a large oval enclosure, substantial ditches and a further southern enclosure were found with pottery dating from the 3rd to 2nd centuries BC; some later Iron Age and Roman pottery sherds were recovered from the upper fills of features suggesting this site may have persisted into the mid 1st century AD (Mudd 2000). It is probable therefore, that further evidence of settlement activity dating from the prehistoric period will be encountered within the PDA due to its location between these two sites. Determining the character of these features is problematic ahead of any proposed excavation, but these are more likely to be field and enclosure boundaries, drainage ditches and evidence of manuring, with a lower probability of structures being discovered.

The excavations at Hurst Lane reservoir and West Fen Road have also established that the nature of Romano-British activity in this area was limited, consisting primarily of field boundaries and possible enclosures that did not respect the earlier Iron Age system (Evans *et al.* 2007). These features may thus represent elements of an outfield system consisting of paddocks and fields, with more dense occupation located towards the historic core of the city and eastern margin (see Hall 1996: 36). Located at a similar elevation to these sites and the presence of field boundaries and enclosures within the study area dating to the Romano-British period, the discovery of similar features within the PDA cannot be entirely discounted.

The early Saxon and Medieval archaeology that has been revealed within the study area suggests low-level activity limited to ridge and furrow, headlands and the presence of field and enclosure boundaries. This evidence lies within the defined limits of this assessment and, as with the case of the Iron Age evidence from Hurst Lane reservoir also falling outside of the study area, potentially excludes the Saxon and Medieval settlement at the *Ashwell Site* (see Figures 2 & 4), immediately south of West Fen Road (Mortimer *et al.* 2005). Excavated in 1999 and 2002, mid and late Saxon and Medieval settlement activity dating from the 8th to 15th century AD was revealed and included delineated property boundaries. The longevity of the settlement attested to its stability and probably provided food and other services to the monastic community and later abbey and Bishops of Ely. Although persisting for some 800 years, the lack of imported pottery, high value metalwork and coinage suggests this was not a high status settlement (*ibid.*). The extent of the settlement is unknown, but it is likely the features dating from this period north of West Fen Road (Mudd 2000; Saunders 2003a & 2003b) are almost certainly part of the same complex.

At Westfield Farm, c. 1.5km south of the PDA (Figure 4), the recent discovery of a high status Saxon burial (Newman 2007) further highlights the use of the western edge of Ely during the Medieval period, with further cemetery evidence known from Witchford aerodrome and along Witchford Road (Mortimer et al. 2005: 3), southwest of Ely, and also a cemetery found in 1959 during a housing development north of the city centre dating from the 6th century AD (Hall 1996: 36). These cemeteries are located at much higher elevations than the PDA, located along the central spine of the former island. As such, the cemeteries provide

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¹ West Fen Road is of post-Roman origin and probably bisects the southern margin of the Iron Age settlement here (Mortimer *et al.* 2002, Hindmarch & Master 1998).

proxy evidence that supports a greater density of occupation of Ely during this period. With the possible exception of finding further field boundaries and drainage ditches, the potential for discovering similar settlement and cemetery related features within the PDA is low, but cannot be entirely excluded; evidence for drainage ditches, *reeves*, and exploitation of the fenedge, including turberies and inter-commoning is recorded throughout the Medieval period, in addition to large-scale fowling and eel fishing (Darby 1974), until the large-scale drainage programmes of the 17th to 19th centuries.

Post-Medieval activity within the study area is confined to the smock mill located on the Downham Road, potential ridge and furrow and the post-drainage landscape. Features related to agricultural and drainage activity may thus be encountered within the PDA, possibly truncating or disturbing earlier archaeological evidence.

1.7 Conclusion

The proposed development area lies within a rich archaeological and historical environment with evidence of activity from the Neolithic period to the present date. The known archaeological and historical land use would indicate a low to medium probability of surviving archaeology and artefacts associated with prehistoric to Romano-British settlement and agricultural activity within the PDA. The potential for encountering surviving archaeology also increases towards the eastern, higher zones of the PDA. Evidence for Medieval and later field boundaries and drainage ditches may be encountered.

The identification of Medieval field systems and settlement evidence south and adjacent to the proposed development area also cannot exclude the possibility of surviving archaeological features being encountered dating from this period within the PDA and may include evidence relating to fowling and eel-trapping. The construction of the present sports facilities may also have severely truncated any archaeological features in areas disturbed by building foundations and associated utilities and services, thus further reducing the potential for encountering such features.

2. GEOPHYSICAL SURVEY

Alistair Bartlett

2.1 Introduction

This geophysical survey fieldwork was carried out on 2nd – 4th March 2009.

The evaluation area covers two fields, which are currently pasture (as labeled on Figure 7), and a narrow strip of land to the north of field 2. The total area of the survey is 6ha.

Geology and topography

The site is on an underlying geology of Kimmeridge Clay. Boulder Clay drift deposits extend from the vicinity of the site to the north and east, but it is unclear whether they are present within the site itself (although the survey findings suggest glacial drift may be present: see below).

The strength of response from a magnetometer survey varies with the soil properties and underlying geology, but sites on a bedrock from the Jurassic sequence appear in general to provide favourable conditions for magnetometer surveying. This is particularly the case on the limestones (Oolitic, Corallian), but surveys have also been satisfactorily undertaken on Jurassic clays, including other Kimmeridge Clay sites in Cambridgeshire and elsewhere.

Boulder Clay, if present at the Ely site could perhaps have some influence on the results (glacial deposits often include naturally magnetic stones, which may be detected). This does not exclude the possibility of identifying archaeological features, and numerous productive surveys have been done at such sites. One recent example was the Coton water pipe route surveyed for CAU near Cambridge in 2008. This produced clearly defined findings subsequently confirmed by excavation.

2.2 Survey Procedure

Magnetometer survey

Readings for the magnetometer survey were collected using Bartington 1m fluxgate magnetometers, and are plotted at 25cm intervals along transects 1m apart. The results of the survey are shown as a grey scale plot at 1:2000 scale in Figure 5, and as a graphical (x-y trace) plot in Figure 6. These display the detected magnetic anomalies in plan and profile respectively. The x-y plots represent the readings after minimal pre-processing operations. These include adjustment for irregularities in line spacing caused by heading errors (direction sensitivity in the instrument zero setting), and truncation of extreme values. The grey scale plots show a processed version after additional low pass filtering to control background noise levels.

The magnetometer responds to cut features such as ditches and pits when they are silted with topsoil, which usually has a higher magnetic susceptibility than the underlying natural subsoil. It also detects the thermoremnent magnetism of fired materials, notably baked clay structures such as kilns or hearths, and so responds preferentially to the presence of ancient settlement or industrial remains. The readings are also strongly affected by ferrous and other debris of recent origin.

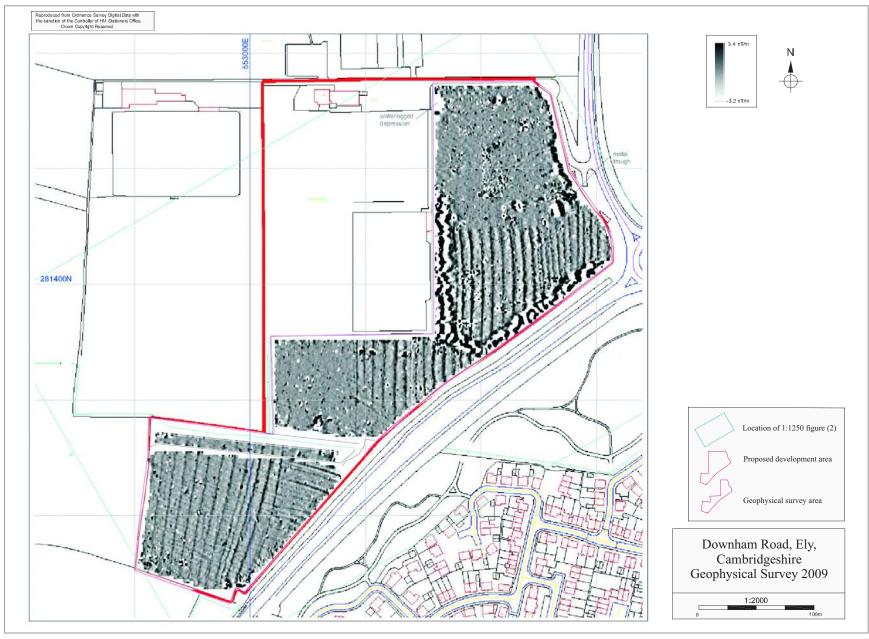


Figure 5. Location of Magnetometer Survey

Presentation

An interpretation of the findings is shown superimposed on the graphical plot (Figure 6), and is reproduced separately to provide a summary of the findings in Figure 7. Features as marked include a limited number of findings of potential (but perhaps doubtful) archaeological significance (in red). Magnetic anomalies which appear most probably to be of geological origin are outlined in orange/brown. Possible cultivation effects are shown on the plans in green, and pipes in blue. Land drains are indicated by broken brown lines, and selected ferrous disturbances are shown in a light blue.

Survey location

The survey was located by reference to a temporary site grid which was set out and tied to national grid co-ordinates by means of a differential GPS system.

Magnetic susceptibility survey

The magnetometer survey was supplemented by a background magnetic susceptibility survey with readings taken at 20m intervals using a Bartington MS2 meter and field sensor loop. Plots showing the readings before and after treatment with a median filter, which emphasises broad trends in the data, are inset in Figure 7.

Susceptibility surveying can provide a useful complement to a magnetometer survey, and indicates the strength of response which is likely to be obtained. It can also be used to provide a broad indication of previously occupied or disturbed areas in which burning associated with past human occupation has enhanced the magnetic susceptibility of the topsoil, although this cannot be relied upon, and the readings are more often affected by non-archaeological factors, including geology and land use.

2.3 Results

Magnetometer survey

The survey has detected a considerable number of subsurface features and disturbances, but many of them can be accounted for by cultivation effects and land drains, and only a few may be of possible archaeological interest.

The survey plans are dominated by strong parallel linear magnetic anomalies which extend across much of field 1, and all of field 2. (These are indicated by green outlines in the interpretation.) Parallel linear features can usually be assumed to be cultivation effects, and perhaps to represent traces of former ridge and furrow. A slight complication in this case is that the north-south linear magnetic anomalies in field 1 terminate at an intersecting diagonal linear feature at A (as shown in red and labelled on Figure 7). Such intersections of linear features are often a characteristic of land drains, which may form branching patterns in survey plots. The actual magnetic anomalies (as outlined) are, however, of a width and size which would be appropriate for silted cultivation furrows, and do not resemble typical drains.

Two magnetic anomalies which almost certainly represent land drains are indicated by broken lines at B and C in field 1. These show the alternating positive and negative responses to be

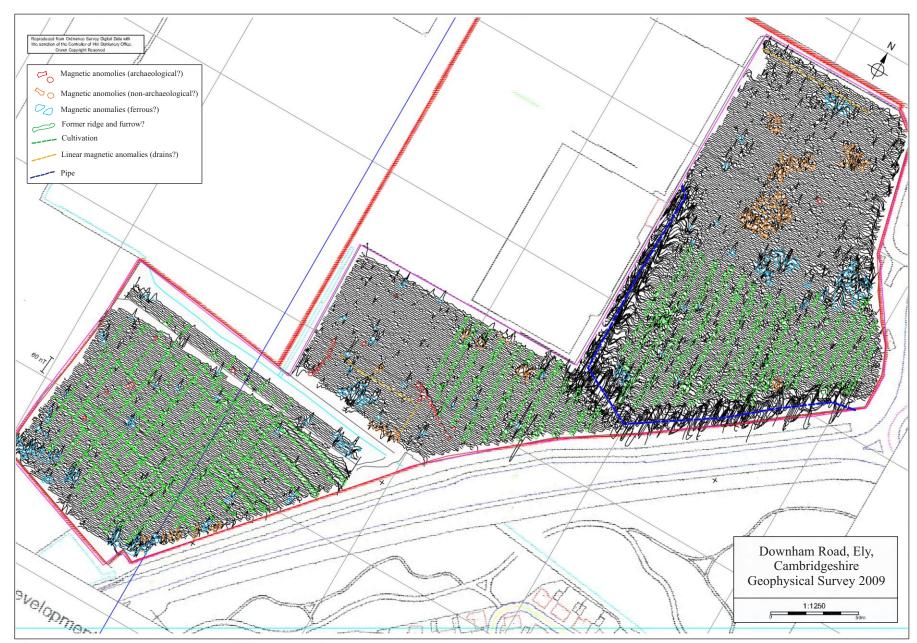


Figure 6. Magnetometer survey with interpretation

expected from the sections of a clay land drain. The likelihood, therefore, is that the broad linear features as mentioned above (outlined in green) represent ridge and furrow, rather than drains. The disturbances which terminate the ridge and furrow pattern at A could therefore be a former boundary or headland. The ridge and furrow presumably does not extend into the northern part of field 1, but no comparable visible boundary was detected at its northern termination.

A further sequence of east-west linear features was detected in field 2. These are weaker and narrower than the north-south magnetic anomalies, and are marked by broken green lines. They could perhaps be caused by relatively recent ploughing.

Other findings include clusters of small strong magnetic anomalies (as outlined in orange), particularly in the northern half of field 1, and most conspicuously around D. Disturbances of this kind are often seen on glacial drift deposits, and are likely to be caused by naturally magnetic stones in gravel or boulder clay. These findings would be consistent with the presence here of drift material as discussed previously, as least in the northern part of the site. A possible alternative explanation for clustered small magnetic anomalies is that they could represent a scatter of magnetic debris (e.g. iron working slag) of potential archaeological origin. A medieval or earlier industrial site would usually, however, be characterised by larger individual anomalies (representing kilns or hearths) as well as surrounding debris, and no such larger features are visible here. Strong individual magnetic anomalies were detected at E, F and G in the southern part of field 1, but these are well removed from the anomaly clusters around D.

Various strong magnetic anomalies which appear to be caused by ferrous objects are outlined in blue. These include individual spikes (as seen in the graphical plot, Figure 6) representing isolated individual objects, and more extensive disturbances associated with a trough, gate and boundary to the east of field 1. An iron pipe (indicated by a broken blue line) was detected close to part of the western and southern boundaries of field 1.

One further (very limited) category of findings consists of magnetic anomalies which may display some of the characteristics to be expected from archaeological features, and which are outlined in red. These include the possible former boundary at A, and another linear disturbance at H. This does not quite align with any of the (green) cultivation effects, and could be a ditch-like feature. The other findings shown in red are small magnetic anomalies with rounded profiles, which may be indicative of silted pits. The most distinct of these are at J and K in field 2. These features (and others) are scattered and isolated, and do not form groups or clusters which would suggest the site contains a focus or concentration of archaeological features or activity.

Magnetic susceptibility survey

The magnetic susceptibility data plots (as inset on Figure 7) confirm that the soil is sufficiently magnetic (with a mean topsoil susceptibility value of 17 x 10⁻⁵ SI) to respond well to a magnetometer survey (as is confirmed by the observed strength of the magnetic response to cultivation effects). High susceptibility readings (black shading) are concentrated towards the east of field 1 (as seen in the median filtered plot) but are otherwise randomly scattered (as seen in the initial data), and do not appear to relate to the distribution of other findings.

2.4 Conclusions

Conditions at the site appear, on the basis of the susceptibility readings, and the strength of detected magnetic anomalies, to be generally favourable for the magnetic detection of archaeological features. The actual survey findings, however, appear to consist largely of cultivation effects, and various natural or recent magnetic disturbances.

Findings which might serve as targets for further investigation could include the linear features (perhaps ditches) at A and H, and the pit-like magnetic anomalies at J and K. The strong magnetic anomalies at E, F, G might well be caused by items of recent debris, but this could perhaps be tested to exclude the possibility that they are of archaeological relevance. The small magnetic disturbances around D are thought to be natural, but the possibility that archaeological debris might also be present cannot wholly be excluded on the survey evidence alone.



Figure 7. Summary of findings

3. TRENCHED EVALUATION

Jacquie Hutton

3.1 Introduction

A programme of evaluation trenching took place between 24th March and 3rd April 2009, with aims both to assess the results of archaeological features that were highlighted by the geophysical survey and test the intervening areas where there were no obvious features. The geophysical survey had highlighted extensive coverage of features pertaining to Medieval ridge and furrow in addition to anomalous readings that could potentially highlight other archaeological features.

Fields 1 and 2 were subdivided into three areas; A, B and C (see Figure 9). Once the trenches were stripped, numerous linear features were uncovered largely on a different alignment to that of the ridge and furrows and which had not been seen in the geophysical survey. Following investigation it was shown that the majority of the features in Area A and Area B indicated a zone of Middle Saxon occupation with associated field systems, overlying a background presence of Iron Age and Romano-British activity. Area A also had evidence of an earlier agricultural system underlying the ridge and furrow but of uncertain date. Area C mostly contained medieval ridge and furrow in addition to a few undated linears.

Background

The PDA consists of 9.49 hectares of open pasture and playing fields. Only the pasture was available for investigation, an area of 6ha on a slightly sloping westward facing gradient. The highest point was 8.35m OD towards the northeast of Area C (Trench 21a), and the lowest was in Area B at 3.83m OD (Trench 10) and was 4.68m OD to the south in Area A (Trench 3). The lowest area is in the western part of Area B, here was a distinct layer of colluvium beneath the sub soil; colluvium is eroded and reworked soil that accumulates at foot-slope positions. The archaeological features recorded in this area were beneath this colluvial layer.

The most significant previous discoveries in the immediate locale are those at Hurst Lane 500m to the northwest of the current PDA where investigation revealed two Iron Age settlements consisting of structures and enclosures superimposed by a Romano-British field system (Evans *et al* 2006); to the south at West Fen Road where an intensely occupied settlement was revealed of Middle Saxon to medieval date (Mortimer *et al* 2005); other investigations carried out by Northamptonshire to the north of West Fen revealed features pertaining to the Iron Age and Middle Saxon periods (Mudd 2000).

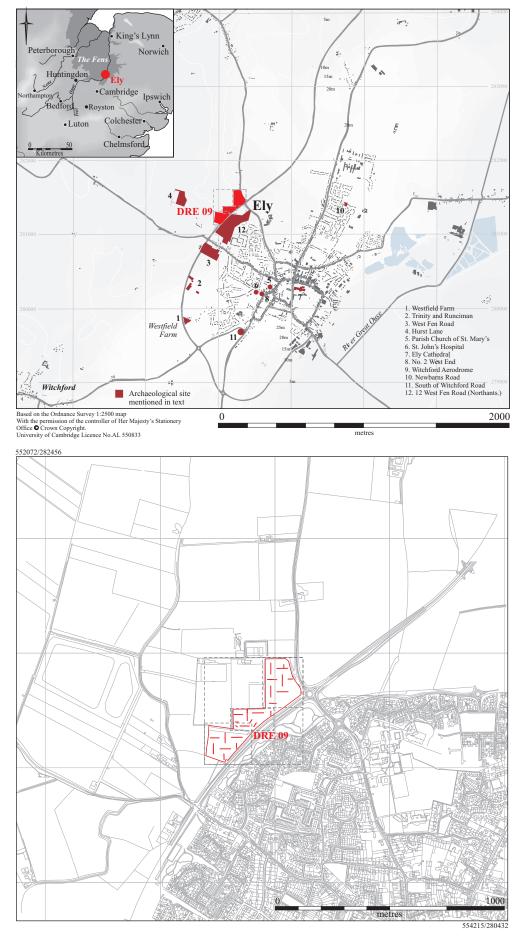


Figure 8. Site location

3.2 Methodology

In total 26 trenches of varying lengths (ranging from 10m to 49.50m) were machined; totalling 1753m² in area. The trenches were stripped to an archaeological level with a 360° tracked excavator with a toothless ditching bucket under careful supervision of an experienced archaeologist.

As a result of discussion in the field with the CAPCA officer it was agreed to minimally sample those features which were, based on the geophysics results, demonstrably part of the medieval ridge and furrow system.

The CAU modified version of the MoLAS recording system was used; features were planned at 1;50, with sections drawn at 1;10. Small pits and postholes were half sectioned, whilst linear feature were sampled at appropriate intervals. Archaeological features were assigned a unique number (e.g. **F.1**; bolded upon introduction within the text) and each stratigraphically distinct episode (e.g. a cut, a fill) was recorded with a unique context number (e.g. [001]).

All work was carried out with strict accordance with statutory Health and Safety legislation and with the recommendations of SCAUM and current national Health & Safety legislation. The trenches were CAT scanned for possible services prior to machining. The site was surveyed into the Ordnance Survey Grid and Ordnance Datum by means of a RTK GPS unit.

3.3 Excavation Results

The sampling strategy consisted of a systematic placement of trenches incorporating results provided from geophysical prospection. Trenches 8, 9, 11, 12 and 21b were specifically placed to sample the possible linear features highlighted by the survey. The two fields were separated into three areas; A, B and C although the trench numbers ran consecutively (see Figure 9) and the results will be discussed by area.

The depth of the topsoil, subsoil and colluvium horizons can be seen in Appendix 10. Two types of field drain was encountered throughout the evaluation and these were recorded when they were stratigraphically associated with recorded features. The water table was high to the northeast of Area A and the western part of Area B, resulting in several of the trenches being constantly underwater.

Although there were furrows evident throughout the area, there was no evidence of any surviving ridges. This suggests that the area has been heavily ploughed in the past.

Area A

This area had seven trenches and all contained archaeological features spanning several periods. The trenches ranged between 24.50m and 48.00m in length and uncovered an area totalling 498.78m². The thickness of the topsoil and subsoil to the west of the area (Trenches 1-5 were relatively shallow; average depth of topsoil was 0.30m deep; subsoil averaged 0.20m deep. (See Appendix 10). However, in Trench 7 the subsoil was much deeper, up to 0.56m deep, with an overburden of topsoil averaging 0.40m deep. This resulted in the base level of the trenches being below the level of the water table.

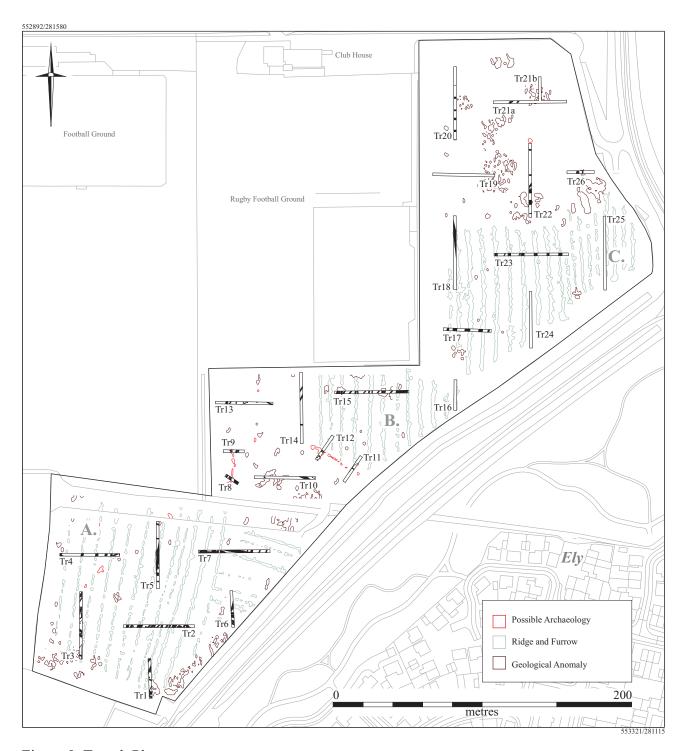


Figure 9. Trench Plan.

Potential archaeological features suggested by the geophysical survey of ridge and furrow in nature, were evident during the evaluation. However, these features had 'masked' numerous additional linear and discrete features of an earlier date.

Trench 1

Trench 1 was 26.60m in length and orientated north - south. It contained ten features; seven of which were linear (**F.1**, **F.2**, **F.3**, **F.4**, **F.5**, **F.10** and 1 unnumbered) and three pits (**F.7**, **F.8**, **F.9**). Four linears (**F.4**, **F.2**, **F.3**, unnumbered) were on a northeast-southwest orientation and two (**F.5**, **F.6**) were on a northwest-southeast orientation. **F.7**, a pit in the centre of the trench, contained Middle Saxon pottery and bone. Pit **F.8** also contained Middle Saxon pottery and pit **F.9** contained Iron Age and Romano-British pottery and butchered ovicaprid bones. Pits **F.8** and **F.9** were cut by **F.10**, a linear, that contained Iron Age pottery in addition to a bone comb fragment that was Romano-British in style. This suggests a degree disturbance of the inter-cutting features resulting in the artefacts being mixed. The remaining features contained no diagnostic material culture.

F.1 was a linear on a northwest-southeast orientation that contained one fill. Fill [001]; firm to friable mid brown/grey clayey silt with occasional gravel inclusions. Cut [002]; steep convex sides with sharp break of slope and flat base. Maximum width 0.28m, maximum depth 0.20m.

F.2 was a field drain.

F.3 was a linear on a northeast-southwest orientation that contained one fill. Fill [006]; firm to friable mid brown/grey clayey silt with rare gravel inclusions. Cut [007]; moderately sloping concave sides with concave base. Maximum width 0.48m, maximum depth 0.18m.

F.4 was linear on a northeast-southwest orientation that contained one fill. Fill [008]; firm mid yellow/grey clayey silt with moderate gravel inclusions. Cut [009]; moderately sloping concave sides with slight convex step on the SE cut with concave base. Maximum width 0.89m, maximum depth 0.18m.

F.5 was a linear on a northwest-southeast orientation that contained two fills and one re-cut. Fill [010]; firm mid grey clayey silt with moderate gravel inclusions. Re-cut [011]; moderately steep concave sides with moderate break of slope and concave base. Fill [012]; soft mid orange/grey clayey silt with moderate gravel inclusions. Cut [013]; sloping straight sides with gradual break of slope and shallow concave base. Maximum width 0.72m, maximum depth 0.21m.

F.6 was a linear on a northwest-southeast orientation that contained two fills. Fill [014]; firm mid brown/grey clayey silt with moderate gravel inclusions. Fill [015]; firm light brown/grey silty clay with occasional gravel inclusions. Cut [016]; steep concave sides with moderate break of slope and shallow concave base. Maximum width 0.85m, maximum depth 0.35m.

F.7 was a circular pit that contained one fill. Fill [017]; soft to firm mid brown/grey clayey silt with moderate gravel inclusions. Cut [018]; steep straight to concave sides with moderate break of slope and uneven concave base. 0.55m x 0.47m wide and 0.27m deep.

F.8 was a sub-circular pit that contained nine fills. Fill [031]; firm to friable mid grey/brown clayey silt with occasional flecks of charcoal. Fill [032]; friable mottled light to dark grey and brown/orange silty clay. Fill [033]; friable mid brown/grey clayey silt. Fill [034]; firm mid brown/orange clayey silt with patches of orange sand. Fill [035]; mottled light grey and orange/brown silty clay with rare gravel inclusions. Fill [036]; firm mid orange/brown fine sandy clayey silt with lenses of orange brown sand. Fill [037]; mottled mid grey/brown clayey silt and orange/brown sand with rare gravel inclusions. Fill [038]; firm grey/orange clay. Fill [039]; firm mottled light grey and orange/red clay. Cut [040]; moderately steep straight sides with moderate break of slope and concave base. 1.00m+ x 1.66m wide and 0.88m deep.

F.9 was a sub-circular pit that contained four fills. Fill [026]; firm to friable mid grey/brown clayey silt with rare flecks of charcoal. Fill [027]; firm to friable brown/grey silty clay with rare flecks of charcoal. Fill [028]; firm to friable mottled orange and yellow/brown silty clay with rare flecks of charcoal. Fill [029]; mottled light grey and brown clay with rare flecks of charcoal. Cut [030]; steep concave sides with moderate break of slope and concave base. 1.25m x 1.48m wide and 0.65m deep.

F.10 was a linear on a northwest-southeast orientation that contained 6 fills. Fill [019]; firm to friable mid grey/brown clayey silt with rare gravel inclusions and rare flecks of charcoal. Fill [020]; firm to friable mottled yellow/brown and grey/brown sandy clay. Fill [021]; firm dark grey charcoal rich silt. Fill [022]; firm mid grey clayey silt with rare flecks of charcoal. Fill [023]; firm to friable mottled grey and yellow/brown clay and sandy silt. Fill [024]; firm to friable dark grey clayey silt with occasional gravel inclusions and frequent flecks of charcoal. Cut [025]; moderately sloping concave sides and concave base. Maximum width 1.47m, maximum depth 0.35m.

Trench 2

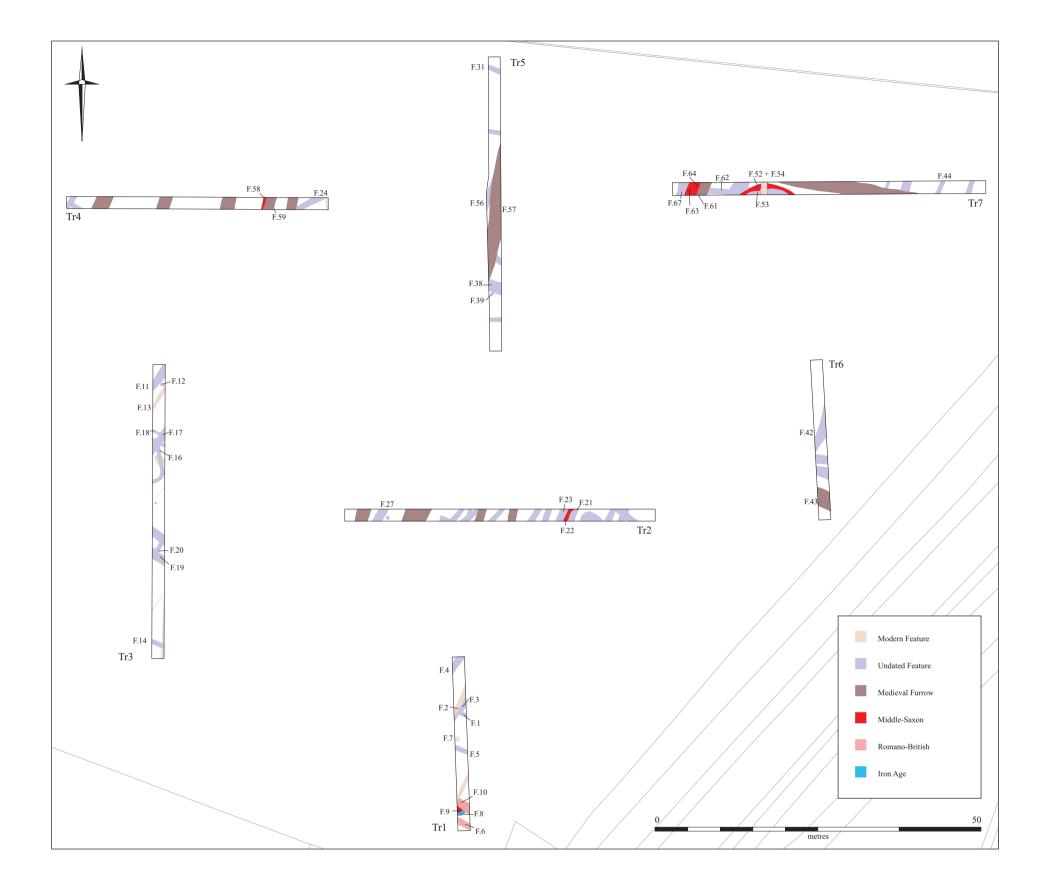
Trench 2 was 47.50m in length and was orientated east - west. It contained 20 archaeological features; 12 linears (**F.21**, **F.22**, **F.23**, **F.27** and eight unnumbered), five furrows (unnumbered) and two discrete features (unnumbered). Eleven of the linears (**F.21**, **F.22**, **F.23**, **F.27** and seven unnumbered) were predominantly on a northeast-southwest orientation, the remaining linear (unnumbered) was on a northwest-southeast orientation. The five furrows were on a north-south orientation, two were sampled including **F.21**. Three of the linear features were sampled (**F.22**, **F.23** and **F.27**). **F.22** contained pottery dated to the Middle Saxon period and is on the same alignment as **F.62** in Trench 7 that also contained Middle Saxon pottery.

- **F.21** was a linear on a north-south orientation that contained two fills. Fill [063]; firm mid orange/brown sandy clay with occasional gravel inclusions. Fill [064]; mid to dark grey./brown clayey silt with occasional gravel inclusions and rare flecks of charcoal. Cut [065]; moderately steep sides, concave on west cut and shallow convex on east cut with moderate break of slope and concave base. Maximum width 1.05m, maximum depth 0.28m.
- **F.22** was a linear on a north-south orientation that contained one fill. Fill [066]; mid grey/brown clayey silt with occasional gravel inclusions and rare flecks of charcoal. Cut [067]; moderately steep concave sides with moderate break of slope and flat base. Maximum width 0.60m, maximum depth 0.45m.
- **F.23** was a linear on a north-south orientation that contained two fills. Fill [068]; mixed mid grey/brown clayey silt and yellow sand with rare gravel inclusions. Fill [069]; firm blue clay with orange staining. Cut [070]; moderately sloping convex sides with gradual break of slope and flat base. Maximum width 1.43m, maximum depth 0.38m.
- **F.27** was a linear on a northeast-southwest orientation that contained one fill. Fill [080]; soft mid mottled grey/brown and orange sandy silt with occasional stone inclusions. Cut [081]; moderately steep straight sides with very sharp concave base. Maximum width 1.22m, maximum depth 0.39m.

Trench 3

Trench 3 was 45.00m in length and was orientated north – south. It contained 11 features; nine linears (F.11, F.13, F.14, F.16, F.17, F.18, F.19, F.20 and 1 unnumbered) and two discrete features (F.12, F.15). Eight features were sampled. Four linears were on a northeast-southwest orientation (F.11, F.13, F.17 and F.20); three were more northwest-southeast orientated (F.14, F.18 and F.19). The remaining linear, F.16 was predominantly on a north-south orientation, terminating to the north, whilst curving approximately 85 degrees to the west and continuing out of the trench. Fish scales were recovered from the environmental sample. Fragments of slag were recovered from F.18 where stratigraphically it was the earliest feature.

F.11 was a linear on a northeast-southwest orientation that contained one fill. Fill [041]; sticky dark brown/grey silt with occasional stone inclusions and moderate flecks of charcoal. Cut [042]; moderately steep concave sides with moderate break of slope and flat base. Maximum width 1.10m, maximum depth 0.25m.



- **F.12** was a circular pit that contained one fill. Fill [043]; firm mid brown clayey silt with occasional pebble inclusions and occasional flecks of charcoal and chalk. Cut [044]; steep near vertical straight and concave sides with moderate break of slope and concave base. 0.55m x 0.50m wide and 0.35m deep.
- **F.13** was a linear on a northeast-southwest orientation that contained one fill. Fill [045]; firm mottled mid brown/grey silt and orange sand with occasional stone inclusions. Cut [046]; moderately steep concave sides with slightly sharp concave base. Maximum width 0.40m, maximum depth 0.15m.
- **F.14** was a linear on a northwest-southeast orientation that contained one fill. Fill [047]; mid dark brown/grey silty clay with occasional flecks of charcoal and chalk inclusions. Cut [048]; sloping concave sides more steep on the NE cut with concave base. Maximum width 0.58m, maximum depth 0.13m.
- **F.15** was a circular posthole that contained one fill. Fill [049]; mid grey silty clay with rare stone inclusions and frequent flecks of chalk and occasional flecks of charcoal. Cut [050]; steep straight sides with sharp concave base. 0.32m x 0.27m wide and 0.17m deep.
- **F.16** was a linear on a north-south orientation that contained one fill. Fill [051]; mid to dark brown/grey silty clay with frequent stone inclusions and flecks of charcoal. Cut [052]; terminal, sloping concave sides with concave base. Maximum width 0.53, maximum depth 0.11m.
- **F.17** was a linear on a northeast-southwest orientation that contained three fills. Fill [053]; mid to dark brown/grey silty clay with rare stone inclusions and occasional flecks of charcoal and moderate flecks of chalk. Fill [054]; mid orange/brown gravelly silty clay with occasional flecks of charcoal. Fill [055]; mid orange/brown gravelly silty clay with occasional flecks of charcoal. Cut [056]; sloping to moderately steep straight sides with moderate break of slope and flat base. Maximum width 1.21m, maximum depth 0.25m.
- **F.18** was a linear on a northwest-southeast orientation that contained one fill. Fill [057]; mid brown/grey silty clay with occasional flecks of charcoal and moderate flecks of chalk. Cut [058]; moderately steep concave sides with moderate to sharp break of slope and concave base. Maximum width excavated 0.20m, maximum depth 0.10m.
- **F.19** was a linear on a northwest-southeast orientation that contained one fill. Fill [059]; mid dark brown/grey silty clay with moderate stone inclusions and occasional flecks of charcoal and chalk. Cut [060]; moderately sloping straight sides with moderate break of slope and flat base. Maximum width excavated 0.53m, maximum depth 0.25m.
- **F.20** was a linear on a northeast-southwest orientation that contained one fill. Fill [061]; mid orange/brown silty clay with moderate stone inclusions and occasional flecks of charcoal and chalk. Cut [062]; moderately steep sides with moderate break of slope and concave base. Maximum width excavated 0.30m, maximum depth 0.17m.

Trench 4

Trench 4 was 40.00m in length and was orientated east – west. It contained eight features, five furrows (**F.59** and four unnumbered) on a north-south orientation and three other linears. (F.24, F.58 and one unnumbered). **F.58** contained pottery dated to the Middle Saxon period and was cut by furrow, **F.59**.

- **F.24** was a linear on a northeast-southwest orientation that contained two fills. Fill [071]; firm mid grey/brown clayey silt with rare gravel inclusions. Fill [072]; firm light grey/brown silty clay. Cut [073]; moderately sloping straight sides with moderate break of slope and uneven flat base. Maximum width 0.77m, maximum depth 0.24m.
- **F.58** was a linear on a northeast-southwest orientation that contained three fills. Fill [158]; firm mid to dark brown/grey clayey silt with occasional stone inclusions and moderate flecks of charcoal. Fill [159]; firm mid orange/brown gravelly clayey silt. Fill [161]; firm mid blue/grey silty clay with occasional stone inclusions and rare flecks of charcoal. Cut [160]; moderately sloping convex sides with moderate break of slope and concave base. Maximum width 0.84m, maximum depth 0.30m.
- **F.59** was a linear on a northeast-southwest orientation that contained one fill. Fill [162]; firm mid grey/brown clayey silt with rare stone inclusions. Cut [163]; gradual sloping concave sides with gradual break of slope and flat base. Maximum width 1.30m, maximum depth 0.21.

Trench 5

Trench 5 was 45.50m in length and was orientated north – south. It contained eight features; six linears (**F.31**, **F.32**, **F. 38**, **F.56**, and two unnumbered), one furrow (**F.57**) and one posthole (**F.39**). The furrow, **F.57** contained material culture (pipe stems, glass and tile) dated to the Post-Medieval period. This cut linear (**F.56**) on a northeast-southwest orientation where the profile was similar to those with Middle Saxon pottery. Linears **F.38** and **F.31** had burnt clay, flint and bone artefacts recovered and to the south of the trench, a posthole (**F.39**) was adjacent. **F.38** was a field drain that cut across **F.32**.

- **F.31** was a linear on a northwest-southeast orientation that contained two fills. Fill [102]; firm mid brown/grey clayey silt. Fill [103]; mid grey/brown clayey silt. Cut [104]; moderately steep concave sides with moderate break of slope and flat base. Maximum width 0.70m, maximum depth 0.25m.
- **F.32** was a linear on a northwest-southeast orientation that contained two fills. Fill [105]; firm mid brown/grey clayey silt with occasional gravel inclusions. Fill [106]; firm mid orange/grey/brown clayey silt with frequent gravel inclusions. Cut [107]; moderately sloping shallow convex sides with gradual break of slope and flat base. Maximum width 1.80m, maximum depth 0.35m.
- **F.39** was a sub-circular posthole that contained one fill. Fill [110]; firm mid brown/grey clayey silt with rare stone inclusions. Cut [111]; straight near vertical sides with moderate to sharp break of slope and concave base. 0.40m x 0.30m wide and 0.28m deep.
- **F.56** was a linear on a northeast-southwest orientation that contained one fill. Fill [154]; firm mid grey/brown silty clay with moderate stone inclusions and rare flecks of charcoal. Cut [155]; sloping straight sides with gradual break of slope and flat base. Maximum depth 0.32m.
- **F.57** was a linear on a northeast-southwest orientation that contained one fill. Fill [156]; soft dark brown/grey clayey silt with rare stone inclusions. Cut [157]; moderately steep concave sides with gradual break of slope and concave base. Maximum depth 0.26m.

Trench 6

Trench 6 was 24.50m in length and was orientated north – south. It contained four features, three linears (**F.42** and two unnumbered) and one furrow (**F.43**). The northern end of the trench was much deeper and became flooded. **F.43** was a furrow although it contained residual pottery dated to the Middle Saxon period. Linear **F.42** may continue into Trench 7 and be related to **F.66**.

- **F.42** was a linear on a northeast-southwest orientation that contained one fill. Fill [117]; firm to friable mid brown/grey silty clay with rare stone inclusions. Cut [118]; moderately sloping straight to convex sides with gradual break of slope and concave base. Maximum width 1.35m, maximum depth 0.54m.
- **F.43** was a linear on a northwest-southeast orientation that contained one fill. Fill [119]; soft to firm mid to dark grey/brown silty clay with occasional stone inclusions. Cut [120]; gradually sloping concave sides with shallow break of slope and flat base. Maximum width

 2.62m, maximum depth 0.28m.

Trench 7

Trench 7 was 48.00m in length and orientated east – west. it contained eleven features; eight were sampled. These consisted of eight linears (, one furrow and one curved linear that could possibly represent a round house and had been re-cut (**F.52** and **F.54**). Both F.52 and F.54 contained pottery dated to the Middle Saxon period as well as **F.63**. **F.62** contained Iron Age pottery. The topsoil and subsoil was much deeper in this trench, especially towards the eastern end where it was 0.98m in depth. Linear **F.44** contained one piece of flint and was probably residual. Linear **F.53** was probably the continuation of linear F.63. Linear **F.55** was a furrow.

- **F.44** was a linear on a northwest-southeast orientation that contained one fill. Fill [121]; firm mid grey/brown clayey silt. Cut [122]; shallow concave sides and shallow concave base. Maximum width 0.51m, maximum depth 0.05m.
- **F.52** was a linear on an eastnortheast-westsouthwest orientation that contained one fill. Fill [133]; firm mid red/brown/grey silty clay with occasional stone inclusions and occasional flecks of charcoal. Cut [134]; moderately steep concave sides with moderate break of slope and shallow concave base. Maximum width 0.96m, maximum depth 0.40m.
- **F.53** was a linear on an east-west orientation that contained three fills. Fill [135]; mottled orange/grey and mid brown/grey silty clay with occasional stone inclusions and occasional flecks of charcoal and chalk. Fill [136]; mid to dark grey silty clay with moderate stone inclusions and occasional to moderate flecks of charcoal and chalk. Fill [137]; mid blue/brown/grey clay with occasional stone inclusions and rare flecks of charcoal. Cut [138]; moderately steep convex sides with moderate break of slope and concave base. Maximum width excavated 0.46m, maximum depth 0.53m.
- **F.54** was a linear on an east-west orientation that contained one fill. Fill [139]; dark grey/black silty clay with occasional stone inclusions and moderate pieces and flecks of charcoal and red/brown burnt clay flecks. Cut [140]; moderately steep concave sides with gradual break of slope and concave base. Maximum width 0.84m, maximum depth 0.26m.
- **F.55** was a linear on a northwest/southeast orientation that contained one fill. Fill [152]; firm mid grey/brown clayey silt. Cut [153]; moderately steep straight sides with moderate break of slope and flat to convex base. Maximum width 1.06m, maximum depth 0.20m.
- **F.61** was a linear on a northnortheast-southsouthwest orientation that contained three fills. Fill [167]; firm mid dark grey silty clay with rare stone inclusions and occasional flecks of charcoal and rare flecks of chalk. Fill [168]; mid brown/grey silty clay with occasional sandy patches and rare stone inclusions and flecks of charcoal. Fill [169]; mixed orange sandy gravel with blue/grey clay and rare flecks of charcoal. Cut [170]; steep concave sides with gradual break of slope and concave base. Maximum width excavated 0.27m, maximum depth 0.48m.
- **F.62** was a linear on a northnortheast-southsouthwest orientation that contained two fills. Fill [171]; firm mid to dark brown/grey clayey silt with rare stone inclusions and rare flecks of charcoal. Fill [172]; mid orange/brown sandy clayey silt with rare stone inclusions. Cut [173]; moderately steep sides, concave on west cut and stepped convex on the east side with moderate break of slope and flat base. Maximum width 1.54, maximum depth 0.43m.
- **F.63** was a linear on a northwest-southeast orientation that contained three fills. Fill [174]; firm dark grey silty clay with rare flecks of charcoal and chalk. Fill [175]; firm mid to dark green/grey sandy silty clay with rare stone inclusions and rare flecks of charcoal. Fill [176]; light to mid brown/orange sandy silt with occasional stone inclusions. Cut [177]; rounded terminal with moderately steep concave sides with moderate break of slope and flat base. Maximum width 0.51m, maximum depth 0.56m.
- **F.64** was a linear on a northnortheast-southsouthwest orientation that contained one fill. Fill [178]; mid brown/grey silty clay with occasional stone inclusions and occasional flecks of charcoal. Cut [179]; gradual sloping straight side with gradual break of slope and flat base. Maximum width excavated 0.57m, maximum depth 0.11m.

Area B

This area contained nine trenches of varying length; ranging from 10.00m to 49.50m. The width of the trenches was 1.80m and combined the area uncovered was 470.70m². Eight of the trenches (T.8-T.10, T.12-T.15) contained archaeological features; the remaining trench (T.11) contained a Post-Medieval ditch. Trench 9 was position to investigate one of the anomalies identified in the geophysical survey, as were T.11 and T.12.

Evidence of colluvium was located in four trenches; T.9, T.10, T.12 and T.13. This suggested that the natural underlying this area was low lying and possible represented a 'hollow' where the eroded soil from the slope accumulated and overlay archaeological features. The topsoil

depth over this area was fairly consistent and was 0.30m deep on average. The subsoil varied slightly, averaging 0.28m depending on the presence of colluvium, which averaged about 0.60m in depth. The presence of colluvium coincided with the high level of the water table resulting in Trenches T.8, T.9, T.10, T.12, T.13, T.14 and in particular T.13, was rapidly flooded. Pumping out the water was problematic in Trenches T.12 and T.13 and as a result only a single feature could be sampled.

Trench 8

Trench 8 was 10.00m in length and was orientated northwest - southeast. It contained three linear features; two linears (**F.29** and one unnumbered) and one furrow (unnumbered). **F.29** contained pottery dated to the Middle Saxon period.

F.29 was a linear on northeast-southwest orientation that contained three fills. Fill [086]; firm mid to dark grey silty clay with occasional stone inclusions and frequent flecks of charcoal and moderate flecks of chalk. Fill [087]; firm mid brown/grey silty clay with occasional stone inclusions and occasional flecks of charcoal and chalk. Fill [088]; mid grey silty clay with rare stone inclusions and flecks of charcoal. Cut [089]; moderately steep convex sides with a large step on the western side with sharp break of slope and flat base. Maximum width 1.77m, maximum depth 0.63m.

Trench 9

Trench 9 was 14.50m in length and was orientated east – west. It contained six features; three small pits (F.33, F.34, F.37), one linear (F.35) and one burnt layer (F.36). Small pits F.33, F.34 and F.37 were fairly shallow and produced no artefacts. Adjacent to linear F.35 was a layer of burning (F.36).

- **F.33** was a small sub-circular pit that contained one fill. Fill [092]; mid to dark mottled brown/grey/orange silty clay with moderate gravel inclusions and flecks of charcoal. Cut [093]; moderately steep concave sides with gradual break of slope and concave base. 0.57m x 0.49m wide and 0.17m deep.
- **F.34** was a small oval pit that contained one fill. Fill [094]; mid to dark mottled brown/grey/orange silty clay with moderate gravel inclusions and flecks of charcoal. Cut [095]; gradual concave sides and concave base. 0.73m x 0.49m wide and 0.15m deep.
- **F.35** was a linear on a north-south orientation that contained two fills. Fill [096]; firm to friable mottled mid blue/grey and brown/grey silty clay with rare gravel inclusions. Fill [097]; mottled light grey/orange clay with rare silt and occasional gravel inclusions. Cut [098]; moderately sloping concave sides with gradual break of slope and flat base. Maximum width 0.81m, maximum depth 0.23m.
- **F.36** was a layer of burning, [099]; burnt material and oxidised clay, pinkish red with carbonised organics within a clayey silt.
- **F.37** was a sub-circular pit that contained one fill. Fill [100]; mottled dark grey/black silty clay with occasional gravel inclusions and burnt stones. Cut [101]; moderately sloping straight sides with distinct convex base. 0.55m x 0.41m wide and 0.09m deep.

Trench 10

Trench 10 was 41.00m in length and was orientated east – west. It contained five features; two small pits/postholes (**F.25** and one unnumbered), at least two linears (**F.26**) and one tree bole. **F.25** was a small pit that produced pottery dated to the Middle Saxon period. Linear **F.26** produced no material culture although this linear cuts at least one more linear that is one the same orientation. There was material culture in the colluvium in the form of a few animal bones towards the centre area of the trench.

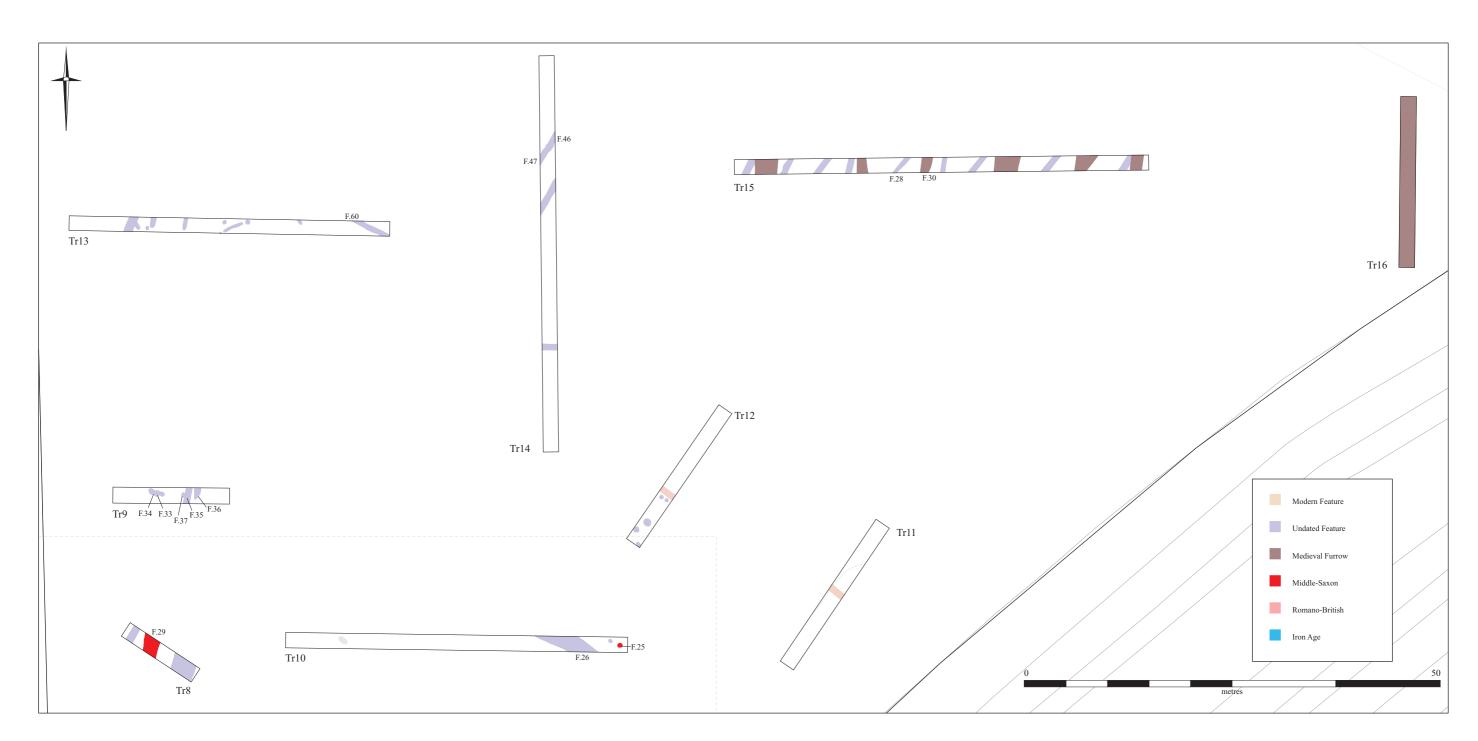


Figure 11. Phase Plan of Area B.

F.25 was a circular pit that contained two fills. Fill [074]; mid grey/brown silty clay with occasional stone inclusions and rare flecks of charcoal and chalk. Fill [075]; blue/orange/grey clay with rare flecks of charcoal. Cut [076]; moderately steep straight and concave sides with moderate to sharp break of slope with flat base. 0.52m x 0.49m wide and 0.16m deep.

F.26 was a linear on a northwest-southeast orientation that contained two fills. Fill [077]; mottled mid brown/orange and grey silty clay with occasional stone inclusions and rare flecks of charcoal. Fill [078]; mid grey/blue clay with occasional orange sandy patches. Cut [079]; moderately steep convex sides with gradual break of slope and concave base. Maximum width excavated 0.94m, maximum depth 0.47m.

Trench 11

Trench 11 was 20.50m in length and was orientated northeast – southwest. No archaeological features were observed, although a Post-Medieval drainage ditch was recorded that contained bricks and rubble. This ditch continued into Trench 12 and was probably the anomaly that was highlighted in the geophysical survey.

Trench 12

Trench 12 was 19.50m in length and orientated northeast – southwest. It contained five postholes that are probably associated with the pits/postholes at the eastern end of Trench 10. Due to the height of the water table, especially at the southern end, the features could not be sampled. The Post-Medieval drainage ditch previously recorded in Trench 11 continues in this trench on a northwest-southeast orientation.

Trench 13

Trench 13 was 38.50m in length and was orientated east – west. It contained ten features; five linear features and five small pits/postholes. Due to the nature of the water table in this area, the trench was under approx 0.90m of water and made drainage difficult, hence only one feature was sampled; linear **F.60** towards the eastern end of the trench.

F.60 was a linear on a northwest-southeast orientation that contained two fills. Fill [164]; friable mid grey/brown silty clay with rare gravel inclusions. Fill [165]; mottled mid grey/brown and blue/grey clay with rare flecks of charcoal. Cut [166]; moderately steep straight sides with moderate break of slope and flat base. Maximum width 0.53m, maximum depth 0.21m.

Trench 14

Trench 14 was 47.50m in length and was orientated north – south. It contained three linear features; two were orientated northeast-southwest and the remaining linear was east-west orientation and could possibly represent a field drain. Linears **F.46** and **F.47** were conjoined and on the same orientation. These probably represented the continuation of early field system linears that were evident in Trench 15.

F.45 was a linear on a northeast-southwest orientation that contained one fill. Fill [123]; firm light grey/brown clayey silt with rare gravel inclusions. Cut [124]; moderately sloping straight sides with convex base. Maximum wide 0.44m, maximum depth 0.13m.

F.46 was a linear on a northeast-southwest orientation that contained one fill. Fill [125]; firm light grey/brown clayey silt with rare gravel inclusions. Cut [126]; moderately steep straight sides with sharp concave base. Maximum width 0.22m, maximum depth 0.13m.

F.47 was a linear on a northeast-southwest orientation that contained one fill. Fill [127]; firm light grey/brown clayey silt with rare gravel inclusions. Cut [128]; moderately sloping slightly convex sides with gradual break of slope and shallow concave base. Maximum width 0.64, maximum depth 0.15m.

Trench 15

Trench 15 was 49.50m in length and was orientated east – west. It contained seventeen linear features probably representing at least two phases of furrows. Eight were on a northeast-southwest orientation appeared to be an earlier phase of furrows (**F.28**) while seven on a north-south orientation appeared to be later (**F.30**). A further two linears were on a more north-south orientation.

F.28 was a linear on a northeast-southwest orientation that contained one fill. Fill [084]; mid orange/brown clayey silt with rare gravel inclusions. Cut [085]; moderately sloping concave sides with gradual break of slope and flat base. Maximum width 0.70m, maximum depth 0.15m.

F.30 was a linear on a north-south orientation that contained one fill. Fill [090]; firm mid orange/brown clayey silt with rare gravel inclusions. Cut [091]; moderately sloping concave sides with moderate break of slope and flat base. Maximum width 1.15m, maximum depth 0.14m.

Trench 16

Trench 16 was 20.50m in length and was orientated north - south. Most of the base was taken up by a single furrow also on a north-south orientation.

Area C

Area C included the highest point of the site and had evidence of uneven ground, particularly around the area of Trench 26, that could represent a headland. The subsoil in the area was fairly deep - 0.70m at the centre of the trench. Eleven trenches were machined; two were joined (Trenches T.21a and T.21b) with the total area uncovered 729.72m². Three trenches had no evidence of archaeological activity; Trenches T.19, T.24 and T.25. Trenches T.17 and T.18 consisted of linears that represented furrows on a rough north-south orientation. The remaining trenches had archaeological features pertaining to at least two phases of furrows and linears. The topsoil coverage in this area was fairly consistent and was averaging at 0.29m in depth. The subsoil was also fairly consistent in depth throughout the area averaging at 0.20m. There was very little material culture recovered in this area, which indicated a lack of earlier occupation in the immediate area.

Trench 17

Trench 17 was 32.00m in length and was orientated east - west and contained five furrows (unnumbered).

Trench 18

Trench 18 was 41.50m in length and was orientated north - south and contained a single furrow (unnumbered).

Trench 19

Trench 19 was 41.40m in length and was orientated east-west and contained no archaeological features.

Trench 20

Trench 20 was 49.00m in length and was orientated north-south and contained four furrows (unnumbered).

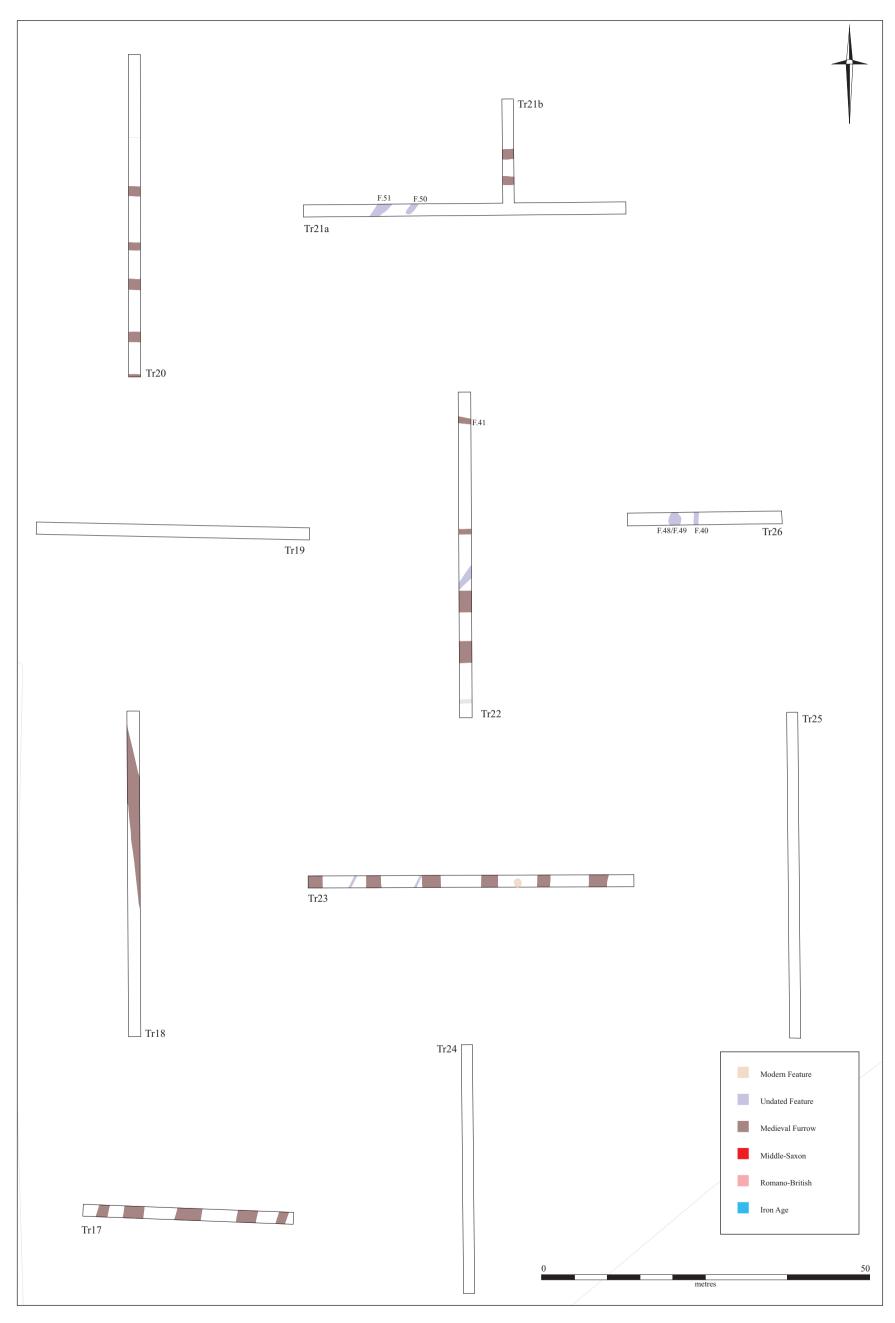


Figure 12. Plan of Area C.

Trenches 21b & 21b

Trench 21a was 49.00m in length and was orientated east – west. It contained two linear features on a northeast-southwest orientation. Linear **F.50** was the southern terminal of a linear and **F.51** was adjacent and evident in no other trench. Trench 21b was 16.00m in length and was orientated north-south and was conjoined to Trench 21a; contained two furrows (unnumbered).

F.50 was a linear on a northeast-southwest orientation that contained one fill. Fill [129]; firm mid orange/grey/brown silty clay with occasional stone inclusions and occasional flecks of charcoal. Cut [130]; moderately steep concave sides and gradual break of slope and concave base. Maximum width 0.75m, maximum depth 0.30m.

F.51 was a linear on a northeast-southwest orientation that contained one fill. Fill [131]; firm mid orange/grey/brown silty clay with occasional stone inclusions and occasional flecks of charcoal. Cut [132]; moderately sloping concave sides with gradual break of slope and flat base. Maximum width 1.66m, maximum depth 0.27m.

Trench 22

Trench 22 was 49.50m in length and was orientated north – south. It contained five linear features; four furrows on an east-west orientation; one linear (**F.41**) on a northeast-southwest orientation.

F.41 was a linear on a northwest-southeast orientation that contained one fill. Fill [115]; firm mid to dark grey/brown with moderate stone inclusions. Cut [116]; sloping concave sides with gradual break of slope and flat base. Maximum width 0.73, maximum depth 0.20m.

Trench 23

Trench 22 was 49.50m in length and was orientated east – west. it contained eight linear features (unnumbered); six were on a north-south orientation and probably represented the later phase of furrows; two were on a northeast-southwest orientation and probably represents the earlier phase of furrows. There was also one single pit that contained modern dumped material.

Trench 24

Trench 24 was 37.25m in length and was orientated north - south. It contained no archaeological features.

Trench 25

Trench 26 was 48.00m in length and was orientated north – south. It contained no archaeological features.

Trench 26

Trench 26 was 22.25m in length and was orientated east – west. It contained three archaeological features; one linear and two pits. The two pits, **F.48** and **F.49** were intercutting and contained very little artefactual evidence; a fragment of worked clay, bone and flint. Linear **F.40** was on a north-south orientation and contained no artefacts. The

overburden of topsoil and subsoil in this area was deep and the raised area could be seen on the ground, and could have formed some kind of headland.

F.40 was a linear on a north-south orientation that contained two fills. Fill [112]; firm mid blue/grey/brown clay with occasional flecks of charcoal, Fill [113]; firm mottled mid brown and orange silty clay with occasional angular stone inclusions. Cut [114]; moderately sloping slightly convex sides with moderate break of slope and shallow concave base.

F.48 was a sub-circular pit/well that contained five fills. Fill [141]; soft to firm mid to dark brown/grey clayey silt with rare stone inclusions. Fill [142]; soft mid to dark orange/brown sandy clayey silt with rare stone inclusions. Fill [143]; soft mid to dark orange/brown sandy clayey silt with rare stone inclusions. Fill [144]; firm light to mid green/blue silty clay with rare stone inclusions. Fill [145]; compact light green/blue clay. Cut [146]; very steep to vertical slightly convex sides with very sharp break of slope and flat base. 1.00m+ x 1.97m wide and 1.01m deep.

F.49 was a sub-circular pit that contained four fill. Fill [147]; soft to firm mid brown/grey sandy clayey silt with rare stone inclusions and rare flecks of charcoal. Fill [148]; soft and friable light yellow/orange silty sand. Fill [149]; mid to dark brown/grey sandy clayey silt with rare stone inclusions. Fill [150]; soft mid brown/orange sandy silty clay with rare stone inclusions. Cut [151]; moderately steep concave sides with gradual to moderate break of slope and flat base. 1.82m x 0.48m wide and 0.46m deep.

3.4 Discussion

The landscape on the western edge of the Isle of Ely has been utilised for several millennia and recent extensive excavations carried out within the immediate vicinity of the PDA have highlighted occupations dated from the Neolithic, Iron Age and Romano-British in addition to the Middle Saxon periods and through to the Medieval period (Evans *et al* 2006; Mortimer *et al* 2005; Mudd 2000). The overall results of the current evaluation provided evidence of occupation outside the medieval urban core of Ely, spanning from the Bronze Age through to the Medieval period.

Neolithic and Bronze Age activity within the local environs has been ephemeral and mainly identified through scatters of artefacts and occasional discrete features (Mortimer *et al* 2005). This was similar at Downham Road where the flint artefacts and the single piece of Bronze Age pottery are probably residual indicating a background prehistoric presence although there were no definitive associated features during this evaluation.

The presence of Iron Age, Romano-British and Middle Saxon pottery suggested a broadly continued occupation of the landscape from later prehistory onwards, though this does not necessarily indicated continued occupation of an identifiable settlement. The Iron Age and early Roman pottery suggested parallels and possible continuation of the settlement and field systems previously recorded at Hurst Lane and West Fen Road (Evans et al 2006). However no later Romano-British pottery was recovered during this evaluation.

Evidence from the faunal assemblage and environmental remains from Downham Road suggest that the archaeological features represent domestic occupation, predominantly dated to the Middle Saxon period. The presence of fish scales and large number of handmade coarsewares and Ipswich Ware corresponds well with what was previously found at West Fen Road. Examples of similar sites in the wider landscape include sites at Cottenham, Cambridgeshire, where there were a series of enclosures and associated structures (Mortimer 2000). Similarly, sites at Brandon and West Stow in Suffolk also had series of enclosures and structures (Carr et al 1988; West 1985), as at Riby Cross Roads in Lincolnshire and Catholme in Staffordshire, (Losco-Bradley *et al* 2002; Steedman 1995). These enclosures were

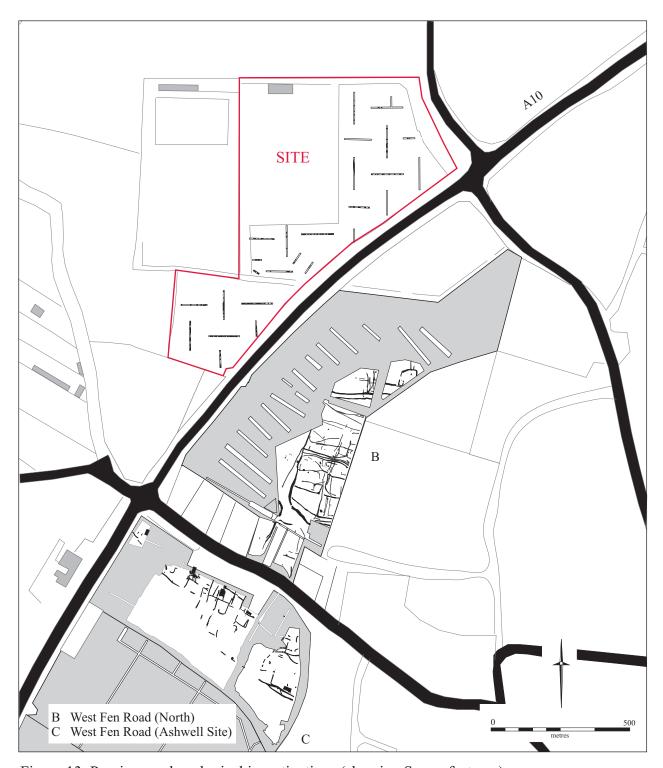


Figure 13. Previous archaeological investigations (showing Saxon features)

integrated with associated buildings with no direct evidence of field systems. However, at Downham Road there possibly was an field system associated with the Middle Saxon occupation.

The narrow parallel linears (mainly in Trench 15) could have represented an earlier phase of ridge and furrow. The presence of an early field system that was similar to the later ridge and furrow agricultural practices is somewhat important, although no diagnostic material culture was recovered from these so dating was tentative. Alternatively the linears could possibly relate to Romano-British cultivation beds. Where previously recorded these narrow linears are generally evenly spaced, running parallel in an enclosure and incorporated into a wider field system. Previous examples of cultivations beds have been recorded at March and at Addenbrooke's; although no material culture was recovered, and the environmental remains were poor, it is thought that at least some of these were for cultivating specialised crops (Hutton *et al* 2008; Timberlake 2007).

Medieval furrows were recorded throughout the evaluation and corresponded well with the results of the geophysical survey. In Area A they were orientated both north-south and east-west, and continued in to Area B on a north-south orientation. The absence of furrows in the western part of Area B could suggest that this area of land had not been suitable for agricultural purposes and had been too wet during the medieval period, or that they were obscured. The ridge and furrow system continued into Area C on a north-south orientation in addition to undated linears and pits. Towards the northern half of Area C the furrows were on an east-west orientation. The geophysical anomalies highlighted in blue and red (Figure 7) relate to changes in the underlying geology, especially in the northern part of Area C where pockets of grey clay were revealed by the trenching.

To summarise, Area A had the majority of archaeological features in the form of linears and pits associated with both settlement and field systems; the material culture associated with these features was predominantly Middle Saxon. There was a background presence of Iron Age and Romano-British. Continuation of Saxon activity was recorded in Area B in addition to undated discrete features, and possibly two phases of ridge and furrow or Romano-British cultivation beds underlying ridge and furrow. Area C had predominantly medieval furrows with some undated linear and pit features.

Generally this pattern fits well with results from previous investigations in the vicinity where prehistoric, Iron Age, Roman and Saxon activity have been found in varying degrees of intensity. The pattern of Middle Saxon occupation set in a background of Iron Age and Roman activity matches closely with findings from the sites north and south of West Fen Road, the closest features being less than 300m away. Without a more extensive exposure of the Downham Road features it is not possible to determine at present whether this represents part of the same settlement or nearby occupation of a similar date, however it is clearly part of the same broader landscape of Middle Saxon and earlier occupation of the island edge.

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APPENDIX 1 Site and Finds Gazetteer

Gaz. No	Grid Ref:	Period	Description	Reference:	HER Ref:
1	TL 5330 8180	Post-Medieval	Site of Cobbin's Mill; a smock mill. Only the grey brick (tarred) ruined base survives, round in shape built in 1729.	Smith 1975	07158
2	TL 5330 8140	Prehistoric, Roman	Scatters of prehistoric artefacts were found during fieldwalking. Evidence for two new Roman sites was revealed, to the north and the south of the city. The north site (west of former RAF hospital) saw further investigation, yielding evidence for Iron Age and Roman activity. The south site (A10/Cambridge-Ely Rd roundabout) produced finds suggesting nearby settlement.	Holton-Krayenbuhl & Young 2000	ECB442
3	TL 5389 8126	Medieval, post-Medieval	Aerial photographic survey undertaken in advance of an evaluation revealed traces of ridge and furrow.	Palmer 1997	ECB1989
4	TL 5322 8112	u	Features corresponding to the ploughed out remains of ridge and furrow were found across the site by reconnaissance and detailed magnetometry survey. The orientation varies from field to field, and further anomalies might represent headlands. There is no evidence to suggest further occupation in the area.	Hindmarch & Masters 1998, Palmer 1998	CB15473
5	TL 5321 8110	··	Aerial photographic AP assessment commissioned as part of desk based assessment to examine an area of land off West Fen Road, Ely, Cambridgeshire. The remains of medieval ridge and furrow and some headlands were observed along with what was thought to be World war defences relating to Witchford Airfield to the south.	Palmer 1998	ECB2960
6a	TL 5325 8109	Iron Age, Medieval, post-Medieval	An evaluation assessment was carried out comprising a desk-based assessment, AP reassessment and magnetometer survey. Detailed geophysics identified the ploughed out remains of a ridge and furrow system and at the southern end of the study area defined the Iron Age settlement previously explored by the CAU.	Hindmarch & Masters 1998	ECB74
6b	TL 5325 8109	Iron Age, Roman, undated	Following desk-based assessment and geophysical survey, a phase of trial trenching took place. 35 linear trenches were machine excavated and examined for archaeological remains. The majority of the site was found to have low archaeological potential, with isolated linear features. In the southern end of the site were found further elements of the Late Iron Age-Roman occupation site.	Meadows 1999	ECB1117
7	TL 5294 8094	Post-Medieval	Post-Medieval remains, including a ditch, were found. No earlier archaeological remains were located.	Mortimer 2000, Evans 2002	ECB70
8	TL 5301 8092	Iron Age	Evaluation and excavation in advance of construction of pipeline and pumping station produced evidence of Late Iron Age settlement, comprising mainly ditches with occasional pits and gullies. The pottery recovered dated to c. AD 1/10 to AD 50/60. The quantity of finds was high and with the recovery of two decorated artefacts was perhaps suggestive of more than a 'normal' agricultural settlement.	Gibson 1995	ECB71

Gaz. No	Grid Ref:	Period	Description	Reference:	HER Ref:
9	TL 5303 8089	-	An evaluation found no surviving archaeological deposits.	Upson-Smith et al. 2002	ECB757
10	TL 5305 8090	Bronze Age, Iron Age, Roman	 Evaluation and limited excavation in advance of construction of pipeline and pumping station produced evidence of Late Iron Age settlement, comprising mainly ditches with occasional pits and gullies. The pottery recovered dated to c. AD 1/10 to AD 50/60. The quantity of finds was high and with the recovery of two decorated artefacts was perhaps suggestive of more than a 'normal' agricultural settlement. No house remains were located, but presence of daub, quern stones and oven material suggest settlement and preparation of foodstuffs. A small assemblage of Mid-Late Bronze Age flint work was also recovered, suggesting Bronze Age settlement in the vicinity. Detailed magnetometry survey was carried out to investigate the extent of the Iron Age settlement, indicating that occupation was less extensive than had previously been suggested. Features identified include a curvilinear anomaly representing the enclosure ditch and other ditches corresponding to features identified during the excavation. Trial trenching was carried out over the entire site, revealing a occupation focus of Late Iron Age-Romano British date. A series of ditches, post pits and gullies were recorded, and although no structural elements were positively identified, it is likely the site represents a farmstead type site spanning the occupation period, and exploiting the fen edge position. It may perhaps be part of a larger site which extends to the south of the study area. The area as a whole was found to be wet but no surviving waterlogged levels were found. Excavation of Cornwell field to the south revealed further Iron Age settlement evidence, most probably the southern edge of the settlement identified in previous investigations. The existence of features such as eaves gullies, however suggest a better degree of archaeological preservation in this area. 	Mortimer et al. 2002, Regan 2001, Meadows, 1999, Hindmarch & Masters 1998, Gibson 1995,	CB15472
11	TL 5313 8087	Iron Age, Roman, Saxon	 An evaluation was carried out on the site of a proposed housing development. One trench contained two ditches of Saxon date, one of which appeared to be a large enclosure ditch. A second trench contained a single ditch of late Saxon/early Medieval date. An excavation was carried out subsequent to evaluation, revealing a network of probable boundary or drainage ditches dating to the Iron Age, and two ditches of Anglo-Saxon/early Medieval date. These confirm the general pattern of activity in the area with the finds assemblages suggesting that the site lies outside the main areas of occupation at those periods. Final report on excavations, which revealed a network of probable boundary or drainage ditches dating to the Iron Age, and two ditches of Anglo-Saxon/early medieval date. Two of the ditches 	Saunders 2003a & 2003b	MCB16211

			Northamptonshire Archaeology. Artefactual evidence indicates this features was dug in the Middle Iron Age and remained open into the Early Roman period. Some discrepancy was noted between the feature dug by Northamptonshire, and the present site. The ditch was considerably wider, with no recorded recuts, while the present ditch had been recut at least once. A further ditch was recorded running southeast from the main boundary, possibly representing a small extension to the east of the main enclosure. Limited evidence of Saxon activity was recorded, consisting of two shallow gullies and a group of three pits. These features appear to have lain within one of the enclosures identified during earlier excavations, and two of the pits may have been used for rubbish disposal. One of the gullies corresponds to a feature recorded to the east, and may have marked a boundary between two adjacent properties.		
12a	TL 5312 8086	Saxon, Medieval	Two evaluation trenches were excavated revealing direct evidence of activity from the early/mid Saxon to early Medieval period. The remains comprise a large ditch of early-mid Saxon date, possibly part of an enclosure, a mid Saxon ditch, and late Saxon/early Medieval boundary ditch.	Saunders 2003a	ECB1788
12b	TL 5313 8086	Iron Age, Saxon, Medieval	An excavation was carried out subsequent to evaluation, revealing a network of probable boundary or drainage ditches dating to the Iron Age, and two ditches of Anglo-Saxon/early Medieval date. These confirm the general pattern of activity in the area with the finds assemblages suggesting that the site lies outside the main areas of occupation at those periods.	Saunders 2003b	

APPENDIX 2

Assessment of the Flint

Lawrence Billington

Introduction

The evaluation recovered a total of eleven worked flints weighing a total of 578.6g. The flints were recovered from cut features and from surface deposits. In most cases representing residual material caught up in the fills of later features.

The condition of the flint was relatively fresh, none showed any surface patination and most pieces were unbroken. Edge damage in the form of chipped and abraded edges were present on all pieces, a characteristic trait of residual assemblages and those from surface deposits.

Trench No.	9 Feature No.	E Context No.	chip	chunk	primary flake	secondary flake	tertiary flake	- total
1	6	14		1				1
1	8	34					1	1
4	59	162				1		1
5	31	102				1		1
6	43	43	1					1
7	44	121			1			1
7		surface					1	1
7		surface					1	1
26	49	147				2		2
?	62	171				1		1
		total	1	1	1	5	3	11

Table 2. Breakdown of flint types

The Results

With the exception of the large chunk from F.6, Trench 1 and the two flakes found from the surface deposits in Trench 7, the flintwork showed a surprising consistency both in terms of technological traits and raw materials. This flint was uniformly a translucent honey to amber colour with abraded thin cortex indicative of a source from secondary, probably glacial or river terrace gravel sources. The flakes were small and regular and all retained some cortex on their dorsal surfaces, probably reflecting the use of small nodules. All of the flakes were struck with hard hammers from unprepared platforms, generally with low flaking angles. Although none of the material was strictly diagnostic these technological traits suggest an expedient core reduction strategy best paralleled in assemblages from the later Neolithic and Bronze Age.

A large angular chunk of flint was recovered from F.6, Trench 1. The flint was of poor quality, course grained with numerous fossil inclusions that would have inhibited working. A few small removals appear to have been made on two edges of the chunk but these could result from impact damage rather than intentional flaking.

The two tertiary flakes from surface deposits in Trench 7 offer a marked contrast with the rest of the assemblage. Both were made of high quality grey to black fine grained flint. IN the absence of cortical surfaces their origin must be unknown, but it is possible that these derive from a primary chalk deposit. One of the flakes is complete, and is a large regular blade-like flake with regular parallel scars on its dorsal surface. It has been struck with a hard hammer from a large plain platform. The other piece is the mesial part of a flake very similar to the complete example that accompanied it. One end of the flake has certainly been intentionally removed, the break showing a positive bulb of percussion, and the other may also have been. If prehistoric, these pieces are perhaps most likely to represent later Neolithic flintworking. However it seems equally likely that they may represent waste from 18th-19th century gunflint manufacture, a process that involved the production and intentional snapping/breaking of large, regular blade and flake blanks such as these (Skertchly 1879). Conclusion

The worked flint assemblage mostly comprises flint working waste of later prehistoric date, recovered as a residual presence in later features. Two flakes from Trench 7 area markedly different in character and possibly relate to later Neolithic activity or, perhaps more likely, post-medieval gun-flint manufacture.

APPENDIX 3

Assessment of the Prehistoric and Romano-British Pottery

Katie Anderson with Matt Brudenell

A small quantity of prehistoric and Roman pottery, totalling 4 sherds and weighing 50g was recovered from the evaluation. All of the material was examined and details of fabric, form and date were recorded along with any other information deemed important.

Two sandy Middle Iron Age sherds were recovered, from F.10 and f.62, weighing 24g. Both sherds were non-diagnostic and relatively small and abraded, thus suggesting that the sherds are possibly residual.

Con	Ft	Date
14	6	Romano-British
27	9	Mid 1st-2nd AD
19	10	MIA
171	62	MIA

Table 3: Prehistoric and Roman pottery by Feature

Two Roman sherds were recovered, weighing 26g. This comprised; one sandy greyware body sherd from Feature 9 and one oxidised sandy sherd from F.6. More specific dating was made problematic by the size and condition of the sherds. However, the greyware fabric suggests an earlier Roman date (mid 1st-2nd century AD). The remaining sherd could only be dated Romano-British.

Overall the small prehistoric and Roman assemblage, suggest a low level of activity in this area during these periods.

APPENDIX 4

Assessment of the Middle and possibly Early Saxon pottery

Craig Cessford and David Hall

Introduction

A small but nonetheless significant assemblage of Middle Saxon pottery was recovered during the evaluation at Downham Road, Ely; this consisted of 21 sherds weighing 357g. The material included Ipswich ware (7 sherds, weighing 237g) and locally produced handmade wares (14 sherds, weighing 120g). Other wares of this period that have previously been found at Middle Saxon sites in Ely are Maxey-type ware dated c.650-850 AD and imported North French Blackware. Neither of these wares were recovered, however this is a relatively small assemblage and these are typically only minor components.

Ipswich ware

Ipswich ware is a slow wheel made ware, manufactured exclusively at the *wic* of Ipswich in Suffolk. Ipswich ware probably begins to be used in southern Cambridgeshire at some time between 725 and 740 AD and continued in use until the mid 9th century AD (Blinkhorn forthcoming). There are two main fabric types; Type 1 has a hard and slightly sandy feel, with visible small quartz grains and some shreds of mica. It contains frequent fairly well-sorted angular to sub-angular grains of quartz, generally measuring below 0.3mm in size but with some larger grains, including a number which are polycrystalline in appearance. All of the Ipswich ware from the site belonged to this type, the only type of vessel identified is a small jar. Type 2 differs from Type 1 in having a scatter of large quartz grains (up to c.2.5mm) which either bulge or protrude through the surfaces of the vessel, giving rise to the term 'pimply' Ipswich ware (Hurst 1976) and making them quite rough to the touch. No Type 2 material was present.

Handmade wares

The handmade wares appear to be exclusively mineral tempered, with igneous grits visible. The fabrics are typical of other assemblages from Ely and southern Cambridgeshire; they are not closely dateable and can be either Early or Middle Saxon in date. The most interesting piece is a lug handled vessel (<040> [087]>, 3 sherds weighing 91g), which warrants eventual illustration. There is a relatively high proportion of handmade wares compared to other assemblages from Ely, this may indicate that there is also an Early Saxon component present although care must be taken given the small assemblage size.

Conclusion

Middle Saxon pottery is not particularly common locally, although two significant assemblages have recently been published from sites in Ely at West Fen Road (Blinkhorn in Mortimer *et al* 2005) and the Cathedral (Cessford with Dickens 2007). The mean sherd weights for Ipswich ware (33.9g) and handmade wares (8.6g) at Downham Road are broadly comparable to the values from the other two assemblages, both of which derive from occupation in the immediate vicinity suggesting that the Middle Saxon pottery at Downham Road may also relate to nearby occupation.

Site	Ipswich ware count	Ipswich ware weight (g)	Handmade wares count	Handmade wares weight (g)	Maxey-type ware count	Maxey-type ware weight (g)	North French Blackware count (g)	North French Blackware weight (g)	Total count	Total weight (g)
DRE09	7	237	14	120	0	0	0	0	21	357
West Fen Road	220	5749	9	75	2	60	0	0	231	5884
Cathedral	89	2453	10	103	1	45	3	18	103	2619
Total	316	8439	33	298	3	105	3	18	355	8860

Table 4: Middle Saxon pottery from archaeological investigations at Ely.

APPENDIX 5

Assessment of the Post-Medieval Ceramics

Jacqui Hutton

A small amount of material culture was recovered from the latest phase of the furrow system that included fragments of pottery, tobacco pipe stems, glass, brick and tile. The diagnostic pieces were examined only and are listed below.

F.57 [156] 1 piece of glazed red earthen ware dated from 16th to 19th century AD

1 piece of cream ware dated to 18th century AD

1 piece of fine white earthen ware dated from 19th to 20th century AD

2 tobacco pipe stems dated from 16th century onwards

2 pieces of courseware potentially dated from 13th to 15th century AD

APPENDIX 6

Assessment of the Environmental Remains

Dawn Mooney

Methodology

Of the bulk soil samples taken on site, thirteen were examined using an Ankara-type flotation machine. The flots were collected in a 300µm mesh and the remaining heavy residues washed over a 1mm mesh. The flots were dried indoors and nine were scanned for the presence of charred plant remains and other ecofacts. The flots were scanned by eye and remain to be comprehensively sorted under a low power microscope. The >4mm fraction of the heavy residues were sorted by eye to determine the presence of artefacts, animal bone and other ecofacts.

Preservation

All of the archaeological plant remains recovered were preserved through carbonisation.

Results

All samples contained intrusive modern rootlets, and some also contained intrusive modern wild plant seeds, indicating some bioturbation with the possible mixing of contexts and loss of plant remains.

Plant macro remains were noted in all nine of the samples analysed:

- Sample 2 (10 Litres), F.8 Context [37] contained some charcoal. One or two cereal grains were present but these were damaged by exposure to high temperatures and/or post-depositional processes. No large wild plant seeds were identified. Some bone and charcoal was present in the heavy residue.
- Sample 3 (10 Litres), F.9 Context [27] contained several cereal grains in good condition, which appear to be mainly glume wheat. Charcoal and some large wild seeds were also noted. The heavy residue contained some bone and a few charcoal fragments.
- Sample 6 (8 Litres), F.29 Context [88] only contained charcoal, both in the flot and in the heavy residue.
- Sample 9 (10 Litres), F.62 Context [171] contained charcoal and wild seeds, as well as several glume wheat grains in good condition. Some bone was recovered from the heavy residue.
- Sample 10 (10 Litres), F.63 Context [175] contained charcoal, large wild seeds, and 10-20 glume wheat grains. Small amounts of bone, charcoal and egg shell were found in the heavy residue.
- Sample 12 (20 Litres), F.16 Context [51] contained charcoal, large wild seeds (including one identifiable by eye as a *Galium* species), and some possible heat-damaged cereal grains. Fish scales were recovered from both the flot and the heavy residue. The heavy residue also contained large quantities of bone and charcoal.
- Sample 13 (20 Litres), F.17 Context [54] contained small amounts of charcoal and wild seeds. No material was recovered from the heavy residue.
- Sample 14 (20 Litres), F.19 Context [59] contained mostly charcoal, with some poorly-preserved wild seeds and/or cereal grains. A moderate quantity of bone was found in the heavy residue.
- Sample 15 (20 Litres), F.14 Context [47] contained mostly charcoal, with some possible wild seeds. No finds were recovered from the heavy residue.

Discussion and Recommendations

The fact that botanical macro remains were recovered from all of the samples analysed suggests good potential for the reconstruction of environment and human activity at the Downham Road, Ely site. The presence of plant remains from features from different phases of occupation at the site may also provide some potential to discuss economic and environmental change over time. The remains from F.16, F.62 and F.63 in particular suggest that human cooking and eating activities took place in the vicinity, with the glume wheat grains from F.62 and F.63 and the fish scales from F.16 being particularly indicative of this. Further analysis may reveal the presence of cereal chaff which could provide information on cereal processing locales. Samples 3, 9, 10 and 12 should be properly examined under a low power microscope for a more detailed understanding of the site's economics and spatial distribution. Considering the relatively quantities of well-preserved plant macro remains being recovered, it would be productive to continue sampling from both pit and linear features in future phases of work at the site.

APPENDIX 7

Assessment of the Faunal Remains

Vida Rajkovača

Introduction

A small assemblage of animal bone was recovered from the Downham Road Ely site during the evaluation carried out in 2009. The assemblage elicited 252 fragments recovered from 29 features scattered across the site. Faunal remains represent the hand collected material recovered from features dated to Iron Age, Roman and Middle Saxon period. The majority of features were undated, three features were modern and there were two medieval furrows with animal bone. Based on the chronology of the site six sub sets were created in order to study the site (Table 5). Sieved remains were also recorded and they have been quantified in separate tables. This report provides a brief outline of the results following zooarchaeological analyses of the material.

Groups	Contexts (out of 34)	%
Group One: Iron Age	1	3
Group Two: Romano- British	2	6
Group Three: Middle Saxon	9	26
Group Four: Medieval furrows	2	6
Group Five: Undated	15	44
Group Six: Modern	5	15

Table 5: Sub-division based on chronology of the material

Method

The zooarchaeological investigation followed the system implemented by Bournemouth University with all identifiable elements recorded (NISP: Number of Identifiable Specimens) and diagnostic zoning (amended from Dobney & Reilly 1988) used to calculate MNE (Minimum Number of Elements) from which MNI (Minimum Number of Individuals) was derived. Ageing of the assemblage employed both mandibular tooth wear (Grant 1982) and fusion of proximal and distal epiphyses (Silver 1969). Where possible, the difference between sheep and goat elements has been made (Boessneck 1969). Identification of the assemblage was undertaken with the aid of Schmid (1972) and reference material from the Cambridge Archaeological Unit, Grahame Clark Zooarchaeology Laboratory at the Department of Archaeology in Cambridge. Taphonomic criteria including indications of butchery, pathology, gnawing activity and surface modifications as a result of weathering were also recorded when evident.

Preservation

The majority of the material demonstrated preservation that ranged from 'Moderate' to 'Quite Good' indicating that very little weathering and other erosive damage had occurred to the bone. Of 35 contexts involved in the analyses, nine showed quite good preservation and 15 were identified as demonstrating moderate preservation. This indicated bones with minimal or no weathering or bone damage. In contrast, nine contexts demonstrated quite poor and two contexts showed mixed preservation. This equates to a total number of 177 fragments showing quite good or moderate preservation, compared to 75 fragments with bone damage or signs of weathering. Relatively high numbers of fragmented limb bones were noted which could only be assigned to a size category (Large, Medium or Small Mammal).

Results

Iron Age features

Total of 31 bones were recovered from the Iron Age linear (F. 10), 27 of which were identifiable to element and only further nine to species. Eight ovicaprid specimens were recorded and one cow mandible (Table 6). Sheep/goat category is present with two individual animals on site and cow with one individual animal. One ovicaprid mandible was aged to 4-6 years (Grant 1982). Goat was positively identified based on a complete humerus (Boessneck 1969: 339). Only one example of butchery was noted: unidentified large mammal long bone fragment was axially split for marrow extraction. In addition to butchery, a fragment of bone comb was found in F. 10 (dim.33 mm x 9 mm x 3 mm), which is likely to be Roman.

	DRE09					
SPECIES	NISP	%NISP	MNI			
Ovicaprid (Ovis aries/Capra	8	89	2			
hircus)						
Cow (Bos taurus)	1	11	1			
ULM	7	3 (Σ=27)	-			
UMM	15	15 (Σ=27)	-			

Table 6: NISP and MNI counts for Iron Age contexts

Key: UMM & ULM = Unid. Medium and Large Mammal / UUM = Unid. Fragment. NB: Species percentages are out of 9. These differ from the unidentified counts as these are calculated on the basis of element identification (for UMM & ULM) and total fragments (for UUM) (corresponding to Σ in brackets).

Romano-British features

Two features were dated to Roman period and they yielded the total of 24 bones, 22 of which were possible to assign to element and further eight to species (Table 4). Sheep/ goat category is the dominant one with six specimens, followed by cow and domestic fowl with one specimen each. It is worth noting that three ovicaprid metapodial bones (two metatarsal and one metacarpal) were split axially, some of them had refitting fragments. There are two reasons for which this butchery action could have been performed: bone splitting to work the fragments into tools or bone splitting for marrow extraction. None of the fragments seemed to have been worked, nor is it likely that they were split for marrow extraction, which is typical for cattle metapodials.

·	DRE09			
SPECIES	NISP	%NISP	MNI	
Ovicaprid (Ovis aries/Capra	6	75	1	
hircus)				
Cow (Bos taurus)	1	12.5	1	
Domestic fowl (Gallus gallus)	1	12.5	1	
ULM	4	4 (Σ=22)	-	
UMM	9	9 (Σ=22)	-	
UUM	2	0 (Σ=24)	-	
UUB	1	1 (Σ=22)	-	

Table 7: NISP and MNI counts for Romano-British contexts

Key: UMM & ULM = Unid. Medium and Large Mammal / UUM = Unid. Fragment. NB: Species percentages are out of 8. These differ from the unidentified counts as these are calculated on the basis of element identification (for UMM & ULM) and total fragments (for UUM) (corresponding to Σ in brackets).

It was possible to differentiate between sheep and goat in only one instance: goat was positively identified based on a horn core (Schmid 1972: 91). Only one specimen was ageable and it was a cow scapula giving the age at death of 0-6 months (Silver 1969). No signs of pathology were noted in this sub set.

Middle-Saxon features

Of 29 features excavated, six produced pottery dated to Middle-Saxon period. Five linears and one pit yielded 83 bone specimens, 74 (89%) of which were identifiable to element and further 22 (26%) to species.

		DRE09	
SPECIES	NISP	%NISP	MNI
Cow (Bos taurus)	9	41	1
Ovicaprid (Ovis aries/Capra hircus)	8	36	1
Horse (Equus ferus caballus)	3	13	1
Pig (Sus scrofa)	1	5	1
Dog (Canis familiaris)	1	5	1
ULM	13	13 (Σ=74)	=
UMM	36	36 (Σ=74)	=
UUM	9	1 (Σ=83)	-
UUB	3	2 (Σ=74)	-

Table 8: NISP and MNI counts for Middle Saxon contexts

Key: UMM & ULM = Unid. Medium and Large Mammal / UUM = Unid. Fragment. NB: Species percentages are out of 22. These differ from the unidentified counts as these are calculated on the basis of element identification (for UMM & ULM) and total fragments (for UUM) (corresponding to Σ in brackets).

As with all the other sub sets within the assemblage, this sub set is also dominated by livestock species (Table 8). It is not a surprise cattle and ovicaprids dominate the assemblage, both species being good providers of meat and multi-purpose animals kept for their secondary products. All species had MNI count for one animal present on site. Although cattle are slightly more dominant, unidentified mammal fragment count shows the predominance of medium-sized mammals such as sheep, goat or pigs. Goat was positively identified based on a fragment of a horn core (Schmid 1972: 91) and sheep was confirmed based on a fragment of a skull- occipital plane (Boessneck 1969: 333). No signs of butchery or pathology were noted in this sub set.

Medieval furrows

Two medieval furrows have produced very little animal bone material. Nine fragments were recorded from these two features, two of which were assigned to species: an ovicaprid tooth and a cow mandible. Six fragments were only possible to assign to size category: unidentified large and unidentified medium mammal fragments.

Undated contexts

Thirteen linears, one field drain and one pit have produced the total of 89 bones, 84 (94%) of which were possible to assign to element and further 26 (29%) to species. A number of fragments were only possible to assign to size category, due to the fragmentation. Domesticates dominate the assemblage with ovicaprids and cattle being the two main food species, as well as the multi-purpose animals kept for their secondary products (Table 9). This was followed by pig, horse and domestic goose. All species have MNI count for one individual animal on site. Unidentified medium-sized mammal fragment count confirms the slight predominance of ovicaprids noted in the species count.

	DRE09					
SPECIES	NISP	%NISP	MNI			
Ovicaprid (Ovis aries/Capra	11	42	1			
hircus)						
Cow (Bos taurus)	9	35	1			
Pig (Sus scrofa)	4	15	1			
Horse (Equus ferus caballus)	1	4	1			
Domestic goose (Anser anser)	1	4	1			
ULM	23	23 (Σ=84)	-			
UMM	33	32 (Σ=84)	-			
UUM	6	2 (Σ=89)	-			
UUB	1	1 (Σ=84)	-			

Table 9: NISP and MNI counts for undated contexts

Key: UMM & ULM = Unid. Medium and Large Mammal / UUM = Unid. Fragment. NB: Species percentages are out of 26. These differ from the unidentified counts as these are calculated on the basis of element identification (for UMM & ULM) and total fragments (for UUM) (corresponding to Σ in brackets).

Butchery was recorded on c.10% of all the bones within this sub set. General characteristic of the type of butchering actions performed include: chop marks at joints, which can be attributed to primary dismemberment; bone splitting, probably for marrow extraction as well as scoops and fine marks which could be related to meat removal or pot-sizing. Fine cut marks were noted on cow tarsal, probably indicating skinning. In addition to butchery, a fragment of bone comb was found in F. 10 (dim.33 mm x 9 mm x 3 mm). Two pig specimens were aged to 0-2 years (Silver 1969), recovered from the same context and are likely to be from the same individual.

Modern contexts

Three modern features: two linears and one pit have produced 14 bones, none of which were identifiable to species. Unidentified large and medium-sized mammal fragments were found, without any signs of butchery or pathology.

Sieved remains

Environmental samples were taken from two pits and five linears and they produced a considerable amount of highly fragmented animal bone, majority of which was not possible to assign to species. Sieved remains from all phases were considered as one sub set. Species representation is impoverished, remains of medium and small mammals dominate, with some of the fish remains also present (Table 10).

		DRE09	
SPECIES	NISP	%NISP	MNI
Ovicaprid (Ovis aries/Capra hircus)	5	50	1
Rat (Rattus rattus)	4	40	1
Cow (Bos taurus)	1	10	1
ULM	1	1 (Σ=50)	=
UMM	54	32 (Σ=50)	-
USM	17	8 (Σ=50)	-
UUM	68	0 (Σ=163)	-
UUF	12	2 (Σ=50)	=
UUB	1	1 (Σ=50)	-

Table 10: NISP and MNI counts for sieved remains

Key: UMM & ULM = Unid. Medium and Large Mammal / UUM = Unid. Fragment. NB: Species percentages are out of 10. These differ from the unidentified counts as these are calculated on the basis of element identification (for UMM & ULM) and total fragments (for UUM) (corresponding to Σ in brackets).

The remains of a rat are not thought to be anthropogenic. The majority of bone fragments were either charred or calcined. Of 163 bones recorded, 50 (30%) were assigned to element and only further 10 (6%) to species.

Conclusion

Overall species representation is in keeping with the general trends noted in some studies (Maltby 1996: 20): domestic faunal assemblages are dominated by the major livestock species- cattle, sheep, pig, horse and dog. The importance of sheep or goats in the Iron Age economy is well known (Cunliffe 2005: 415) and Iron Age sees cattle and sheep as the main two species reared in large numbers, with the pigs playing a subsidiary role (Maltby 1996). As for the Romano-British period, dietary preference for beef is believed to have come from the continent with Roman legions populating Britain and it was suggested that military and, therefore, Romanised sites would have higher proportions of cattle than rural civilian sites, which are likely to continue with the native Iron Age tradition (King 1999: 180). This point having been made, based on the predominant ovicaprid population on the site in both the Iron Age and Roman period, it seems that the site was continuing with the Iron Age tradition with its preference for sheep. Species representation does not vary a lot in the other phases on the site and it is impoverished.

Very little ageing data is available which we can derive kill off profile from, hindering our chances of interpreting site economy. Also, there were not any measurable specimens, nor sings of pathology. Although slightly less well represented in some of the phases on the site, cattle were probably the main providers of meat, and they were also valued for their skins, manure, dairy commodities, transport and draught qualities. Ageing and measuring data is much needed for the study of the use of this important animal.

Small size of the sub sets in each of the phases precludes any further conclusions about the husbandry regimes of the site's economy. Nevertheless, coupled with the results from the sites in the region (Abrams and Ingham 2008; Swaysland 2004), this faunal assemblage certainly holds promise for the future research in the area. The majority of the ovicaprids were positively identified as goat, hinting the relative importance this animal played in the area. Environment or the site specialisation might have created this preference for goat, but the comparison on both intra and inter-site level could clarify this issue.

APPENDIX 8 Assessment of the Worked Bone Jacqui Hutton

A fragment of worked bone in the form of a double-sided comb was recovered from linear F.10 in Trench 1, Area A. Pottery pertaining to the Romano-British period and Middle Saxon period was also recovered from this feature.

Roman combs were usually flat, rectangular in shape and double-sided. They were constructed using several panels of polished bone which were held together by two strips (called strengtheners). These were fixed into position using iron rivets. After assemblage the teeth were cut at an angle with a saw. These types of combs can be dated between 2nd and 4th centuries AD, although they were continually used into the Saxon and Viking periods (Allason-Jones, 1984).

The fragment of comb recovered from F.10 was 33mm in length, 9mm wide and 7mm thick at the centre, tapering to 1mm at the end of the teeth. The profile of the comb was flat on one side and slightly rounded on the other with teeth cut onto both sides; four on one side, five on the other. The teeth were evenly spaced on both sides on the same orientation and parallel to each other. The comb was broken through the spine; one side was cleanly broken, whilst the other was more uneven and had evidence of an iron rivet (some of the rivet was still in situ). The cut of the teeth into the bone was tapered at approximately 80 degrees, wider on the top rounded side. The ends of the teeth were smooth, indicating that the comb was used. The central area of the comb was fairly flat and slightly rough, indicating that an additional piece of bone, possibly decorated, would have originally been attached by the rivets. Similar combs have been found at South Shields Roman Fort (Allason-Jones, 1984).

APPENDIX 9 Assessment of the Worked and Burnt Clay Jacqui Hutton

Fragments of worked clay were recovered from two contexts, F.9, a pit that contained Iron Age and Romano-British pottery and F.10 a linear with a fragment of Romano-British comb and Middle Saxon pottery. The refitted fragments from context [27], was probably part of a loom weight, a narrow oval in shape. It was too fragmentary to suggest any date.

In addition, fragments of burnt and worked clay recovered from various contexts could be the remains of daubed walls, or perhaps flooring. These finds would indicate that there was some form of structures within the area.

Cat. No.	Feature No.	Context No.	Weight g	Fabric	Description
<015>	10	19	26	9	2 pieces, orange/buff and grey in colour with a flat surface on each piece with a coarse composition, possibly lining or flooring?
<019>	9	27	68	4	3 pieces that fit together, light orange/buff in colour. Maximum width 44mm, maximum thickness 28mm and incomplete length 45mm. Flat on opposing faces with a rounded end that flares slightly towards break. No evidence of a perforation, potentially part of a loom weight.
<19>	9	27	11	14	2 pieces, dark grey and buff in colour, lightweight with small voids, possibly from organic material. Possibly daub.

Table 11. Worked Clay

Cat. No.	Feature No.	Context No.	Weight g	Fabric	Description
<011>	10	19	40	6	4 pieces of burnt clay, orange/buff in colour with rare organic inclusions
<48>	38	108	1	14	1 piece, orange in colour
<052>	43	119	1	14	1 piece, orange in colour
<61>	54	139	1	8	1 piece, orange in colour
<063>	48	141	3	8	2 pieces, orange in colour with occasional voids
<079>	62	171	2	2	1 piece, smooth in texture and well sorted, orange in colour with brown/grey colour on one flat surface
<082>	63	174	13	2	2 pieces, smooth in texture and well sorted, orange and buff in colour on one flat face

Table 12. Burnt clay

Fabric	Description
1	Hard, common to abundant coarse fossil shells, poorly sorted
2	Hard, rare to occasional fine to medium crushed fossil shells, well sorted
3	Hard, rare to occasional coarse sub-angular stones 1-12mm long, poorly sorted and abrasive
4	Hard, rare coarse sub-angular and rounded stones 2-13mm long, poorly sorted and soapy
5	Hard, moderate to common fine to medium crushed fossil shells, poorly sorted
6	Hard, occasional coarse sub-angular and rounded stones, poorly sorted, abrasive and dusty
7	Hard but friable, rare coarse fossil shells, well sorted, very abrasive and dusty
8	Hard, occasional fine to medium angular flint ≤1mm long, well sorted, moderately abrasive
9	Hard, common to abundant coarse rounded stones, poorly sorted, moderately abrasive
10	Moderately soft and friable, rare coarse rounded stones, well sorted, very abrasive and dusty
11	Moderately soft and friable, very fine to medium stones ≤1mm, moderately abrasive but flaky, poorly fired
12	Very hard, rare to occasional coarse sub-angular stones 1-12mm long, poorly sorted and very abrasive
13	Very hard, moderate fine to very small rounded stones ≤0.5mm well sorted, very abrasive
14	Hard, common fine sand, moderately well sorted, abrasive

Table 13. Fabric types for worked and burnt clay

APPENDIX 10 Topsoil and subsoil depths of trenches

Trench No.	Area	Orientation	Length	Archaeological Features?	Location	Topsoil	Subsoil	Colluvium	Overall Depth	Geology	Wet?
1	A	N/S	26.60m	Linears and pits	0m	0.30m	0.15m	X	0.45m	Orange gravelly clay	N
1	A	N/S	26.60m	Linears and pits	10m	0.30m	0.05m	X	0.35m	Orange gravelly clay	N
1	A	N/S	26.60m	Linears and pits	25m	0.40m	0.20m	X	0.60m	Orange gravelly clay	N
2	A	E/W	47.50m	Linears	0m (W)	0.30m	0.25m	X	0.55m	Orange gravelly clay	N
2	A	E/W	47.50m	Linears	25m	0.20m	0.14m	X	0.34m	Orange gravelly clay	N
2	A	E/W	47.50m	Linears	47m	0.40m	0.37m	X	0.77m	Orange gravelly clay	N
3	A	N/S	45.00m	Linears and pits	0m (S)	0.34m	0.29m	X	0.63m	Orange gravelly clay	N
3	A	N/S	45.00m	Linears and pits	25m	0.30m	0.19m	X	0.49m	Orange gravelly clay	N
3	A	N/S	45.00m	Linears and pits	45m	0.25m	0.06m	X	0.31m	Orange gravelly clay	N
4	A	E/W	40.00m	Linears	0m (W)	0.27m	0.20m	X	0.47m	Orange gravelly clay	N
4	A	E/W	40.00m	Linears	20m	0.23m	0.18m	X	0.41m	Orange gravelly clay	N
4	A	E/W	40.00m	Linears	40m	0.36m	0.20m	X	0.56m	Orange gravelly clay	N
5	A	N/S	45.50m	Linears	0m (N)	0.29m	0.14m	X	0.43m	Orange gravelly clay	N

Trench No.	Area	Orientation	Length	Archaeological Features?	Location	Topsoil	Subsoil	Colluvium	Overall Depth	Geology	Wet?
5	A	N/S	45.50m	Linears	25m	0.17m	0.17m	X	0.34m	Orange gravelly clay	N
5	A	N/S	45.50m	Linears	45m	0.33m	0.18m	X	0.51m	Orange gravelly clay	N
6	A	N/S	24.50m	Linears	0m (N)	0.32m	0.22m	X	0.54m	Orange gravelly clay	Y
6	A	N/S	24.50m	Linears	10m	0.36m	0.22m	X	0.58m	Orange gravelly clay	Y
6	A	N/S	24.50m	Linears	24m	0.32m	0.25m	X	0.57m	Orange gravelly clay	Y
7	A	E/W	48.00m	Linears	0m (W)	0.32m	0.36m	X	0.68m	Grey and orange gravelly clay	Y
7	A	E/W	48.00m	Linears	25m	0.42m	0.46m	X	0.88m	Grey and orange gravelly clay	Y
7	A	E/W	48.00m	Linears	48m	0.42m	0.56m	X	0.98m	Grey and orange gravelly clay	Y
8	В	NW/SE	10.00m	Linears	0m (SE)	0.36m	0.64m	X	1.00m	Grey and orange gravelly clay	Y
8	В	NW/SE	10.00m	Linears	5m	0.39m	0.53m	X	0.92m	Grey and orange gravelly clay	Y
8	В	NW/SE	10.00m	Linears	10m	0.27m	0.54m	X	0.81m	Grey and orange gravelly clay	Y
9	В	E/W	14.50m	Linears and pits	0m (E)	0.34m	0.25m	0.69m	1.28m	Blue/orange/grey clay	Y
9	В	E/W	14.50m	Linears and pits	7m	0.28m	0.20m	0.58m	1.06m	Blue/orange/grey clay	Y
9	В	E/W	14.50m	Linears and pits	14m	0.28m	0.32m	0.42m	1.02m	Blue/orange/grey clay	Y
10	В	E/W	41.00m	Linears and pits	0m (W)	0.27m	0.19m	0.73m	1.19m	Blue/orange clay	Y

Trench No.	Area	Orientation	Length	Archaeological Features?	Location	Topsoil	Subsoil	Colluvium	Overall Depth	Geology	Wet?
10	В	E/W	41.00m	Linears and pits	20m	0.27m	0.30m	0.68m	1.25m	Blue/orange clay	Y
10	В	E/W	41.00m	Linears and pits	41m	0.29m	0.21m	0.64m	1.14m	Blue/orange clay	Y
11	В	NE/SW	20.50m	None	0m (SW)	0.32m	0.42m	X	0.74m	Blue/orange clay	Y
11	В	NE/SW	20.50m	None	20m	0.35m	0.22m	X	0.57m	Blue/orange clay	Y
12	В	NE/SW	19.50m	Pits	0m (SW)	0.27m	0.24m	0.49m	0.60m	Blue/orange clay	Y
12	В	NE/SW	19.50m+D60	Pits	19m	0.37m	0.22m	0.24m	0.83m	Blue/orange clay	Y
13	В	E/W	38.50m	Linears and pits	0m (W)	0.34m	0.18m	0.42m	0.94m	Blue/orange clay	Y
13	В	E/W	38.50m	Linears and pits	20m	0.29m	0.20m	0.34m	0.83m	Blue/orange clay	Y
13	В	E/W	38.50m	Linears and pits	38m	0.31m	0.21m	0.36m	0.88m	Blue/orange clay	Y
14	В	N/S	47.50m	Linears and pits	0m (N)	0.34m	0.15m	X	0.49m	Blue/grey clay & orange gravel	Y
14	В	N/S	47.50m	Linears and pits	25m	0.28m	0.23m	X	0.51m	Blue/grey clay & orange gravel	Y
14	В	N/S	47.50m	Linears and pits	47m	0.29m	0.31m	X	0.60m	Blue/grey clay & orange gravel	Y
15	В	E/W	49.50m	Linears	0m (W)	0.26m	0.29m	X	0.55m	Blue/orange clay	Y
15	В	E/W	49.50m	Linears	25m	0.26m	0.32m	X	0.58m	Blue/orange clay	Y
15	В	E/W	49.50m	Linears	49m	0.26m	0.25m	X	0.51m	Blue/orange clay	Y
16	В	N/S	20.50m	Furrows	0m (S)	0.20m	0.20m	X	0.40m	Orange gravelly clay	N
16	В	N/S	20.50m	Furrows	10m	0.22m	0.28m	X	0.48m	Orange gravelly clay	N
16	В	N/S	20.50m	Furrows	20m	0.19m	0.10m	X	0.29m	Orange gravelly clay	N
17	С	E/W	32.00m	Furrows	0m (W)	0.28m	0.19m	X	0.47m	Orange gravelly clay	N

Trench No.	Area	Orientation	Length	Archaeological Features?	Location	Topsoil	Subsoil	Colluvium	Overall Depth	Geology	Wet?
17	C	E/W	32.00m	Furrows	15m	0.17m	0.15m	X	0.32m	Orange gravelly clay	N
17	C	E/W	32.00m	Furrows	30m	0.17m	0.20m	x	0.37m	Orange gravelly clay	N
18	С	N/S	41.50m	Furrows	0m (S)	0.24m	0.19m	X	0.43m	Mottled blue/brown/orange clay	N
18	С	N/S	41.50m	Furrows	25m	0.32m	0.24m	X	0.56m	Mottled blue/brown/orange clay	N
18	С	N/S	41.50m	Furrows	49m	0.38m	0.38m	X	0.76m	Mottled blue/brown/orange clay	N
19	С	E/W	41.40m	None	0m (W)	0.35m	0.25m	X	0.60m	Mixed blue/orange clay and gravel patches	Y
19	С	E/W	41.40m	None	22m	0.35m	0.20m	X	0.55m	Mixed blue/orange clay and gravel patches	Y
19	С	E/W	41.40m	None	41m	0.30m	0.20m	X	0.50m	Mixed blue/orange clay and gravel patches	Y
20	С	N/S	49.00m	Linears	0m (S)	0.39m	0.36m	X	0.75m	Brown/orange gravelly clay with blue clay patches	N
20	С	N/S	49.00m	Linears	25m	0.29m	0.18m	Х	0.47m	Brown/orange gravelly clay with blue clay patches	N

Trench No.	Area	Orientation	Length	Archaeological Features?	Location	Topsoil	Subsoil	Colluvium	Overall Depth	Geology	Wet?
20	С	N/S	49.00m	Linears	49m	0.22m	0.16m	X	0.38m	Brown/orange gravelly clay with blue clay patches	N
21a	С	E/W	49.00m	Linears	0m (W)	0.29m	0.30m	X	0.59m	Brown/orange gravelly clay with blue clay patches	N
21a	С	E/W	49.00m	Linears	30m	0.23m	0.18m	X	0.41m	Brown/orange gravelly clay with blue clay patches	N
21a	С	E/W	49.00m	Linears	49m	0.29m	0.20m	X	0.49m	Brown/orange gravelly clay with blue clay patches	N
21b	С	N/S	16.00m	Linears	0m (S)	0.23m	0.30m	X	0.53m	Brown/orange gravelly clay with blue clay patches	N
21b	С	N/S	16.00m	Linears	15m	0.32m	0.23m	X	0.55m	Brown/orange gravelly clay with blue clay patches	N
22	С	N/S	49.50m	Linears	0m (N)	0.25m	0.34m	X	0.59m	Orange/brown clay with gravel patches	Y
22	С	N/S	49.50m	Linears	25m	0.24m	0.29m	X	0.53m	Orange/brown clay with gravel patches	Y
22	С	N/S	49.50m	Linears	49m	0.25m	0.25m	X	0.50m	Orange/brown clay with gravel patches	Y

Trench No.	Area	Orientation	Length	Archaeological Features?	Location	Topsoil	Subsoil	Colluvium	Overall Depth	Geology	Wet?
23	С	E/W	49.50m	Furrows	0m (W)	0.26m	0.21m	X	0.47m	Orange/brown clay with grey clay patches	N
23	С	E/W	49.50m	Furrows	25m	0.30m	0.18m	X	0.48m	Orange/brown clay with grey clay patches	N
23	С	E/W	49.50m	Furrows	49m	0.34m	0.12m	X	0.46m	Orange/brown clay with grey clay patches	N
24	С	N/S	37.25m	None	0m (N)	0.20m	0.16m	X	0.36m	Orange/brown clay with grey clay patches	N
24	С	N/S	37.25m	None	20m	0.21m	0.21m	X	0.42m	Orange/brown clay with grey clay patches	N
24	С	N/S	37.25m	None	37m	0.30m	0.13m	X	0.43m	Orange/brown clay with grey clay patches	N
25	С	N/S	48.00m	None	0m (N)	0.25m	0.37m	X	0.62m	Orange/brown clay with gravel and grey clay patches	N
25	С	N/S	48.00m	None	25m	0.28m	0.17m	х	0.45m	Orange/brown clay with gravel and grey clay patches	N

Trench No.	Area	Orientation	Length	Archaeological Features?	Location	Topsoil	Subsoil	Colluvium	Overall Depth	Geology	Wet?
25	С	N/S	48.00m	None	48m	0.17m	0.23m	Х	0.40m	Orange/brown clay with gravel and grey clay patches	N
26	С	E/W	22.25m	Linears and pits	0m (W)	0.28m	0.52m	X	0.80m	Orange/brown gravelly clay	N
26	С	E/W	22.25m	Linears and pits	10m	0.25m	0.70m	X	0.95m	Orange/brown gravelly clay	N
26	С	E/W	22.25m	Linears and pits	22m	0.30m	0.50m	X	0.80m	Orange/brown gravelly clay	N

APPENDIX 11 OASIS Form

OASIS DATA COLLECTION FORM: **England**

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OASIS ID: cambridg3-60434

Project details

Project name Land off Downham Road, Ely

of the project

Short description As part of the assessment of archaeological potential on the site of the Proposed Sports and Leisure Development, Downham Road, Ely (centred on TL 5300 8130), an initial archaeological desk based assessment was commissioned on behalf of East Cambridgeshire District Council. Subsequently the decision was made to initiate detailed pre-determination evaluation consisting of a geophysical survey and trenched evaluation. The results of all three elements are included in the report. The site is located approximately 1.5km west of the centre of Ely. Archival, aerial and cartographic sources demonstrate that the site is located in an area with known archaeology, including early prehistoric Iron Age, Roman and Saxon activity, and extensive medieval and later agricultural features. Geophysical survey indicated the presence of some archaeological features, although the site was dominated by the ploughed out remains of ridge and furrow agriculture. The trenching programme demonstrated that masked beneath this, particularly in the southern part of the site, was evidence of Middle Saxon occupation with associated field systems with a background presence of Iron Age and Romano-British activity. The north area predominantly contained medieval ridge and furrows in addition

to a few undated linear features.

Project dates Start: 01-12-2008 End: 05-06-2009

Previous/future

work

No / Not known

DRE09 - Sitecode Any associated

project reference

codes

Any associated project reference codes

ECB3210 - HER event no.

Type of project

Field evaluation

Site status None

1 of 4 5/6/09 10:25 **Current Land**

Cultivated Land 1 - Minimal cultivation

use

use

Current Land

eni Lan

Other 14 - Recreational usage

Monument type DITCH Iron Age

Monument type DITCH Early Medieval

Monument type PIT Early Medieval

Monument type RIDGE AND FURROW Medieval

Significant Finds POTTERY Iron Age
Significant Finds POTTERY Roman

Significant Finds POTTERY Early Medieval

Methods & 'Documentary Search', 'Geophysical Survey', 'Sample Trenches', 'Targeted

techniques Trenches'

Development

Public building (e.g. school, church, hospital, medical centre, law courts etc.)

type

Prompt Direction from Local Planning Authority - PPG16

Position in the

planning process

Pre-application

Solid geology KIMMERIDGE CLAY

Drift geology COLLUVIUM

Drift geology Unknown

Techniques Magnetometry

Techniques Magnetic susceptibility

Project location

Country England

Site location CAMBRIDGESHIRE EAST CAMBRIDGESHIRE ELY Land off Downham Road,

Ely

Postcode CB6 2

Study area 9.49 Hectares

Site coordinates TL 53000 81300 52.4078723716 0.249543445020 52 24 28 N 000 14 58 E

Point

Height OD /

Depth

Min: 3.83m Max: 8.35m

Project creators

Name of Cambridge Archaeological Unit

Organisation

Project brief

Self (i.e. landowner, developer, etc.)

originator

Project design

Alison Dickens

originator

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Project Alison Dickens

director/manager

Project Jacqui Hutton

supervisor

Type of District Council

sponsor/funding

body

Name of East Cambridgeshire District Council

sponsor/funding

body

Project archives

Physical Archive Cambridge Archaeological Unit

recipient

Physical Archive DRE09

ID

Physical 'Animal Bones', 'Ceramics', 'Environmental', 'other'

Contents

Digital Archive Cambrid

recipient

Cambridge Archaeological Unit

Digital Archive ID DRE09

Digital Contents 'Animal Bones', 'Ceramics', 'Environmental', 'Stratigraphic', 'Survey', 'other'

Digital Media 'Database', 'Geophysics', 'Images raster / digital photography', 'Images

available vector','Spreadsheets','Survey','Text'

Paper Archive

recipient

Cambridge Archaeological Unit

Paper Archive ID DRE09

Paper Contents 'Stratigraphic', 'other'

Paper Media

available

'Context sheet', 'Drawing', 'Photograph', 'Plan', 'Report', 'Section', 'Survey'

Entered by Alison Dickens (ad10000@cam.ac.uk)

Entered on 5 June 2009

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