ARCHAEOLOGICAL DESK-BASED ASSESSMENT OF THE PROPOSED ANGLIAN WATER SUTTON TO MARCH REZONE SCHEME CHATTERIS TO HADDENHAM SECTION CAMBRIDGESHIRE (SUMR07)

Commissioned by Grontmij
On behalf of
Anglian Water Ltd

January 2008

Report Compiled by
Russell & Dale Trimble

National Grid Reference:
TL 390 875
TL 488 751

A.P.S. Report No. **2008/08**

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1. SUMMARY

A programme of desk-based assessment was undertaken to determine the archaeological implications of a proposed water main running between Chatteris and Haddenham, Cambridgeshire. The assessment area, for the purposes of this report, comprised a c. 1km wide corridor centred on the route of the proposed pipeline.

The assessment has indicated a specific potential for prehistoric remains, in the area between Sutton and Chatteris, where Neolithic and Bronze Age remains, including a significant number of Early Bronze Age round barrows, have been recorded during previous archaeological investigations. Recovery of information relating to these periods would be regarded as significant.

A newly recognised triple ditch (probably prehistoric in date) and possible occupation remains at Staple Leys, at the western extremity of Wentworth parish (identified by the Aerial Photograph Assessment included in this report) is considered to represent a highly significant addition to the knowledge of archaeology in the region. The feature would be directly affected by the pipeline and should be targeted as a priority for any archaeological assessment.

Extensive Iron Age and Roman remains occur on the ridge of high ground at Langwood near Chatteris. The majority of this activity lies outside the assessment area, on its northeast side, but smaller discrete scatters in closer proximity to the route indicate a moderate potential for remains of these periods. The value of any remains encountered here would depend upon their character, extent, and date. There is however, given the status of the nearby site, a potential for remains of considerable archaeological significance.

In general, there is considered to be a low potential for Roman (notwithstanding the area of Langwood) and Saxon remains along the route of the pipeline, but indications of occupation from both periods occur at Hinton Hall in Haddenham and in the area immediately south of the A142 near Sutton. At Hinton Hall in particular it is highly likely that the pipeline will have a direct impact upon deposits of these periods.

Medieval deposits relating to the former manorial complex may be expected at Hinton, but there is considered to be a low potential for settlement remains of this period elsewhere. However, the frequent occurrence of the remains of ploughed out ridge and furrow (typically associated with the medieval open field sytem of arable cultivation) may be expected, in addition to occasional occurrences of earthwork ridge and furrow. Ploughed out remains of ridge and furrow are judged to have limited archaeological potential, and primarily local research significance. However, extant ridge and furrow may be deemed to have a cultural significance, as a visible remnant of the medieval landscape. For this reason it should be preserved where possible. Also, the extant ridges may have protected remains from earlier period, although the converse is true for the furrows.

Intrusive (primarily trial trench evaluation) and non-intrusive (i.e. geophysical survey and fieldwalking) may be successfully applied should further evaluation of the route be considered necessary. It has been noted, however, that the pipeline route traverses a range of landscape types, whre archaeological deposits may be buried at variable depth (largely dependant upon the extent of alluvial cover and the order of impact of medieval or later arable cultivation). Methods of evaluation may therefore be expected to vary in accordance with local

ground conditions.

2. INTRODUCTION

2.1 Definition of Desk-Based Assessment

An archaeological desk-based assessment is defined by the Institute of Field Archaeologists (IFA) as an '*assessment of the known or potential archaeological resource within a specified area or site on land, inter-tidal zone or underwater. It consists of a collation of existing written, graphic, photographic and electronic information in order to identify the likely character, extent, quality and worth of the known or potential archaeological resource in a local, regional, national or international context as appropriate'* (IFA 1999).

2.2 Background

The proposed pipeline route traverses an area containing a number of known archaeological sites. This desk based assessment will represent a first stage of archaeological study of the route.

Archaeological Project Services was commissioned Grontmij on behalf of their clients Anglian Water Ltd to undertake the desk-based assessment of the route of the Chatteris to Haddenham water main, Cambridgeshire. The work was undertaken in accordance with IFA standards and guidelines.

2.3 Site Location

Chatteris in East Cambridgeshire District lies 20km northeast of Huntingdon, while Haddenham is located approximately 9km southwest of Ely in the Fenland District of Cambridgeshire (Figure 1).

The two ends of the pipeline route are approximately 14.5km apart, the northwestern end being located at NGR TL 390 875, and the southeastern end at NGR TL 488 751 (Figure 2).

The northern end of the pipeline is located just to the north of Chatteris, extending east from Isle of Ely Way to skirt an industrial estate, before joining the route of the A142 Chatteris bypass around the eastern outskirts of the town. Following a deviation around the small fields and paddocks surrounding Dean House and Wenny House, the route returns to the A142 (Ireton's Way) at Langwood Hill Drove, continuing to the roundabout at the Mepal Centre for Outdoor Education. From here, the route proceeds south along Blockmoor Drove and then east to cross the A142 approximately 800m northwest of the Old Bedford River. The route crosses the Old and New Bedford Rivers at a point east of Mepal Bridge before passing to the east of Mepal and Sutton. From Sutton the route continues in a southerly direction to the village of Haddenham where it enters the eastern side of the settlement at Hinton Hall Farm. From here the route proceeds southwest, eventually turning east to end at a water tower on Wilburton Road (Plate 1).

2.4 Topography and Geology

The pipeline route traverses a variety of soil types and topographical features.

Haddenham is situated on the high point of a former fen island, the southern end of the pipeline route being at approximately 30m OD. Soils at Haddenham are of the Bearsted 1 Association, sandy soils over sandstone, changing to Evesham 3 calcareous clayey soils to the north of the settlement (SSEW 1983).

With the exception of North Fen (located at the northern end of Haddenham parish and southeast of the village of Sutton) topography along the route between

Haddenham and the Bedford Rivers at Mepal is generally undulating, varying in elevation between 10 and 20m OD.

Just south of Sutton, are clayey and sometimes peaty soils of the Peacock Association, whilst Sutton and Mepal lie on Hanslope and Evesham 3 slowly permeable clayey soils.

At the Bedford Rivers, to the north of Mepal, are Midelney Series, clayey soils over river alluvium and peat. Immediately to the north is an area of Clayhythe soil, fine loamy soils over river terrace drift.

Between the Bedford Rivers and the outskirts of Chatteris the topography is generally level, lying approximately at sea level. Downholland 1 soils are mapped just to the northwest of the river, comprising clayey and peat soils over marine alluvium and fen peat. Further to the northwest, these soils give way to Ireton soils, loamy soils over glaciofluvial drift.

Chatteris lies on a former fen island at elevations of between 5 and 10m OD. Soils around the town variously comprise the Peacock and Clayhythe soils, as described further to the south, in addition to Waterstock, loamy soils over river terrace drift (*ibid*).

3. AIMS

The purpose of the desk-based assessment is to obtain information about the known and potential archaeological resource of the assessment area, as well as identifying any heritage constraints, both statutory and advisory.

The general aim of the project is to gather sufficient information to enable the formulation of a mitigation strategy designed to lessen the impact of the development upon the actual and potential archaeological resource.

4. METHODS

The research undertaken in the compilation of this document included a search of records held by the Cambridgeshire Historic Environment Record (HER) to locate all known sites and find spots occurring within a *c*. 1km wide corridor centred upon the proposed route of the pipeline (hereafter referred to as the Assessment Area). A range of relevant archaeological books and journals were also consulted, together with unpublished reports for archaeological work carried out within the limits of the search area.

A search was made at the Cambridgeshire Record Office for historic maps – in particular, tithe, enclosure and early Ordnance Survey maps - depicting those areas affected by the proposed pipeline. In view of the scale of the project, historical research has been restricted in scope and only the most salient points are presented in this account. A detailed list of the sources consulted is contained within the bibliography (see below).

Information obtained from the above sources was supplemented by a walkover survey of the proposed route of the pipeline, to assess current ground conditions and land-use patterns, and to identify any surface finds or features such as earthworks representative of archaeological activity. The survey was carried out over a two day period, during which the entire route (except for an area east of Sutton – formerly RAF Mepal) was viewed from accessible points on public roads and footpaths.

5. RESULTS

5.1 Historical Evidence

The following account is largely drawn from the Victoria County History of Cambridgeshire and the Isle of Ely, Volume 4 (Pugh 1953).

The village of Haddenham is first mentioned in documentary sources in 970. By the time of the Domesday survey in 1086 there were three manors, all held by the Abbot of Ely. Lindone (later referred to as Lindon and more recently Hinton) seems to have been the earliest of these manors and might have been supplanted at a later date by Haddenham, as a result the latter's more favourable location at the site of a crossroads (Pugh 1953). In the Middle Ages Haddenham stood at the principal land entrance into the Isle of Ely, thereby deriving a special importance.

The manor at Sutton was held by the Church of Ely in the late Saxon period. It was transferred to the reconstituted Dean and Chapter in 1541 and eventually to the Church Commissioners.

Mepal is not mentioned in documentary sources until the early 13th century. Prior to this it might have been reckoned as part of Sutton or Witcham.

A manor in Chatteris was given to Ramsey Abbey by Athelstan Mannessonne, and confirmed by Edgar in 974. This manor was one of two main manors mentioned in the Domesday Book. In all there were six manors in the parish.

The landscape of the region was transformed when the Duke of Bedford and other investors invited the Dutch engineer, Cornelius Vermuyden to undertake a scheme for the drainage of the entire southern fenland. A new channel – now the Old Bedford River - was completed in 1635, redirecting the waters of the Ouse along a much shorter and straighter course to the sea. After an interruption due to the civil war, the New Bedford River was completed, in a channel running parallel with the first cutting (Taylor 1973, 192-195). The intervening area (the 100 foot wash now operates as a flood plain to store water during periods of heavy flow.

Ireton's Way, which is now followed by the A142 between Mepal and Chatteris was constructed by the Parliamentary General, Henry Ireton, during the Civil War to convey troops from Chatteris to Ely. It was a private road with Toll-gates until taken over by the County Council in 1902.

Parliamentary enclosure was carried out in Chatteris in 1819 following Acts of Parliament in 1793 and 1809. Parts of Sutton were enclosed by parliamentary award in the late 17th century before full scale enclosure was carried out in 1840. Six fields are mentioned with the total acreage more or less conforming to the extent of upland in the parish. Haddenham followed in 1847, the open fields being named as Haddenham End, Linden End, Aldreth, Hilrow Fields and Hinton Closes. The open fields of Mepal were enclosed in 1854.

5.2 Cartographic Evidence

A detailed consideration of maps produced from the early nineteenth century onwards (the period when detailed mapping first becomes available) indicates that most of the existing elements in the culturally derived landscape (major drainage features and land divisions etc.) were already in place by the mid nineteenth century. Only minor alterations in the pattern of land allotment - primarily the agglomeration of land into larger blocks -have occurred in the period since. These changes need not be discussed in detail, beyond observing that in-filled post-medieval boundary/drainage ditches may be expected at some points on the route.

The pattern of land distribution visible on the maps examined does not appear to indicate a potential for the occurrence of shrunken village remnants (often visible as areas of pre-existing enclosure/pasture) extending into the route of the pipeline. This is particularly relevant to the area east of Mepal, where the pipeline passes in comparatively close proximity to the village. A tithe map of 1840 (Figure 16) depicts as yet unenclosed ground (Mepal Green) in this area to the east of the village. The latter observation is largely borne out by the results of the Aerial Photographic assessment, which shows ridge and furrow cropmarks extending throughout the majority of this area.

Historical maps depicting the area of the manor at Hinton Hall in Haddenham are of particular interest. The enclosure award map of 1847 (Figure 14) does not depict any buildings in the area. However, the latter map and a tithe map of 1869 (Fig. 13) do show areas of small enclosure which may be interpreted as the remains of associated gardens, as well (in the case of the 1869 map) an avenue of trees approaching from the south. The First Edition Ordnance Survey Map of 1887 (Figure 20) places the manor southeast of the existing building, which is itself shown for the first time. Some earthworks are shown, including a linear feature defining the approach from the south.

The Haddenham enclosure award map depicts two buildings near the southern end of the proposed pipeline route, the first located on the northern side of Turnpike Road (now Wilburton Road) in the general vicinity of the modern water tower, the other on the eastern side of The Rampart, towards the southern end of the road.

5.3 Archaeological and Palaeoenvironmental Data (Appendix 1 and Figure 4)

The Cambridgeshire HER was examined in order to identify any recorded archaeological sites or finds within a *c.*1km wide Assessment Area centred on the pipeline route.

Information relating to the wider landscape is contained in reports detailing the results the Fenland Survey (Hall 1992 & 1996) - a programme of fieldwalking and aerial photographic mapping carried out as part of The Fenland Project. A summary account of this work, including an account of the palaeoenvironmental context, is presented at the beginning of this section.

Palaeoenvironmental Background

Fluctuations in environmental conditions, including periods of marine inundation and freshwater flooding have resulted in periodic alterations to the character of the landscape in the region.

In general, the solid geology of the area is soft Jurassic clay (Ampthill and Kimmeridge clays) forming, in places, islands of higher ground upon which the existing settlements of Haddenham, Sutton, Mepal and Chatteris are situated.

Haddenham, occupies the highest land in the Isle of Ely, rising to around 36m OD. Lighter soils developed over a capping of Lower Greensand underlie the modern village and this may have been instrumental in attracting early settlement to the area.

The village of Sutton lies on a spur of high ground, rising to a maximum elevation of around 15m. To the north gravel terrace extends into north fen, where substantial fen island has been noted. There are a number of smaller exposures of sand and gravel in the same area.

The village of Mepal is comparatively low lying, with terrace deposits of sand and

gravel apparently extending beneath the cuttings for the Old and New Bedford Rivers, and Mepal Fen to the north.

Chatteris is a large island incorporating a ridge extending from Langwood in the south to Honey Hill in the the northeast. Terrace gravels extending to the south and east of the village generally include a high proportion of clay in their uppermost (*c*. 0.50m deep) extent, although more gravelly deposits are encountered to the southwest in Horsely Fen. The latter areas of terrace gravel are generally covered by shallow fen.

Research on the fens in Cambridgeshire indicates that freshwater peat (the 'lower peat') began to form during the 6th or 7th millennium BC, spreading gradually during subsequent millennia to the extent that deciduous forest areas were drowned (occurring primarily during the Neolithic period).

Extensive marine flooding followed in the 3rd millennium BC, resulting in the widespread deposition of clays and silts and the development, over much of the region, of saltmarsh conditions in the late Neolithic and Early Bronze Age periods. The area was drained, during the marine phase, by a network of sinuous channels. These eventually silted up and now stand proud of the fen surface in the form of roddons. The latter arise partly from the formation of tidal levees, and partly from the compression and wastage of peat in adjacent areas. Some of these have been plotted as cropmarks during the aerial photographic assessment undertaken as part of this desk-based assessment (Appendix IV). These also appear within the archaeological distribution maps on Figures 5, 6 and 7.

During the marine phase, increasingly wet conditions led to peat formation in close proximity to areas of direct marine influence, resulting in periods of extensive peat formation over deposits of marine silt and clay.

Following the marine phase, peat growth was largely continuous until large-scale drainage of the fens was undertaken in the 17th century. The most recent Flandrian deposit, increasingly extensively during the Roman period, is freshwater alluvium carried in the region's rivers from areas of upland arable.

Throughout much of the Flandrian period, the environment west of modern Haddenham, Sutton and Chatteris was dominated by a former course of the River Ouse (now extinct, but visible as a roddon). In Haddenham parish, early peat formation in the channel has been dated to *c*. 8250 +/- 120BC. Peats extending from the channel gradually became more widespread in the area.

Early peat formation in the Chatteris area was restricted to the fringes of the parish and was rapidly succeeded, in the early Bronze Age, by marine flooding and the accumulation of clay. A second major watercourse, accompanied by a complex network of subsidiary creeks (active during the Neolithic period), is visible as a roddon in Chatteris parish, running east-west on the northern side of the fen island. Some of were plotted as part of the aerial photographic assessment and can be seen at the northern end of the pipeline route on Figure 7.

In Haddenham and Sutton the marine phase was slightly later than elsewhere in the region, continuing in Sutton parish to accumulate until well into the Bronze Age period. A number of tributaries of the Ouse channel developed at this time and are now visible as roddons, such as the ones recorded at the western limit of Figure 7. .

In Sutton and Haddenham, after the marine phase, peat growth was more or

less continuous, until systematic drainage began with the cutting of the Old Bedford River early in the 17th century. In Chatteris parish the peat fen advanced gradually during the later Bronze Age, to eventually cover the lower slopes around Chatteris island, and by the Iron Age, peat coverage had almost reached the extents known during the medieval period.

From the middle Iron Age alluvial deposits were carried down from upland areas by the River Ouse. The deposition of this material, which centres on the extinct channel, accelerated markedly from the Roman period onwards.

Archaeology – The Wider Context

In general, the heavy soils on the clay uplands of Haddenham, Sutton, Mepal and Chatteris were not conducive to early settlement and were largely avoided in favour of terrace sands and gravels or smaller islands of raised sand and gravel within the lower lying areas.

All number referred to in this section are from Fenland Survey volumes not any of the Appendices in this assessment.

Neolithic and Bronze Age
An important complex of Neolithic and Bronze Age sites extends across the area of sand and gravel terrace south of Chatteris, including Neolithic occupation sites, Early Bronze Age barrows and Bronze Age field systems.

Evidence of Neolithic occupation is primarily concentrated to the southwest, in Horsely Fen, where a set of enclosures and associated artefact scatters located by the Fenland Survey has been designated as a Scheduled Monument. A hearth located further to the east and in close proximity to the pipeline route might also be attributed to this period (see below for a more detailed account of these remains).

An extensive and fairly dense scatter of flint located further to the south, in Mepal parish (Mepal Site 2), may be regarded as a component part of the same complex. The site lies just outside the Assessment Area, near to the point where the route of the pipeline turns north to follow Blockmoor Drove [lies near Sutton BA barrow 10]. The site lies near to a tributary (this feature would appear to lie on the path of the waterpipe where it crosses from Ireton's Way to Blockmoor Drove) of the Neolithic course of the Ouse.

An exceptional range of Bronze Age metalwork has been found in the Chatteris area, probably deriving from plough-damaged cemeteries of the period. The majority of finds, where datable, are attributable to the middle or late Bronze, ruling out Early Bronze Age round barrows as the principal source.

Round barrows are distributed across the south-eastern part of the gravel terrace (fifteen identified by the Fenland Survey), with the majority concentrating along the fen edge (at this time bordering the current parish boundary). Several of these features have been since been investigated by archaeological evaluations in the Block Fen area - most notably a group of three barrows (Fenland Survey, Site 18, Chatteris) located at the southern end of the area.

At the south-western periphery of Chatteris Island the Fenland Survey noted three more barrow sites (Cha 33, 34 and 36), and several clusters of ring ditches showing as cropmarks. One of these clusters (Site 32) comprising three individual ring ditches is now a Scheduled Monument. Another group of barrows (five in all) located to the south on a Bronze Age fen island (now in North Fen, Sutton parish) may be regarded as topographically forming part of the same complex of monuments, as can a single barrow (Sutton, Site 10) and two more ring

ditches located on an island further to the east, at Blockmoor Fen (near to where the pipeline route meets Blockmoor Drove and in close proximity to the Neolithic flint scatter, Mepal Site 2).

In contrast to the evidence for funerary monuments the evidence obtained by the Fenland Survey for Bronze Age habitation in the area was sparse. The only site in Chatteris yielding Bronze Age pottery was at Langwood (Chatteris, Site 26) where it occurred alongside Iron Age and Roman material. This may reflect a preference for burials in more remote locations, with occupation on higher ground.

In addition to the barrow complex, the Block Fen investigations have identified a complex of Bronze Age field systems, which have been subjected to a series of investigations including aerial photograph assessment, fieldwalking, geophysical survey and trial trench evaluation.

Marsh conditions became increasingly prevalent during the later Bronze Age, with peat growth advancing across the gentle slopes of the gravel terrace, covering the Early Bronze Age landscape.

Iron Age & Roman

By the early Iron Age the focus of settlement in the Chatteris area appears to have shifted to the ridge of high ground extending between Langwood and Honey Hill, where six sites and two possibly associated cropmark complexes were located through the Fenland Survey. These sites occurred in two separate foci of activity – one at Langwood, the other at Honey Hill. Subsequent investigations – comprising intensive fieldwork carried out as part of the Fenland Management Programme in 1993 (Evans 2000 & 2003) - has demonstrated the presence of a major early Iron Age settlement, possibly preceding the site at Stonea 8km to the north as the pre-eminent regional settlement. The site has been noted as one of the largest open area settlement sites known in Britain (Evans 2003).

Elsewhere, across the clay uplands traversed by the pipeline in the parishes of Mepal, Sutton and Haddenham the Fenland Survey found little or no evidence of Iron Age activity. This would seem to reflect a continued unattractiveness of these areas for early settlement. Slightly further afield, however, a high status site comprising an enclosure and circular dwellings was excavated at Wardy Hill, to the east of Mepal in Coveney parish (Evans 1992). Occupation on this site continued into the Roman period.

Romano-British

Occupation continued into the Roman period at both Langwood (possibly on a reduced scale) and Honey Hill. Features uncovered by excavations at Langwood included a substantial stone building with a tiled roof, mortared floors and plastered walls; post-holes found in the interior of the structure indicated an aisled construction. A date range of early/mid second to early third century has been tentatively proposed for the building. Building in stone does not appear to have been paralleled elsewhere on the site.

Evidence of Romano-British settlement has also been identified at a point c. 600m to the west of Langwood, where a Gallo-Belgic component was identified in the pottery assemblage.

In common with earlier periods, activity across the clay uplands extending south from Mepal is sparse. Finds of Roman pottery and a possible structure at Hinton Hall, east of Haddenham village represent a rare exception (see HER data below). Another noteworthy exception occurs further to the north in Wentworth parish (see HER data below), again within the Assessment Area.

Saxon

The Fenland Survey did not locate any evidence of Saxon settlement in the parishes affected by the pipeline route. It is likely that remains of later Saxon occupation are obscured by existing areas of settlement, a contention which would appear to be supported by more recent work in the village cores of Haddenham and Witcham (see HER data below). Haddenham, in particular, is interesting for its location on high greensand, overlying the type of light soils favoured for early settlement during the Saxon (and prehistoric) period.

Middle and late Saxon sherds were found during the excavations at Hinton Hall (see HER data).

Medieval
The Fenland Survey produced little evidence to suggest medieval settlement activity extending beyond the known areas of occupation. The extents of the open field systems surrounding the villages, and their limits in relation to adjacent areas of Fenland can be discerned from the extensive tracts of ridge and furrow visible on aerial photographs.

HER Data

The following period by period outline of the known archaeology, along a 1km corridor centered upon the route of the pipeline, is summarised from information obtained from the County HER. Information has been mapped onto Figures 2 – 7 with dots coloured by period and consecutively numbered from the HER site records in Appendix 1. Interventions such as evaluations, watching briefs, excavations or any other recording exercise are also shown on the figures as filled polygons and labelled with Roman numerals from the linked table in Appendix 2. Listed buildings are shown as triangles and numbered as in Appendix 3.

Prehistoric

A Neolithic site occupation site was located by the Fenland Survey in Horsely Fen. The site comprises three enclosures (including an earthwork ditch) and artefact scatter associated with an area of dark soil. The site is located at the western periphery of the Assessment Area, and is now designated as a Scheduled Monument (Figure 6, Map Reference 48). Chance finds of Neolithic axe-heads (Figure 6, Map References 44 & 45), and a hearth of possible Neolithic date (Figure 6, Map Reference 47), occur in closer proximity to the pipeline route.

A Neolithic polished stone axe (Figure 5, Map Reference 40) was found to the north of Mepal, together with a smoothed pebble. Polished axes (Figure 7, Map References 64 & 65) have also been found in gardens in the eastern part of Chatteris, near the western periphery of the Assessment Area.

The complex of cropmarks in Block Fen, mostly lies outside the Assessment Area, but includes a double linear feature (Figure 6, Map Reference 46) which extends into the Assessment Area and may intersect with the route of the pipeline.
A number of chance finds of Bronze Age date occur in the Langwood further to the northwest. These finds include a looped palstave (Figure 6, Map Reference 50), a stone axe hammer (Figure 6, Map Reference 49), worked flint (Figure 6, Map Reference 54), and barbed and tanged arrowheads (Figure 7, Map Reference 56). Bronze Age material also occurs in the mainly Roman assemblage of artefacts (Figure 6, Map Reference 55) collected from Langwood Hill.

An undated ring ditch, 30m in diameter (Figure 6, Map Reference 41), visible as a cropmark in the area south of the Mepal Outdoor Centre and *c.* 100m east of the pipeline, could be interpreted as the ditch surrounding a Bronze Age round barrow, as could a cropmark ring or rings (Figure

6, Map Reference 43) located to the west of the Outdoor Centre and around 70m west of the proposed pipeline.

A bronze socketed spearhead (Figure 4, Map Reference 29) of Bronze Age date was found in the village of Witcham.

Possible flint knapping sites designated only as prehistoric were found to the south of Chatteris during fieldwalking along the route of the Chatteris bypass (Figure 7, Map Reference 57). A similarly dated flint axe was found at Curf Fen to the north of Chatteris (Figure 7, Map Reference 71).

Two Iron Age artefact scatters located by the Fenland Survey, occur within the Assessment Area at Langwood, near Chatteris. The first of these (Figure 6, Map Reference 52) may represent the western extremity of the much larger Iron Age complex to the east (see above). The second site (Figure 6, Map Reference 53) lies to the northwest on Wenny Drove.

There is a comparative absence of prehistoric sites from the Assessment Area between Haddenham and Mepal. It seems likely that this reflects a more general trend in the pattern of later prehistoric activity, with the heavy clay soils of Haddenham, Sutton and Mepal being less favoured for settlement.

A small, rectangular ditched enclosure to the east of Mepal is visible on RAF photographs (Figure 5, Map Reference 33). Further to the north a cropmark comprising three parallel bank-like features is recorded, the central element aligning with the Chatteris-Sutton parish boundary (Figure 6, Map Reference 42). Neither of the above-mentioned cropmarks has been assigned to a particular period but a prehistoric date may be surmised.

Roman

Romano-British deposits (Figure 3, Map Reference 6, HER Reference MCB7061), including possible structural remains, were encountered during archaeological excavations at Hinton Hall in Haddenham. The site lies in close proximity to the proposed route of the pipeline. In addition to the above, a badly worn Roman coin was found in Haddenham (Figure 3, Map Reference 12).

Evidence of Roman settlement was found by the Fenland Survey, on land to the east of Sutton and south of the A142, where a dark soil mark yielded pottery of 3rd to early 4th century date (Figure 4, Map Reference 21). The site lies *c*. 300m east of the pipeline, in an elevated position offering extensive views across the fen. Roman material also occurred in a scatter of mainly Saxon material slightly further to the east, and from an area 200m to the north (Figure 4, Map Reference 23) where pottery found by a metal detectorist.

Roman artefacts have also been found at Widdens Hill, east of Mepal village (Figure 5, Map Reference 34).

Saxon/Saxo-Norman

The remains of two timber structures (Figure 3, Map Reference 6, HER Reference MCB7060) of Saxo-Norman date, were found above Roman levels at Hinton Hall in Haddenham, in close proximity to the route of the pipeline.

Early Anglo-Saxon activity in the Haddenham area is attested by burials found at the Three Kings Public House, 350m west of the pipeline route (Figure 3, Map Reference 15).

The remains of Ovin's Cross (Figure 3, Map Reference 9) were removed from Haddenham in the 19th century and are now in Ely Cathedral.

Saxon pottery was found by the Fenland Survey to the east of Sutton, in close proximity to the previously mentioned Roman scatter (Figure 4, Map Reference

22). Further to this, Saxon metalwork has been found at Widdens Hill near Mepal (Figure 5, Map Reference 34), once in conjunction with Roman material.

Medieval

Medieval pottery (Figure 3, Map Reference 2, HER Reference MCB7069) dated as 13th to 15th century, was recovered from the site of a mound (probably post-medieval in date) located near the southern end of the pipeline. The mound was levelled in the 1940's, to make way for modern housing.

Remains of a medieval manor house (Figure 3, Map Reference 6, HER Reference MCB7059) were found during the excavations at Hinton Hall. The remains included an intact rectangular undercroft of three bays. Some medieval pottery (Figure 3, Map Reference 4, HER Reference MCB10370) was found near the track leading to the modern Hinton Hall and Hinton Hall Farm.

An evaluation at 7-11 High Street in Haddenham revealed medieval features including a pit and a posthole. Residual pottery of the period was also found (Figure 3, Map Reference 13).

Features found during an evaluation at 69 High Street included medieval boundary ditches, a possible medieval trackway, and a shallow feature of indeterminate function (Figure 3, Map Reference 11).

A pilgrim badge (Figure 3, Map Reference 10) was found in a garden in Haddenham.

Holy Trinity Church (Figure 3, Map Reference 17) in the centre of Haddenham is predominantly late 13th to early 14th century in date.

An evaluation in the western part of Witcham (Figure 4, Map Reference 30) revealed evidence of the medieval settlement.

Earthworks relating to medieval occupation in the northeastern part of Mepal lie to the west of route of the pipeline (Figure 5, Map Reference 36). The remains are situated in the immediate vicinity of St Mary's church (Figure 5, Map Reference 37). Further to the north, medieval gardens are recorded by the HER at Bridge House, Mepal (Figure 5, Map Reference 39).

In Chatteris parish a lead disc (Figure 6, Map Reference 51) of possible medieval date was found near near Langwood Hill Drove, and medieval pottery has been collected along with finds of other periods from the Langwood area (Figure 6, Map Reference 55).

Architectural fragments from St Mary's Abbey were found to the north of Chatteris (Figure 7, Map Reference 68), and an evaluation to the northwest, on Doddington Road produced some medieval pottery (Figure 7, Map Reference 70).

Fragments of earthwork ridge and furrow (Map References 18, 31, 32, 38, 57, 61 and 67) and cropmarks of ridge and furrow (Map References 26, 27, 58, 62 and 66) occur in a number of places along the route of the pipeline. Low earthworks (Figure 3, Map Reference 19) are present at New Farm in the parish of Haddenham. The earthworks lie on the proposed path of the pipeline.

Sixteenth to Eighteenth Centuries

A number of post-medieval sites and find-spots in Haddenham occur in close proximity to the pipeline. These comprise a pest house (Figure 3, Map Reference 1), the site of a mound (Figure 3, Map Reference 2, MCB7068), a probable mill mound (Figure 3, Map Reference 3), and a scatter of pottery (Figure 3, Map Reference 4, MCB10371).

The pipeline also passes close to the surviving gardens (Figure 3, Map Reference 5) at the modern Hinton Hall. Earthworks relating to gardens associated with the post-medieval manor were recorded through a survey carried out in 1969 (Brown and Taylor, 1977). With the exception of a small garden attached to the existing house, the earthworks have been entirely destroyed by subsequent agricultural activity. An area of former parkland (now arable farmland) extends to the north of the area formerly containing the garden remains (Figure 3, Map Reference 7).

Documentary sources indicate the sites of a pair of windmills near Sutton, on the south side of the A142 (Figure 4, Map Reference 24 & 25).

In the Chatteris area, the brick foundations of a post-medieval building (Figure 7, Map Reference 57) were found during work relating to construction of the bypass, and the findspot of a 17/18th century iron sword is located at the Elms (Figure 7, Map Reference 60).

Nineteenth to Twentieth Centuries
The Cambridgeshire Historic Environment Record mentions three non-conformist chapels - two in Haddenham (Figure 3, Map References 14 & 16), and one in Mepal (Figure 5, Map Reference 35).

Surviving remains from World War II include a bombing decoy for RAF Wyton and RAF Waterbeach (Figure 3, Map Reference 20) to the north of Haddenham parish, and searchlight battery and pillbox (Figure 7, Map Reference 63) near Chatteris, on the approximate line of the pipeline east of Chatteris. A second pillbox (Figure 7, Map Reference 69) lies adjacent to the twenty foot drain, to the north of the town. The latter feature also lies in close proximity to the proposed path of the pipeline.

A straw burning power station (Figure 4, Map Reference 28), located on the site of former RAF Mepal, is mentioned in the County HER.

5.4 Walkover Survey (Plates 1 - 11)

The walkover survey was undertaken through two day long site visits, made on the 31st December 2007 and 2nd January 2008.

The southernmost extent of the proposed route of the pipeline through the eastern side of Haddenham village was walked from its origin at the water tower on Wilburton Road (Plate 1) to the point where it cuts across arable land at Hinton Hall.

The sites of the pest house (Map Reference 1) and mound (Map Reference 2) mentioned in the Historic Environment Record are now covered by modern buildings. However, the large mound (Map Reference 3) situated on playing fields to the west remains intact (Plate 2). The mound lies in close proximity to the route of the pipeline, and any associated features (for example, the possible ditch mentioned in some sources) may be affected by the works.

At Hinton Hall there is no visible sign of the former garden earthworks (Figure 3, Map Reference 5) and much of the area is now occupied by fruit trees. However, the linear earthworks (also a line of trees) approaching from the south are still intact (Plate 4). The extant Hinton Hall – a brick-built Victorian building – is situated to the west of the track leading to Hinton Hall Farm. There is no obvious sign of earlier phases of construction. From Hinton Hall there is a fairly steep drop in ground level, to the edge of arable land to the north (Plate 4).

The pipeline route traverses arable land before crossing the Wentworth Road and

then proceeding over further undulating arable land to the line of the A1421.

West of the A421 the route crosses an area of pasture surrounding New Farm (Map reference 18, Plate 5). Medieval ridge and furrow is still visible in the field, running at right angles to the main road.

From here the route crosses further arable land to the point where it meets a large drain – the 'New Cut' drain - and 'Bread and Cheese Drove', the latter apparently conforming with a large bank following the sinuous drain. The route then traverses low-lying ground containing the cropmark triple ditch (see Figure 3, also Plate 6 showing view to Sutton) before once more crossing the 'New Cut' drain and following rising ground to meet the A142, which runs east from Sutton. The Roman and Saxon sites (Map references 21, 22 & 23) area situated on the generally south facing slope, but were not subjected to detailed examination.

Difficulty was experienced in gaining access to the route where it crosses former, RAF Mepal. Observations in this area were therefore confined to views from the A142 where the route initially crosses arable land and the Witcham to Mepal road where further arable was noted. At the latter point, the route enters Mepal parish, following narrow fields of arable to the point where it turns northwest to cross an area of higher ground (also arable) and then descends to pass to the east of Mepal village. The proposed route proceeds across an area of pasture (no earthworks were observed here), before crossing the Old and New Bedford Rivers and the Hundred Foot Wash.

From here the proposed route continues across low-lying arable land until it reaches higher ground at Langwood Hill Drove in Chatteris, initially following the A142 before crossing the road and heading westwards to meet Blockmoor Drove. This point was accessed via Mepal Long Highway, while the section adjacent to the Mepal Centre for Outdoor Education was walked from the nearby roundabout.

Between here and Langwood the route was observed at intervals from the side of the A142.

At Langwood Hill Drove there is a gradual but marked rise in elevation to the northwest. Observations from Langwood Hill Drove indicated a possible dark patch of soil at the approximate location of an Iron Age site located during the Fenland Survey (Map reference 52, see above).

Intact ridge and furrow was noted in a fragment of pasture cut off from a larger block of land by the Chatteris bypass (Figure 7, Map Reference 57). The field is bounded by Campole Drove to the southeast and is passed by the pipeline route immediately to the northeast.

The route was next observed from the B1098 where an area of comparatively high ground falls to Nightlayer's Fen.
There was no obvious sign of the WWII searchlight battery and pillbox (Map ref. 63) at the location indicated by the relevant HER. However, the putative site was not subjected to detailed inspection. A search for the pillbox shown on Fenton/Dock Road (Figure 7, Map Reference 69) was similarly unsuccessful. It is possible, however, that the feature lies concealed beneath a large area of brambles on the western side of the road, on the eastern bank of the Twenty Foot drain.

6. CONSTRAINTS

6.1 Heritage Constraints

Statutory and Advisory Constraints

The route of the pipeline does not directly affect any Scheduled Monuments protected by the Ancient Monuments and

Archaeological Areas Act of 1979 (HMSO) or Listed Buildings, which are protected under the Planning (Listed Buildings and Conservation Areas) Act of 1990.

The proposed scheme affects a number of known sites recorded on the Cambridgeshire Historic Environment Record. Any archaeological remains present on the site are protected through local authority implementation of PPG16 (DoE 1990).

6.2 Other Constraints

The extensive scale of the proposed scheme does not, at this stage, allow for a detailed assessment of the potential for overhead or buried services. In general, services can be expected in built-up area (primarily Haddenham) and in any other areas where the route passes in close proximity to existing buildings. Mains services are likely to be present in areas where the route crosses or follows the course of existing roads.

Over the majority of its length the route passes through arable farmland (occasionally pasture). There are, however, a number of areas where hardstanding or road surfacing may be encountered, particularly at the extremities of the route in Haddenham and Chatteris. This would have to be taken into account should any future archaeological work be required.

With the exception of areas of hard-standing geophysical survey would be effective over the majority of the route. However, deep deposits of alluvium might be expected in some areas, masking archaeological deposits and hindering detection by means of geophysical survey.

In view of the primarily agricultural character of the chosen route there are unlikely to be any substantial impediments to intrusive investigation techniques, for example trial trench evaluation.

Access to the route would need to be arranged with Anglian Water and respective landowners. Most areas along the route would probably be accessible for plant, but some areas (for example, ploughed fields) would be inaccessible to conventional road vehicles. The northern part of the route, through a greater number of tracks, would appear be more easily accessible than the section extending from Mepal to Haddenham.

Further investigation of the route could include both intrusive and non-intrusive techniques. Geophysical survey would be effective over the majority of the route, with the exception of areas of hardstanding, while the potential for fieldwalking would depend upon the availability of recently ploughed fields.

7. ASSESSMENT OF IMPACT

The proposed works entail the laying of a water pipeline between Chatteris and Haddenham. This is likely to require topsoil stripping within an easement *c*. 20-30m wide, and the excavation of a deeper and narrower trench to receive the waterpipe.

It is likely that stripping for the easement, if confined to the topsoil, would have a limited impact upon any underlying archaeological deposits. However, subsequent use of the easement for construction traffic could result in significant levels of damage to archaeological deposits, both through compaction and displacement across the ground surface.

Any remains surviving as earthworks – for instance, the areas of intact ridge and furrow identified during the walkover survey - would be removed as part of

works to form the easement, and any artefacts contained in the topsoil would be further displaced.

Excavation of the deeper trench for the waterpipe would have a direct impact upon any buried archaeological features or deposits, almost certainly resulting in the destruction of any remains from within its limits.

Depth of excavation would have a bearing on the extent of disturbance to archaeological remains, with deposits lying at shallow depth in some areas, (at times, immediately beneath the topsoil) and at greater depth elsewhere, possible buried beneath thick deposits of alluvium.

The impact of pipeline construction upon potential archaeological deposits will vary in accordance the methods employed. The depth of open-cut excavations and of directional drilling would have a bearing on the anticipated level of disturbance. In general, however, all earth moving operations have the potential to destroy archaeologically significant remains.

Several short sections of the route are to be directionally drilled rather than a trench excavated, in addition to a longer section of directional drilling in the Bedford River area.

8. ASSESSMENT OF POTENTIAL AND SIGNIFICANCE

Information collated in the production of this document has allowed the identification of several areas of heightened archaeological potential.

8.1 Hinton Hall, Haddenham

Previous archaeological work at Hinton Hall has demonstrated the presence of Roman, middle Saxon, Saxo-Norman, medieval, and post-medieval (including garden earthworks) remains in the area. Available information on site location and the route to be taken by the proposed pipeline indicates a high probability that remains of the above periods will be encountered in this area.

While information is lacking on the precise scope and nature of the previous investigations, it is unlikely that the remains present on the site were fully revealed. There is, therefore, the potential for extensive evidence of Roman, Saxo-Norman, Medieval and possibly middle Saxon occupation. Any deposits present on the site may have sustained some damage through recent agricultural activity.

The multi-period nature of this site suggests it as a favoured spot for early settlement and hints at a degree of continuity in occupation. There may, as a consequence, be an opportunity to recover information relating to the origins and development of the manorial centre for example.

8.2 Triple Ditch at Staple Leys

The aerial photographic assessment has clearly demonstrated the presence of a prehistoric triple ditch in the Assessment Area at Staple Leys, Wentworth parish. At least one of the ditches continues into the path of the pipeline. There is, therefore a high probability that the feature would be encountered during works to install the waterpipe.

The discovery of a triple ditch (usually interpreted as major boundary features – possibly at a territorial level) at this location may be considered as highly significant, given that the feature type is unknown in the area. Its potential is enhanced by the possible presence of occupation-related deposits in the immediate vicinity. Large-scale boundary features are notoriously difficult to date with accuracy, and the occurrence of this potential example in possible association

with settlement activity may provide an opportunity to establish an extremely valuable stratigraphic sequence.

The feature is located on low-lying ground, in an area formerly occupied by fen. There is, therefore, the potential for comparatively good preservation of deposits.

8.3 Roman/Saxon Occupation near Sutton

Three findspots of Roman and/or Saxon material on the south facing slope of the ridge rising to the A142 east of Sutton hint at the presence of extensive activity in this area, with a possible element of continuity from the Roman into the Saxon period. The distribution of the findspots, well to the east of the pipeline route suggests a low to moderate potential for occupation related activity, and a slightly higher potential (but lower archaeological significance) for field boundary ditches or other elements relating to the wider landscape around the settlement or settlements.

In general, sites located in hilltop locations tend to suffer from higher levels of plough damage than more low-lying sites. This may have had an adverse effect upon the condition of any deposits in the area, and the potential for palaeoenvironmental information.

8.4 Prehistoric Landscape between Mepal and Langwood, Chatteris

There is a high potential for evidence of prehistoric activity ranging from the Palaeolithic period to the Early Bronze Age (possibly slightly later) in the area between Mepal and Langwood in Chatteris.

Evidence of Neolithic occupation is largely confined to Horsely Fen and the fen edge further to the south, while Early Bronze activity, in the form of round barrows tends to concentrate more generally around the southern fen edge, which lay just inside the existing Chatteris parish boundary. There is also the potential for related activity on sand and gravel islands located in areas of deeper fen further to the south.

Extensive remains of Bronze Age field systems have been recorded in Block Fen to the northeast of the Assessment Area. Aerial photographs provide only limited evidence for these remains extending into Assessment Area - primarily in the form of a double-ditched feature which could continue into the path of the pipeline route.

Previous work in Block Fen indicates that extensive plough damage has occurred on some parts of the terrace. However, there is the potential for well preserved (and hitherto unidentified) remains in areas of deeper fen, where deposits may have been sealed by later alluvial and/or peat cover. In addition to the enhanced preservation of archaeological features, these areas may contain important palaeoenvironmental evidence as well as comparatively ephemeral artefact scatters distributed across intact land surfaces. There is also a potential for extinct watercourses - for example, the tributary of the Ouse, visible on aerial photographs, on Blockmoor Drove. These may contain well preserved palaeoenvironmental information.

In addition to buried remains, Neolithic and Bronze Age artefacts may occur in the topsoil in plough damaged areas. Artefact scatters have the potential to enhance knowledge of site location and distribution in the area.

Overall, there is a high probability that remains of the Bronze Age period or earlier will be encountered in this area. Any evidence of Neolithic occupation (for example, an undated but possibly

Neolithic hearth recorded in close proximity to the route) would have a high archaeological significance, as would evidence relating to Early Bronze Age funerary monuments. Evidence of Bronze Age habitation is rare in the area and would be of particularly high significance given its potential to further understanding of the relationship between the funerary landscape and areas of settlement

8.5 Iron Age and Roman Settlement at Langwood

Deteriorating environmental conditions during the later Bronze Age appears to have resulted in a retreat from the lower-lying gravel terrace areas at Langwood/Block Fen, and a transfer of activity to the ridge of higher ground extending northwest of Langwood Hill Drove. Fieldwork on this area, including a rigorous programme of sample excavation, has delineated a major early Iron Age settlement, with probable regional importance, a short distance to the northeast of the Assessment Area. Occupation on the site appears to have continued until well into the Roman period.

Although the main focus of activity lies northeast of the proposed route of the pipeline, there does appear to be a moderate potential at least, for related sites occurring in closer proximity to the route. This is evidenced by two artefact scatters found within the limits of the Assessment Area. In view of the status of the nearby site, any remains of this type would have considerable archaeology significance. There is also a potential for wider landscape components relating to the main focus of activity, such as major boundary ditches, tracks and field systems. These would have a lesser archaeological significance, but would nonetheless require some level of further investigation.

8.6 General Potential

The potential for evidence of prehistoric activity along the remainder of the route would appear to be limited, particularly in the areas of clay upland, which were generally avoided for early settlement.

Overall, evidence of Roman and Saxon settlement is rare along the route of the pipeline, reflecting the generally unfavourable conditions for settlement (heavy soils in the upland areas and increasing wetness in the fen areas). Beyond those areas already highlighted in the discussion above, the only significant occurrence of finds from these periods within the Assessment Area is situated east of Mepal (Map Reference 34).

In light of the above, the potential for Roman and Saxon settlement may be considered as low. However, the settlement pattern in these periods was comparatively dispersed (especially during the early Saxon period) and the potential for settlement or other evidence cannot be discounted.

By the early medieval period, it is likely that the existing settlement pattern had already taken shape, with occupation focused upon the known towns and villages, and the surrounding upland areas primarily utilised for arable farming. Areas of ridge and furrow defined by the aerial photographic clearly indicate the boundaries between inhabited areas and the medieval open fields. The presence of ridge and furrow in areas to the east of Mepal and elsewhere would tend to suggest a low potential for shrunken village remains. It is not uncommon, however, for ridge and furrow to extend over earlier medieval (or Saxon) settlement remains.

With the exception of Hinton Hall there is little evidence, along the route, of remote settlement, situated away from the existing towns and villages. Pottery found near a

probably post-medieval mound at the southern end of the pipeline may indicate an element of settlement activity, as could the medieval component in finds collected in the Langwood Hill area in Chatteris. Stonework from the former Abbey of St Mary, Chatteris was found near the northern end of the pipeline route, where there is a slight potential for related finds in the area.

The ploughed out remains of medieval ridge and furrow are likely to be encountered at many points along the route. Remains of this type are a ubiquitous feature of the historic landscape and individually can be considered as having limited significance. However, broad information on the pattern of cultivation can make a valuable contribution towards understanding of medieval land-use in the rural context. Further to this, areas of earthwork ridge and furrow, such as that surviving in Haddenham, may be deemed to have a cultural value, as visible remnants of the medieval countryside. Disturbance to the latter should, therefore, be minimised as far as possible. Also, the extant ridges may have protected remains from earlier period, although the converse is true for the furrows.

9. CONCLUSIONS

An archaeological desk-based assessment was undertaken to determine the archaeological implications associated with the installation of a new water main between the villages of Haddenham and Chatteris in Cambridgeshire.

The assessment has identified several specific areas ranging between moderate to high in terms of archaeological potential.

At Hinton Hall in Haddenham, there is the potential for Roman, middle Saxon, Saxo-Norman, Medieval and later remains. There is a strong likelihood that at least some deposits in the area will be affected by works to install the pipeline. The value of the potential resource is difficult to quantify at this stage but may be expected to range between moderately significant and highly significant.

A triple ditch located as a result of the aerial photographic assessment lies at Staple Leys at the western end of Wentworth Parish. The feature would almost certainly be encountered during groundworks associated with pipeline construction. The discovery of a triple ditch feature in this area is very significant and the value of the site is enhanced by the possible presence of occupation-related activity in the immediate vicinity.

Evidence of Roman and Saxon settlement occurs near Sutton, on the slope rising to the A142. There is a moderate potential for related activity in the pipeline route. This would most likely take the form of ditched boundaries, perhaps defining fields or stock enclosures. Features of this type would be archaeological interest but may be regarded as being of lesser significance. Occupation related remains would be of greater significance, especially if a degree of continuity could be shown in settlement. However, the upland location of the site would tend to suggest a high level of erosion through long-standing arable farming.

The area between Mepal and Langwood near Chatteris is known to contain an important range of Neolithic and Early Bronze Age sites. The remains in this area include evidence of Neolithic occupation, Early Bronze Age barrows (tending to concentrate around the Bronze Age fen edge – roughly extending to just inside the existing parish boundary) and Bronze Age field systems. This activity took place on a dry gravel terrace, with further activity occurring on high spots within the surrounding fen. There is considered to be

a strong possibility that at least some remains from the Neolithic and Early Bronze Age periods will be encountered along the route of the pipeline.

The condition of any archaeology found in this area could range from poor (if located in areas of shallow peat depth) to excellent (where deposits are deeply sealed beneath later alluvial and/or peat cover). While the significance of any finds would depend upon their state of preservation, evidence of Neolithic occupation or Bronze Age barrows would clearly be regarded as significant.

The scale of disturbance to deposits along the route of the pipeline will vary in accordance with deposit depth.

Fieldwalking, geophysical survey, and trial trench evaluation could all be appropriately employed should further assessment of the pipeline route be required. Auguring or test pitting might also be considered as appropriate techniques in areas of deeper alluvial cover, possibly in conjunction with geophysical survey. The applicability of particular evaluation techniques would vary in accordance with ground conditions along the route.

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11. BIBLIOGRAPHY

Primary Sources

CRO P38/26/1B, *Plan of the Parish of Chatteris in the Isle of Ely and the County of Cambridge as Inclosed by Act of Parliament of the 49th of George III,* John King, no date (Enrolled with Clerk of Peace for Isle of Ely, 20 November 1822)

CRO EQ/RDz, *A Map of the New Allotments and of the Lands Exchanged under the Haddenham Inclosure Act 1847*, C M Bidwell, 1847

CRO EQ/RDc, *Mepal, Isle of Ely* (map with enclosure award), anon, 1851.

CRO EQ/RDc, *The Open Fields in the Parish of Sutton, Isle of Ely as inclosed by Act of Parliament*, Jackson & Marsh, 1840

CRO 578/P1, *Haddenham in Cambridgeshire. 1869*, anon, (Copy of earlier apportionment map?)

CRO TR, *A Plan of the Parish of Mepal in the Isle of Ely in the County of Cambridge* (Apportionment Map). Joseph Jackson, March 1840.

CRO ??, *A Map of Sutton Parish in the Isle of Ely*, Joseph Jackson, 1841.

CRO R51/23/5, *A Map of Sutton & Mepall Levels and Other Fen Lands Lying in the Several Parishes of Sutton, Mepall, Witcham & Chatteris & Byal Fen in the Isle of Ely and the County of Cambridge and in the Parishes of Somersham, Pidley, with Fenton in the County of Huntingdon. From an Actual Survey taken in the year 1750 by Will'm Elstobb Junr.* Uncertain date

Lenny, J. G., 1833 *Plan of Lands subject to the Eau Brink Tax.*

Wells, S., 1829 *Map of the Bedford Level & Parts Adjacent*

Ordnance Survey, 1886, Cambridgeshire Sheet XXV NW

Ordnance Survey, 1886, Cambridgeshire Sheet XXV SW

Ordnance Survey, 1887, Cambridgeshire Sheet XXIX NE

Ordnance Survey, 1887, Cambridgeshire Sheet XX SE

Ordnance Survey, 1887, Cambridgeshire Sheet XXI SW (not reproduced)

Ordnance Survey, 1887, Cambridgeshire Sheet XXV SE 1887 (not reproduced)

Ordnance Survey, 1903, Cambridgeshire Sheet XXV NW 1903

Ordnance Survey, 1903, Cambridgeshire Sheet XXV SW

Ordnance Survey, 1903, Cambridgeshire Sheet XXIX NE

Ordnance Survey, 1903, Cambridgeshire Sheet XXI SW 1903 (not reproduced)

Ordnance Survey, 1903, Cambridgeshire Sheet XXV SE (not reproduced)

Secondary Sources

All of the following references were consulted in the research. However, as some of them duplicated evidence given in others, not all of them have been specifically referred to in the text.

Brown, A.E., and C. C. Taylor, 1977, *Haddenham: Garden Remains, Hinton Hall in Cambridgeshire Earthwork Surveys, II*, in Proceedings of the Cambridgeshire Archaeological Society Vol. **LXVII**

DoE, 1990, *Archaeology and Planning, Planning Policy Guidance Note* **16**

Doyle, K., Eddisfield, D. and Williams, J., *30 Silver Street, Witcham, Cambridgeshire. An Archaeological Evaluation*, Archaeological Solution, unpublished report No. 1714

Evans, C., 1991 *The Archaeology of Langwood Fen, Chatteris: A Desktop Study*, Cambridge Archaeology Unit, Unpublished Report

Evans, C., 1993 Lithic 'Noise' – Low Density Scatters – Missing Settlements? The Langwood Farm Environs, *Fenland Research* **8**, 14-16

Evans, C., 2000 Langwood Farm West and Environs Chatteris, *Fenland Management Project Excavations 1991-1995*, Lincolnshire Archaeology and Heritage Report Series No. **3**, 25-36

Evans, C., 2003, *Britons and Romans at Chatteris: Investigations at Langwood Farm, Cambridgeshire*, Britannia, Vol. **34**, 175-264

Grant, J., and Hounsell., D., 2002 *Land Southwest of Doddington Road, Chatteris, Cambridgeshire: An Archaeological Evaluation*, Hertfordshire Archaeological Trust, unpublished report **1234**

Hall, D., 1992, *The Fenland Project, Number 6: The South-Western Cambridgeshire Fenlands*, East Anglian Archaeology Report No. **56**

Hall, D., 1996, *The Fenland Project, Number 10: Cambridgeshire Survey, The Isle of Ely and Wisbech*, East Anglian Archaeology Report No. **79**

HMSO, 1979, *Ancient Monuments and Archaeological Areas Act*

Holton-Krayenbuhl, A., and M. Young, 2000, *Report on field-walking along the routes of the by-passes in the Ely area and at Apes Hall, Littleport*, Ely and District Archaeological Society unpublished report

Hunn, J. R., 1992, *An Archaeological Evaluation at: Block Fen (A) Mepal Cambridgeshire,* Tempus Reparatum unpublished Report **31010ODF-CAMEB92**

Hunn, J. R., 1993, The Block Fen Field System: 1992 Investigations, *Fenland Research* **8**, 10-11

Hurst, D., G., 1970 Medieval Britain in 1969. II. Post Conquest, *Med Arch* 14, 108

IFA, 1999 *Standard and Guidance for Archaeological Desk-based Assessments*

Murray, J., 1999, *Block Fen, Mepal, Cambridgeshire: Archaeological Evaluation*, Hertfordshire Archaeological Trust unpublished Report **455**

Palmer, R., 1992, *Block Fen, Chatteris, Aerial Photographic Assessment,* Air Photo Services Ltd unpublished Report **20**

Palmer, R., 2004, *The Brook, TL442791, Sutton, Cambridgeshire: Aerial Photographic Appraisal,* Air Photo Services Ltd unpublished Report **2004/14**, in *The Iron Age and Roman Settlement on Land North of The Brook, Sutton, Cambridgeshire: An archaeological Evaluation,* R. Atkins, 2004, Cambridgeshire County Council unpublished Report **725**

Place, C., and Ette, J., 1990 *Manor Park, Chatteris. Earthwork Survey*, Cambridgeshire County Council Archaeological Field Unit, unpublished report 13

Pugh, R., B., 1953 *The Victoria County History of Cambridgeshire and the Isle of Ely*, vol **4**, London

Redland Aggregates Ltd, 1991, *Environmental Statement incorporating a planning application for the extraction and processing of sand and gravel from land at Block Fen, Mepal, Cambridgeshire,* unpublished document

Roberts, J., 1999, *Land to the north-east of 7 Dock Road, Chatteris: an archaeological evaluation,* Cambridgeshire County Council Archaeological field Unit unpublished Report **B065**

Soil Survey of England and Wales, 1983, *1:250,000 Soil Map of England and Wales*

Robinson, B., and Duhig, C., *1990 Anglo-Saxon Burials at the Three Kings, Haddenham*, Cambridge County Council unpublished Archaeological Report **53**

Saunders, G., 2006, *Land adjacent to 69 High Street, Haddenham, Cambridgeshire: Archaeological Evaluation*, The Heritage Network Ltd, unpublished report **335**

Sutherland, M., and D. Hansell, 2002, *Block Fen, Meadlands, Cambridgeshire: Archaeological Evaluation*, Hertfordshire Archaeological Trust unpublished Report **1059**

Taylor, C., C., 1973 *The Cambrdgeshire Landscape: Cambridgeshire and the Southern Fens*, Hodder and Stoughton

Taylor, C., C., 1983 *Shire Archaeology: The Archaeology of Gardens*, Shire Publications Limited, 56

Tempus Reparatum Archaeological and Historical Associates, 1993, *Archaeological Evaluation (Phase 1) Block Fen B Pearson's Land Mepal Cambridgeshire,* unpublished Report **TR31010FDA**

Tempus Reparatum Archaeological and Historical Associates, 1994, *Archaeological Field Evaluation (Phase 2) Block Fen B Pearson's Land Mepal Cambridgeshire,* unpublished Report **TR31010DFA**

Victoria County History, 1948, *A History of the County of Cambridge and the Isle of Ely: Volume 2* ('Houses of Benedictine nuns: Abbey of Chatteris', pp. 220-23)

Weston, P., and Woolhouse, T., 2006, *30 Silver Street, Witcham, Cambridgeshire. An Archaeological Excavation Interim Site Narrative*, Archaeological Solutions, unpublished report No. **1794**

Whittaker, P., 1998, *An Archaeological Evaluation at 7 - 11 High Street, Haddenham, Cambridgeshire*, Cambridge Archaeological Unit, University of Cambridge, unpublished report **261**

12. ABBREVIATIONS

APS	Archaeological Project Services
DoE	Department of the Environment
HER	Historic Environment Record
HMSO	Her Majesty's Stationery Office
IFA	Institute of Field Archaeologists
NGR	National Grid Reference
OD	Ordnance Datum (height above sea level)
OS	Ordnance Survey
SSEW	Soil Survey of England and Wales

Figure 1 General location map

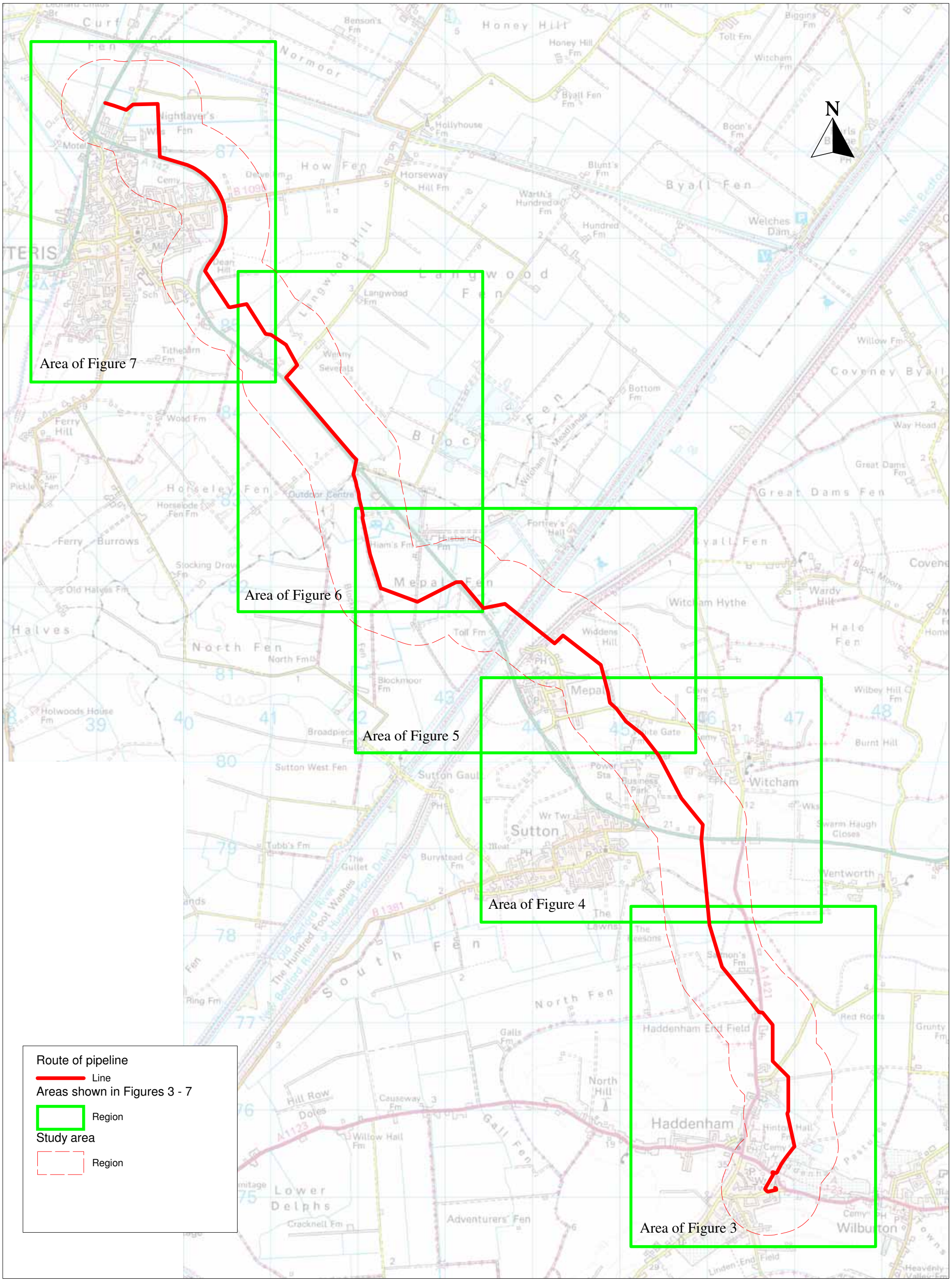


Figure 2 Route of Pipeline and Areas of Figures 3 - 7

Archaeological Project Services		
Project Name: Sutton to March Rezone. Chatteris to Haddenham		
Scale 1:40000	Drawn by: DT	Report No: 2008/08

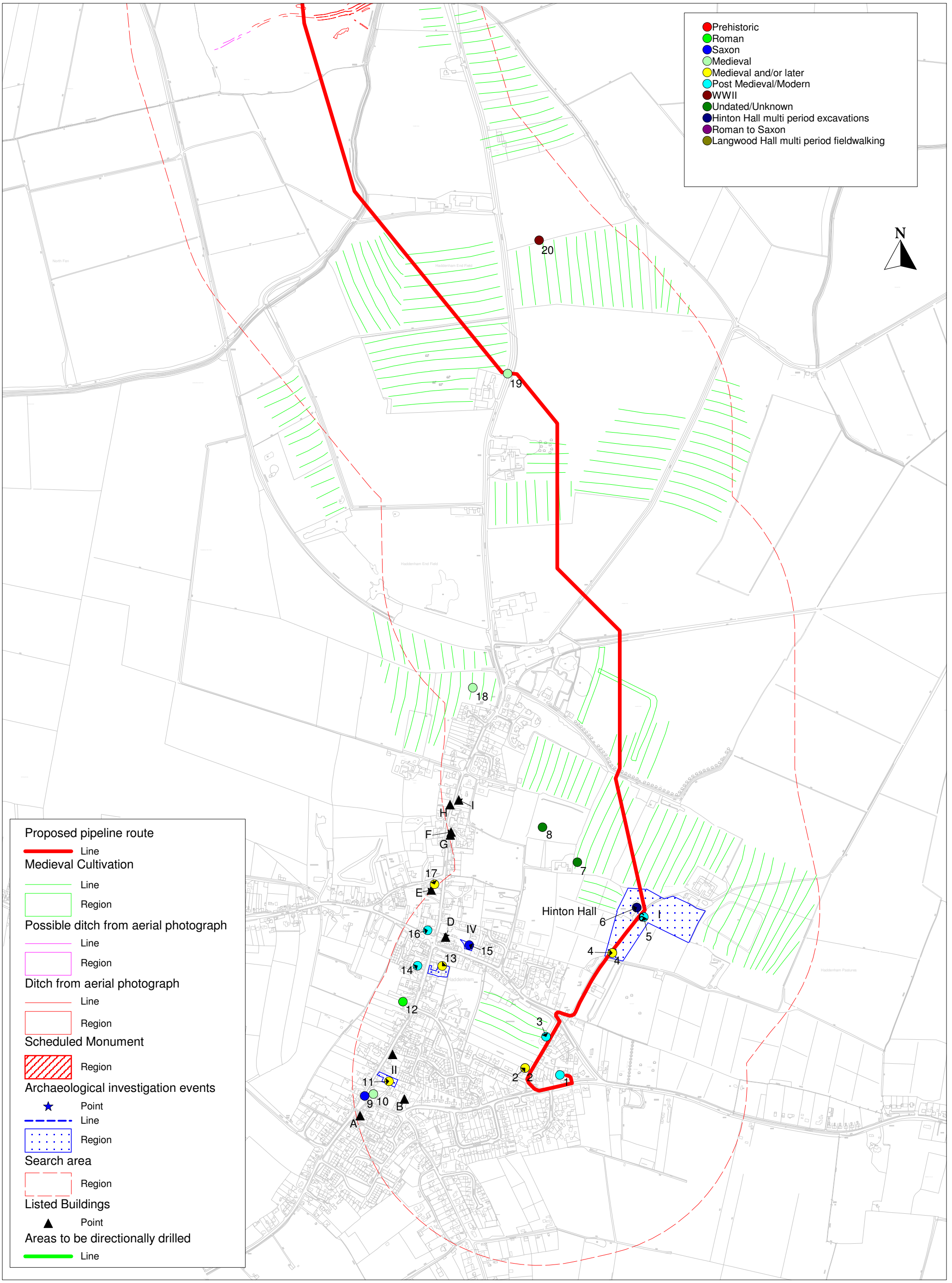


Figure 3. Haddenham area Archaeological Sites

Archaeological Project Services		
Project Name: Sutton to March Rezone Chatteris to Haddenham		
Scale 1:10000	Drawn by: DT	Report No: 08/2008

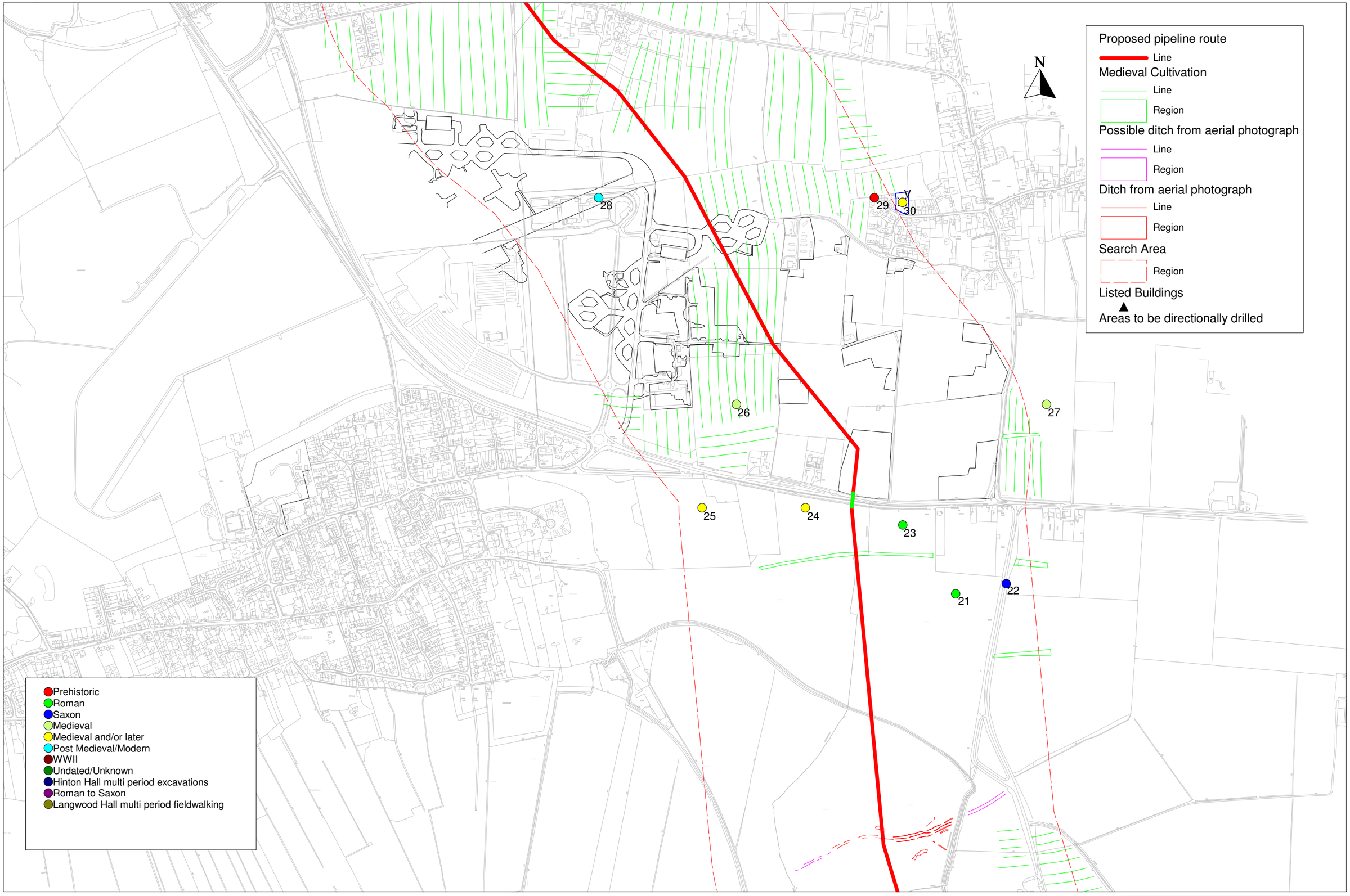


Figure 4. Sutton area Archaeological Sites

Archaeological Project Services		
Project Name: Sutton to March Rezone Chatteris to Haddenham		
Scale 1:10000	Drawn by: DT	Report No: 08/2008

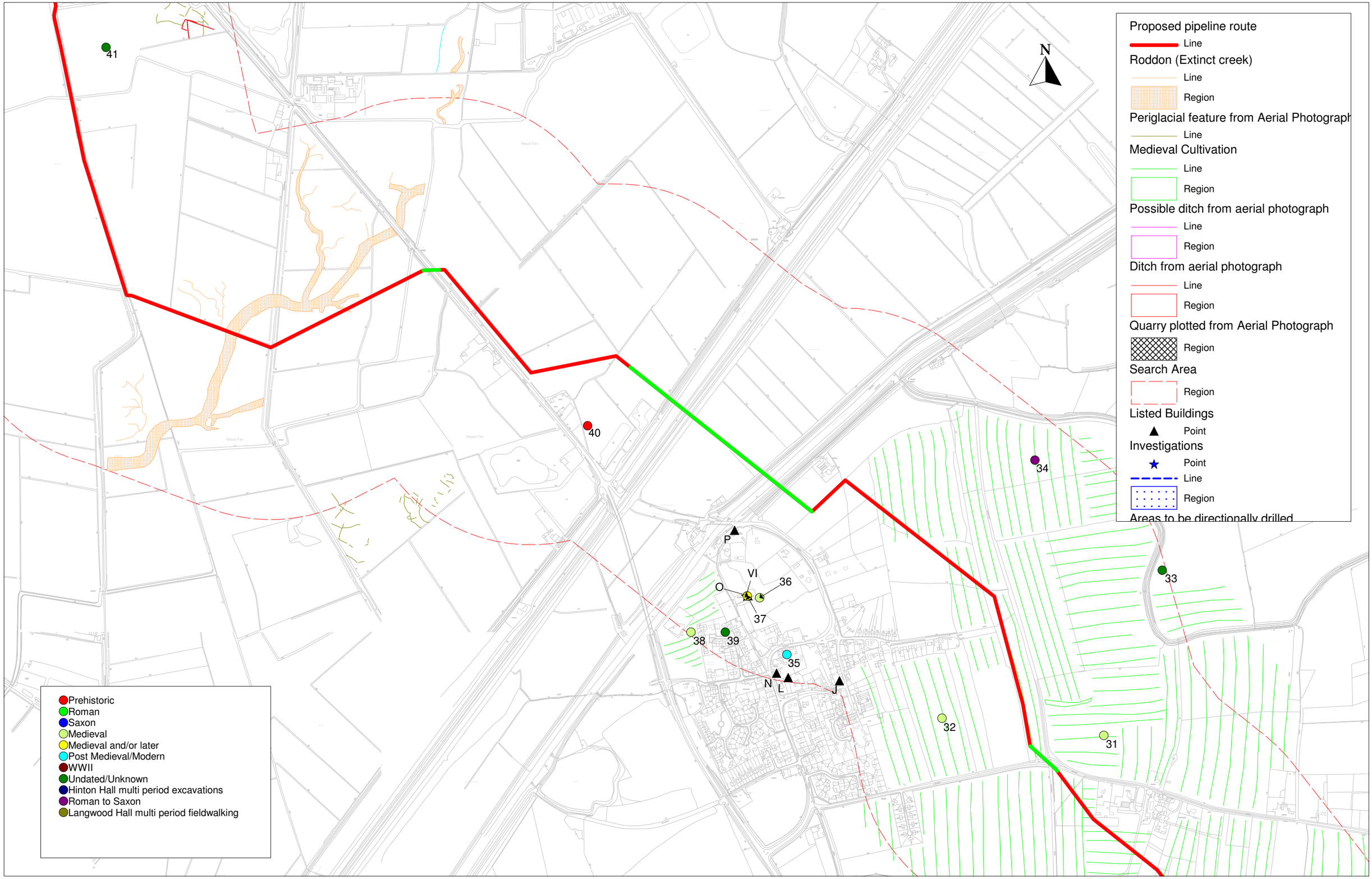


Figure 5. Mepal Area Archaeological Sites

Archaeological Project Services		
Project Name: Sutton to March Rezone Chatteris to Haddenham		
Scale 1:10000	Drawn by: DT	Report No: 08/2008

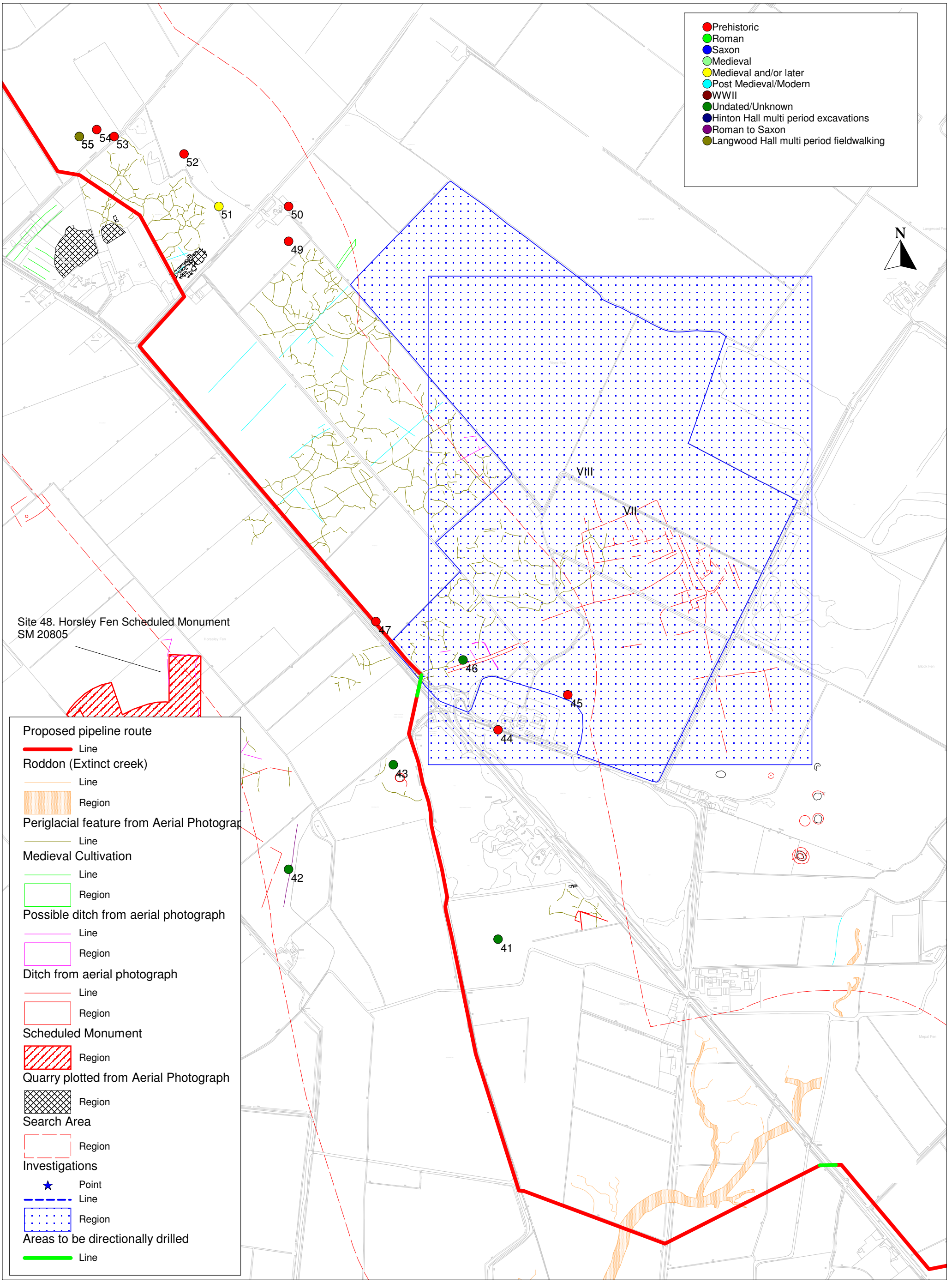


Figure 6. Block Fen area Archaeological Sites

Archaeological Project Services		
Project Name: Sutton to March Rezone Chatteris to Haddenham		
Scale 1:10000	Drawn by: DT	Report No: 08/2008

Fieldwalking along Ely, Apes Hall, Soham area bypasses, 1980s

Prehistoric
Roman
Saxon
Medieval
Medieval and/or later
Post Medieval/Modern
WWII
Undated/Unknown
Hinton Hall multi period excavations
Roman to Saxon
Langwood hill

N

Proposed pipeline route
Line
Roddon (Extinct creek)
Line
Region
Periglacial feature from Aerial Photograph
Line
Medieval Cultivation
Line
Region
Possible ditch from aerial photograph
Line
Region
Ditch from aerial photograph
Line
Region
Scheduled Monument
Region
Archaeological investigation events
Point
Line
Region
Study area
Region
Quarry plotted from Aerial Photograph
Region
Listed Buildings
Point
Areas to be directionally drilled
Line

0m 500m

Figure 7. Chatteris Area Archaeological Sites

Archaeological Project Services		
Project Name: Sutton to March Rezone Chatteris to Haddenham		
Scale 1:10000	Drawn by: DT	Report No: 08/2008

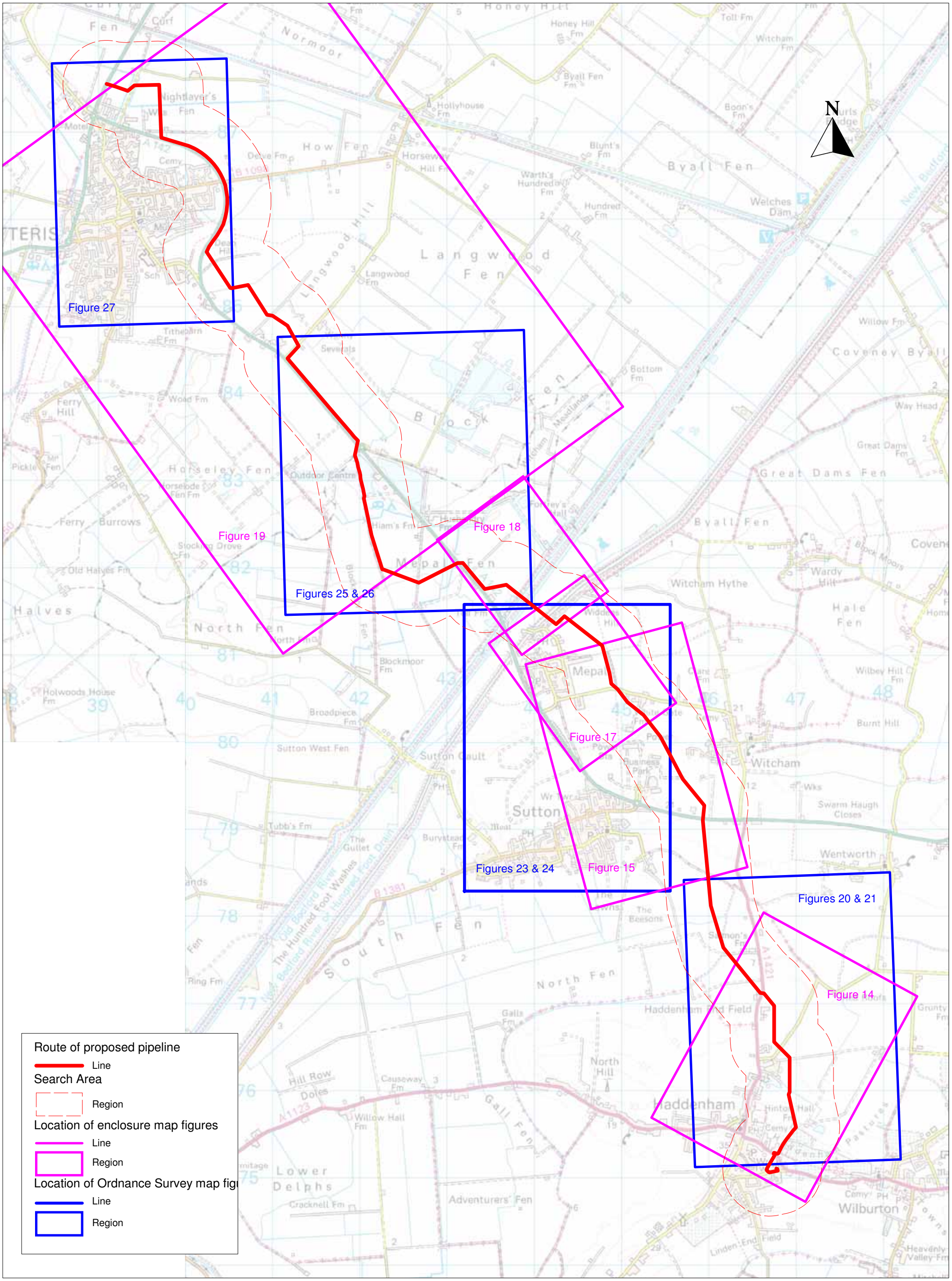


Figure 8 Location of 1st, 2nd editions OS maps and enclosure award maps

Archaeological Project Services		
Project Name: Sutton to March Rezone Chatteris to Haddenham		
Scale 1:40000	Drawn by: DT	Report No: 2008/08

Figure 9. A Map of Sutton & Mepall Levels and Other Fen Lands. From 1750 map.

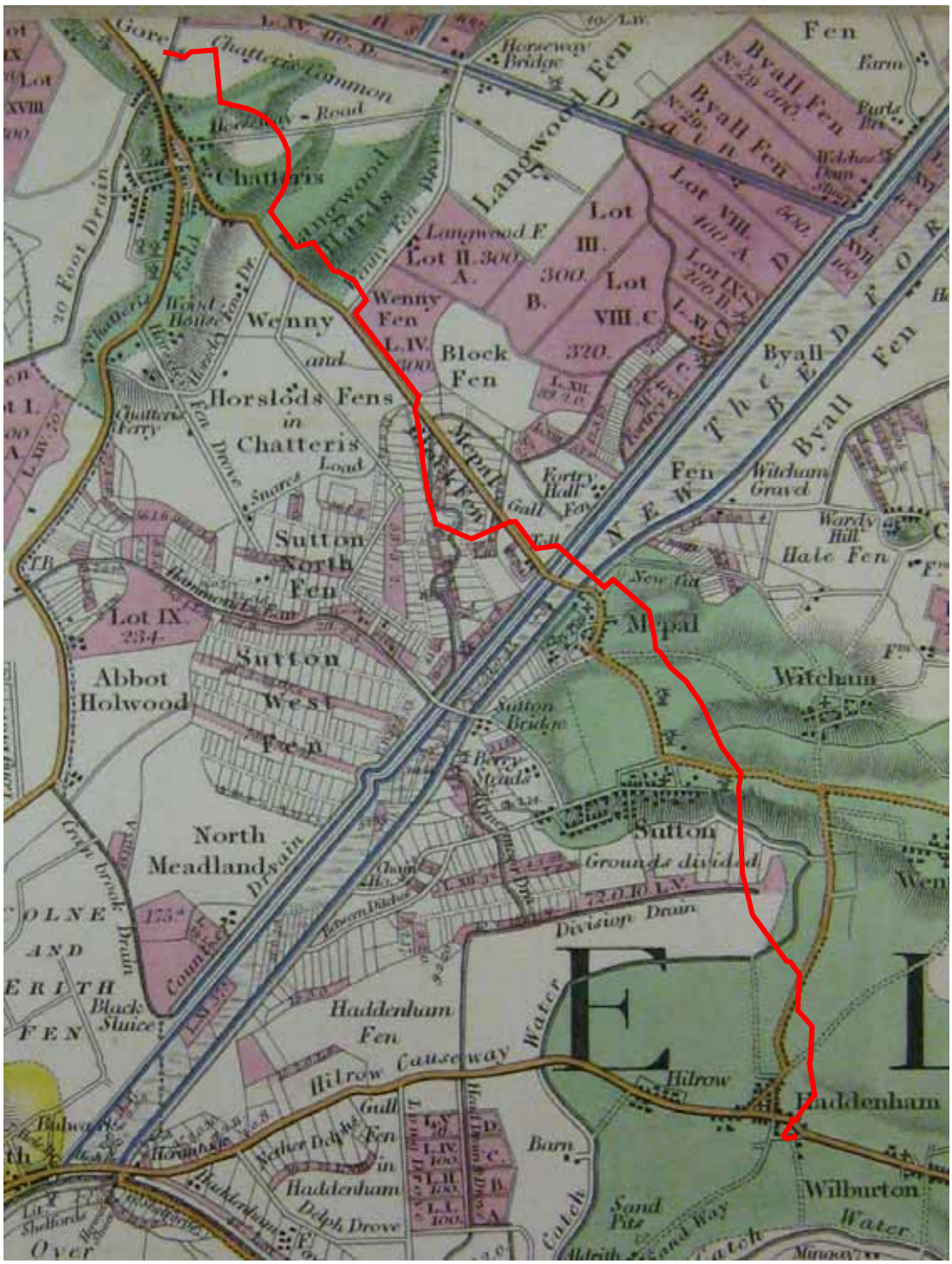


Figure 10. Map of the Bedford Level and 'Parts Adjacent'.

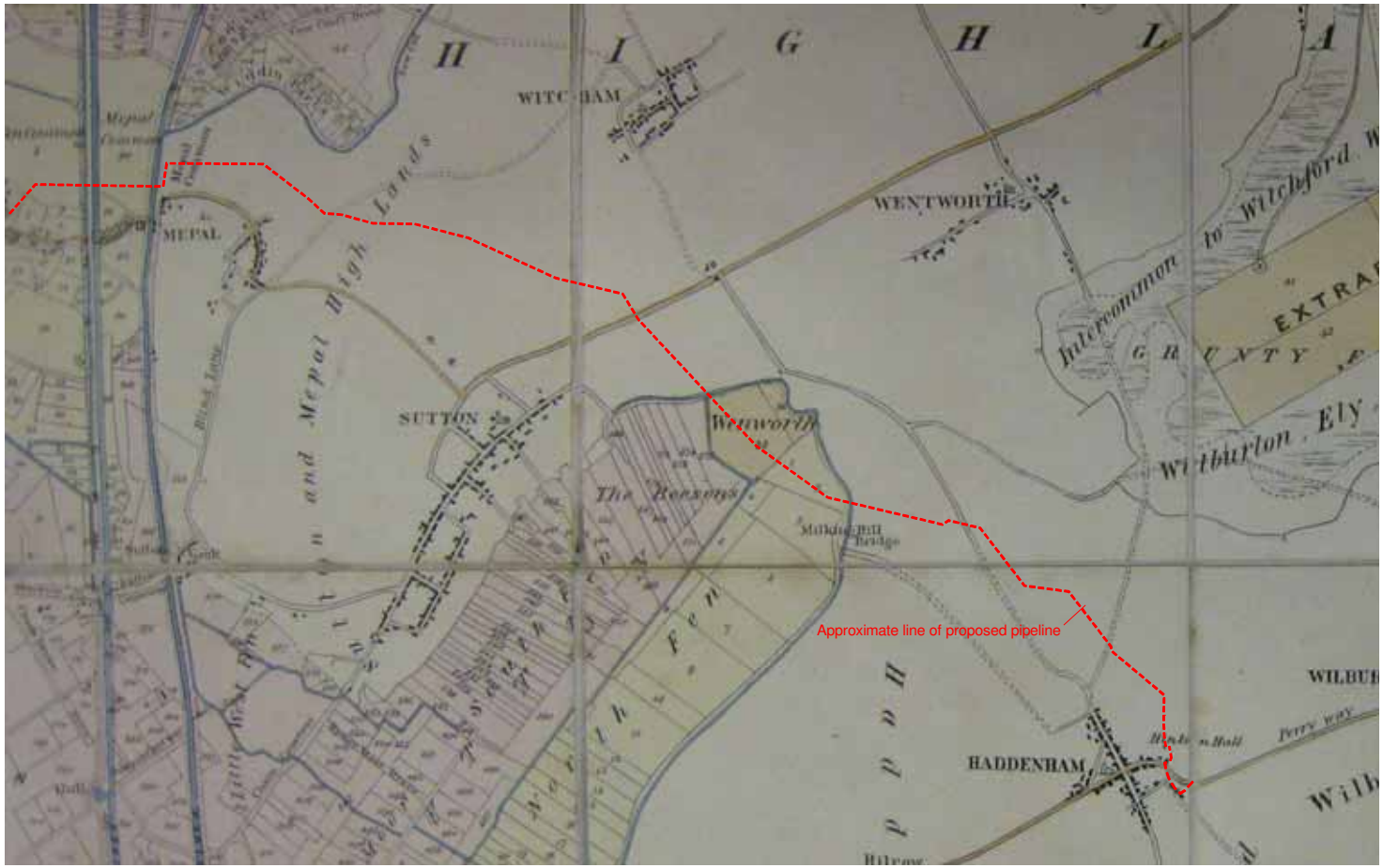
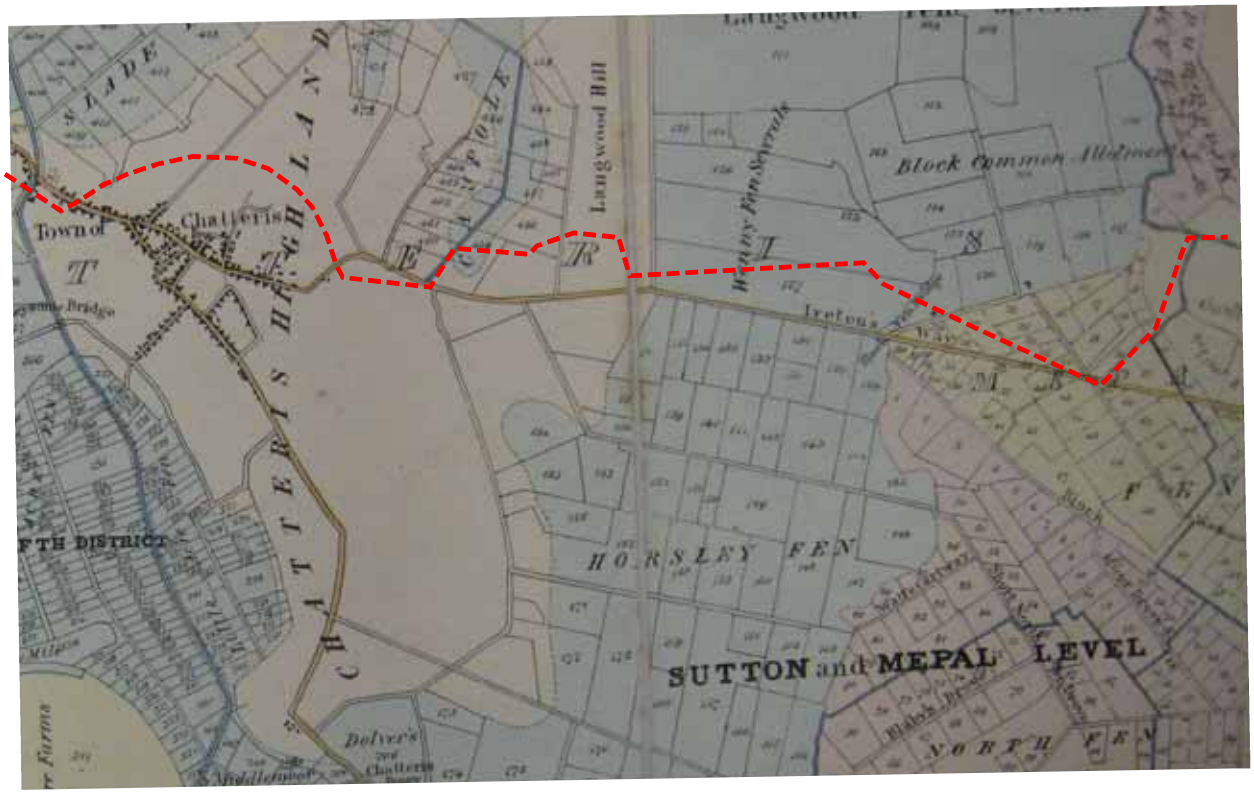


Figure 11 Plan of Lands subject to the Eau Brink Tax. J. G. Lenny 1833 (Southern Section)



Archaeological Project Services

Project Name: Sutton to March Rezone SUMR07
Chatteris to Haddenham

Scale 1:40000	Drawn by: DT	Report No: 08/2008

Figure 12. Plan of Lands subject to the Eau Brink Tax. J. G. Lenny 1833 (Northern Section)

0m 1000m

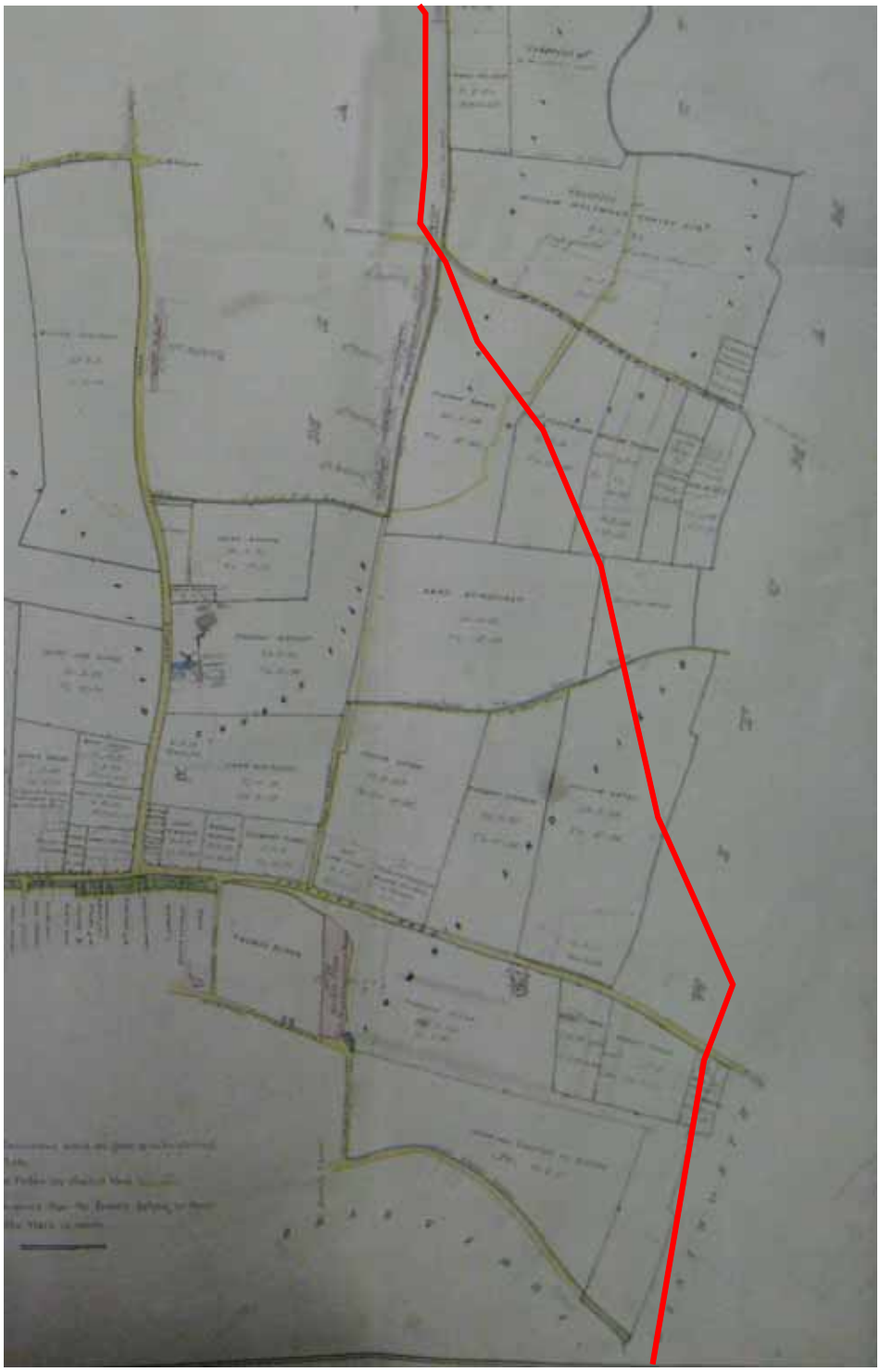
Archaeological Project Services

Project Name: Sutton to March Rezone SUMR07

Scale 1:15000 | Drawn by:DT | Report No: 08/2008

Figure 13. Haddenham. Tithe Map dated 1869. Copy of earlier map?

Figure 14 Haddenham Enclosure Award Map. Dated 1847



N

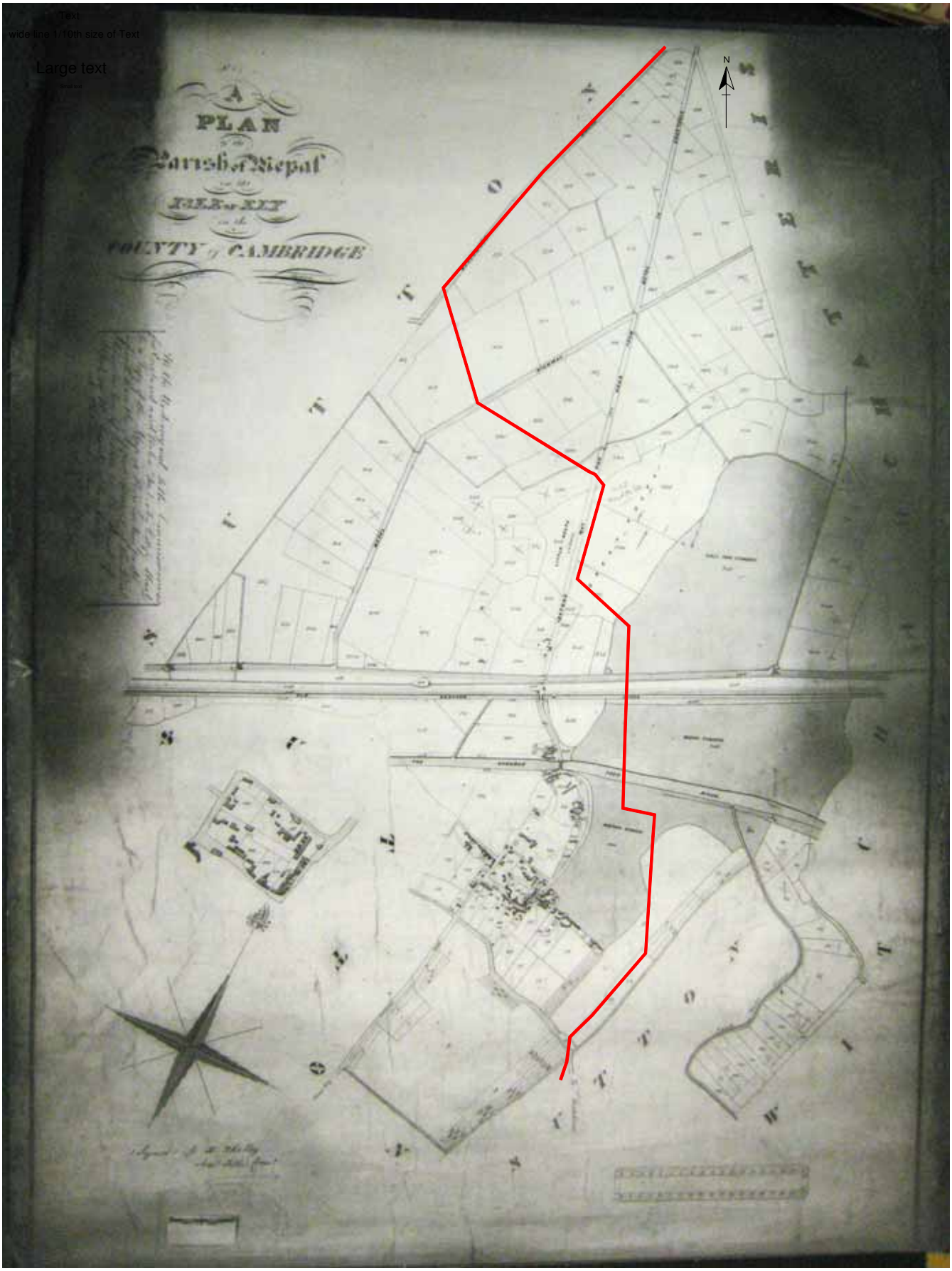
0 m

Archaeological Project Services

Project Name: Sutton to March Rezone SUMR07
Chatteris to Haddenham

Scale 1:15000	Drawn by:DT	Report No: 08/2008

Figure 15. Sutton Enclosure Award Map 1840



Archaeological Project Services		
Project Name: Sutton to March Rezone SUMR07		
Scale 1:15000	Drawn by: DT	Report No: 08/2008

Figure 16. Parish of Mepal. Tithe Map dated March 1840

0m 500m

Archaeological Project Services		
Project Name: Sutton to March Rezone SUMR07 Chatteris to Haddenham		
Scale 1:15000	Drawn by:DT	Report No: 08/2008

Figure 17. Mepal Enclosure Award Map. Dated 1851 (Southern Section)

0m 500m

Archaeological Project Services		
Project Name: Sutton to March Rezone SUMR07 Chatteris to Haddenham		
Scale 1:15000	Drawn by:DT	Report No: 08/2008

Figure 18. Mepal Enclosure Award Map. Dated 1851 (Northern Section)

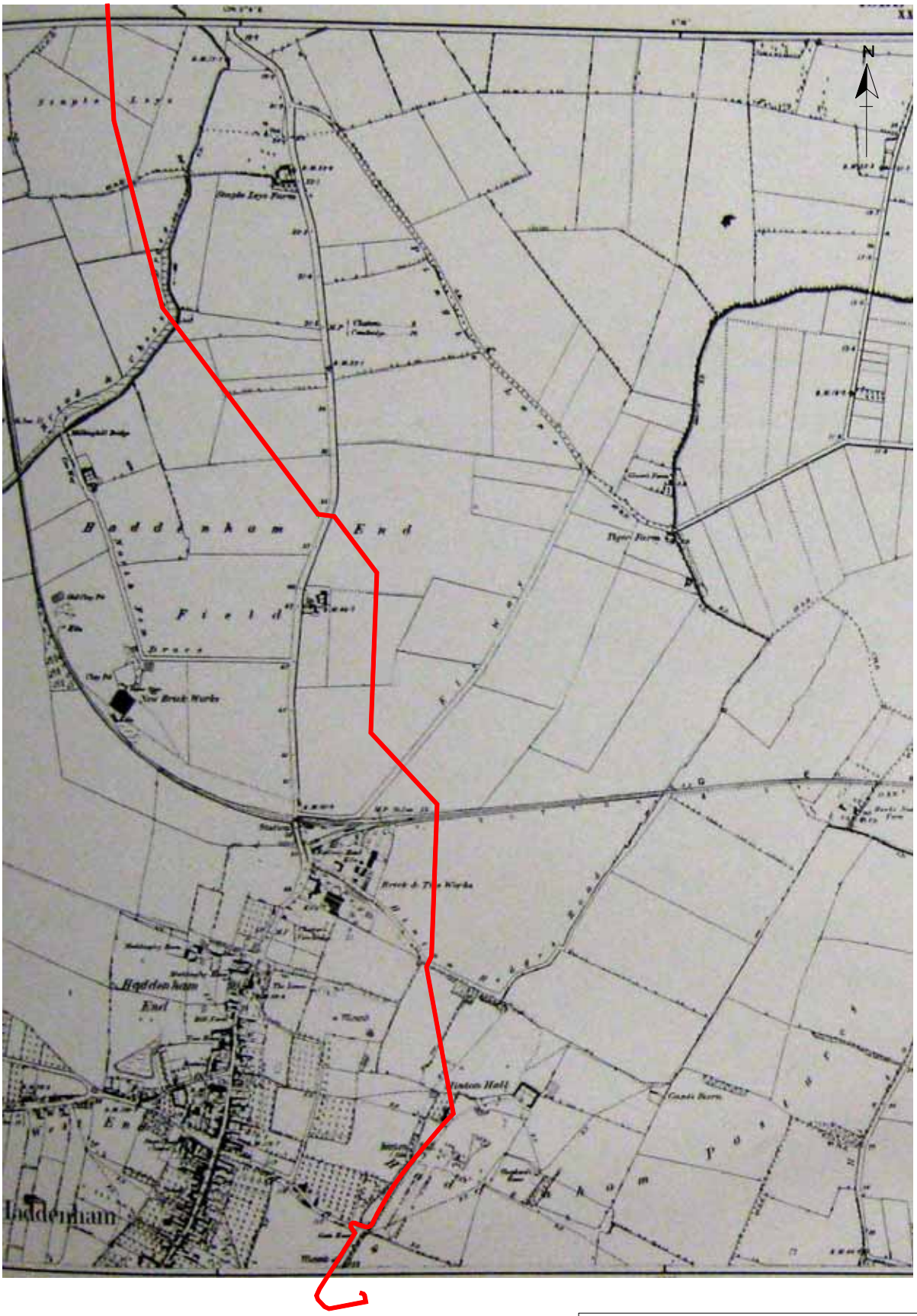
0m 1000m

Archaeological Project Services

Project Name: Suttton to March Rezone SUMR07

Scale 1:15000 | Drawn by: DT | Report No: 08/2008

Figure19. Chatteris Enclosure Award Map. Enrolled 1822



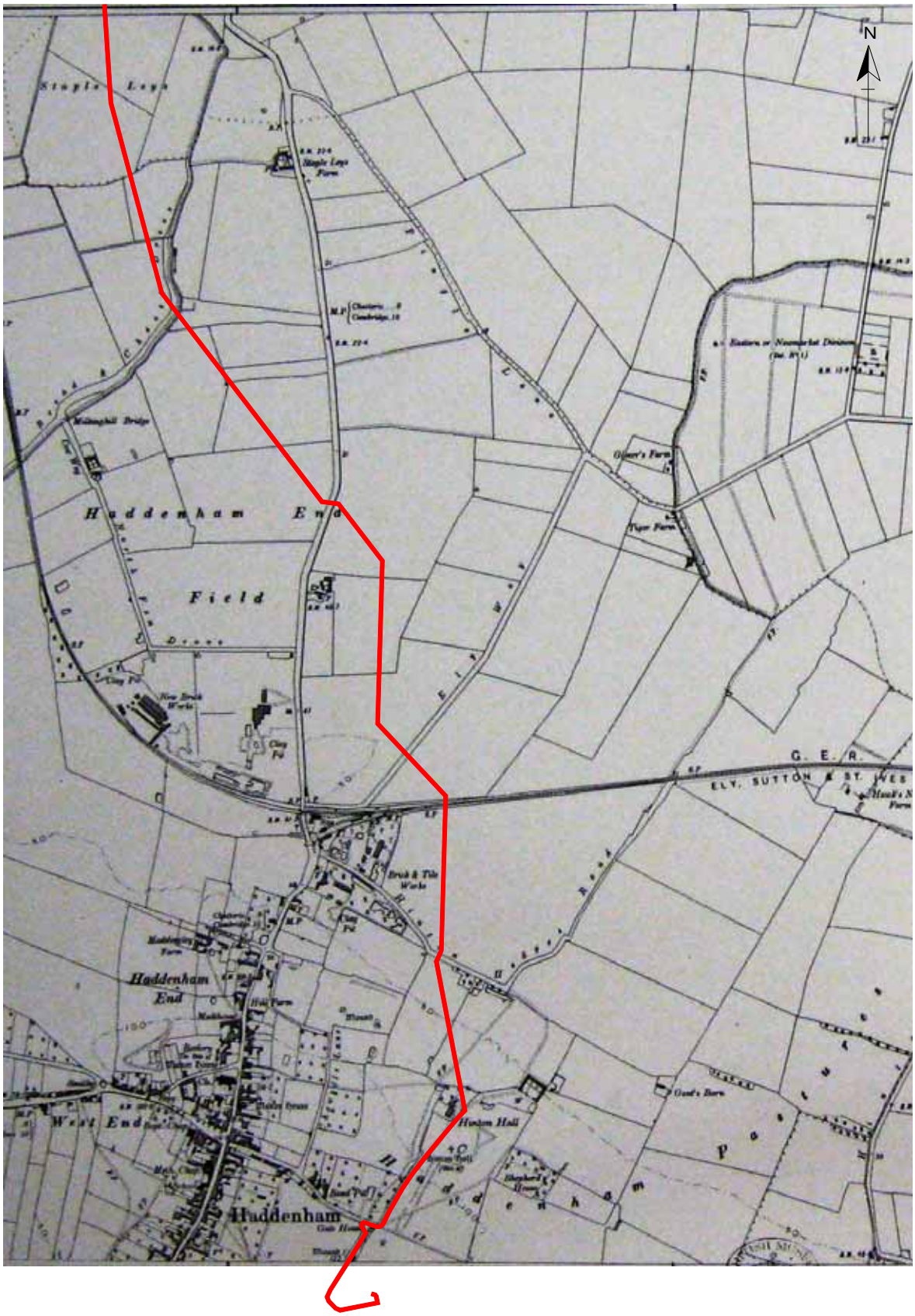
0m 500m

Archaeological Project Services

Project Name: Sutton to March Rezone SUMR07
Chatteris to Haddenham

Scale 1:15000	Drawn by:DT	Report No: 08/2008

Figure 20 Haddenham. 1st Edition Ordnance Survey Map. Dated 1887

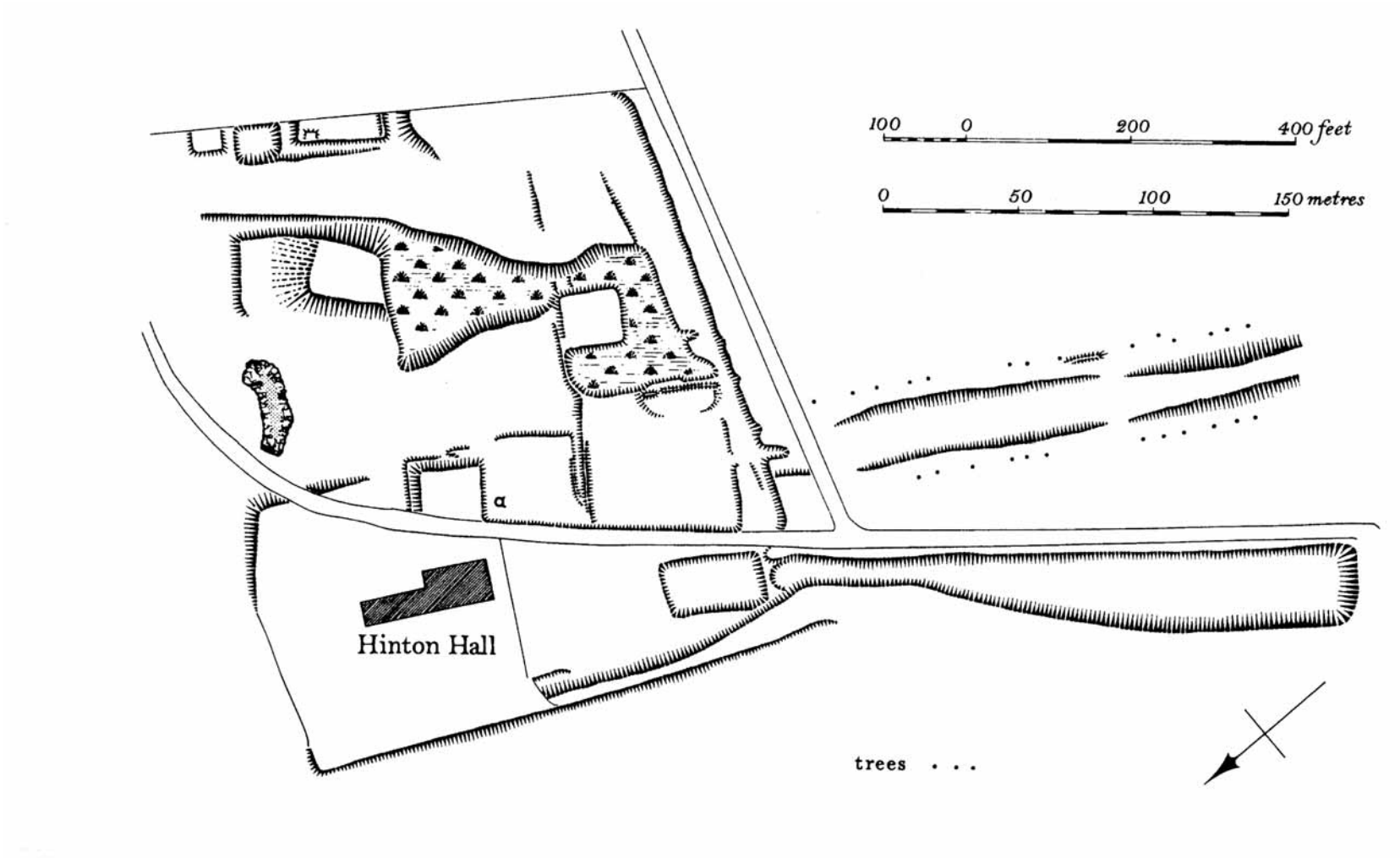


Archaeological Project Services

Project Name: Sutton to March Rezone SUMR07
Chatteris to Haddenham

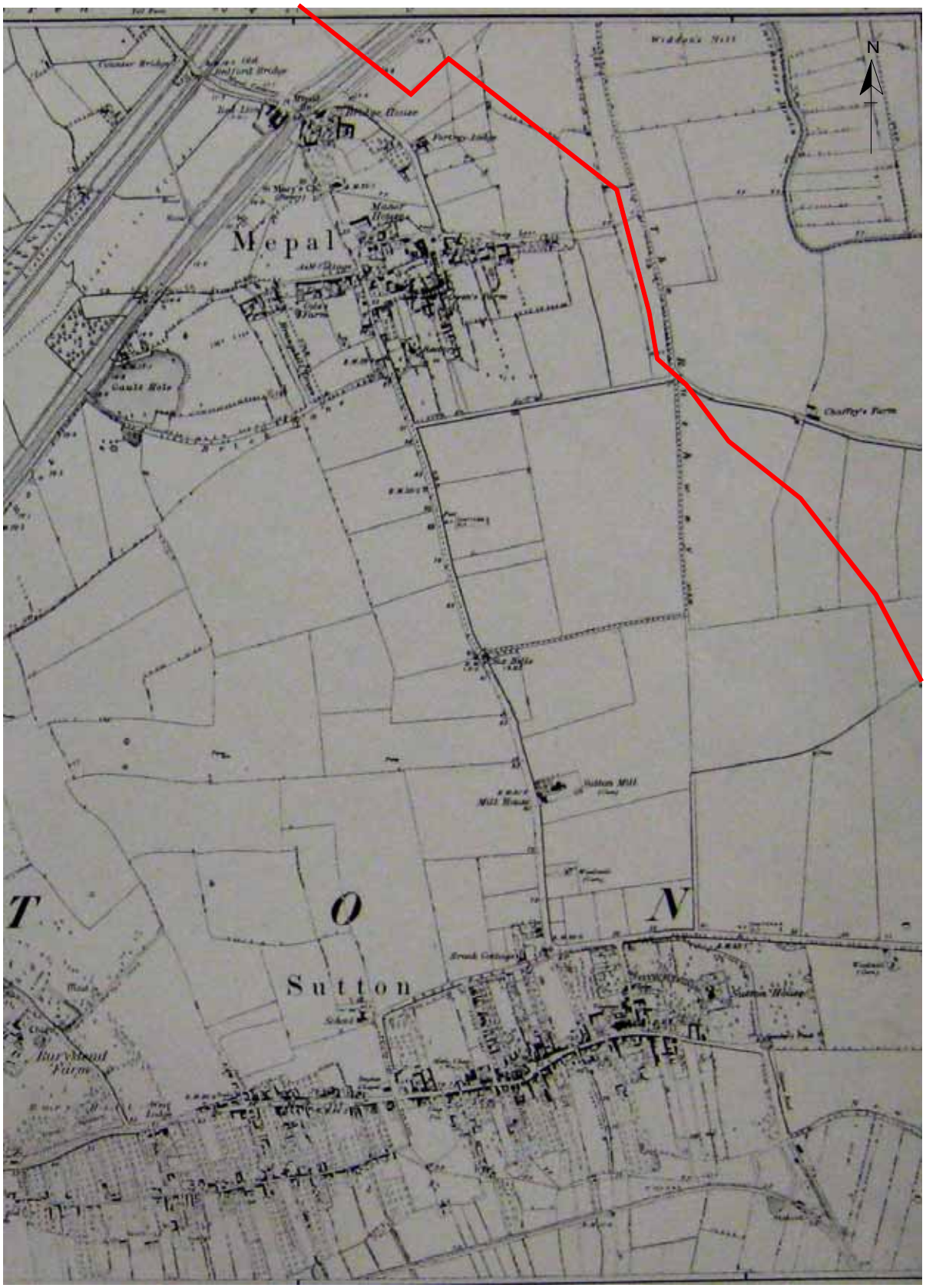
Scale 1:15000	Drawn by:DT	Report No: 08/2008

Figure 21 Haddenham. 2nd Edition Ordnance Survey Map. Dated 1903



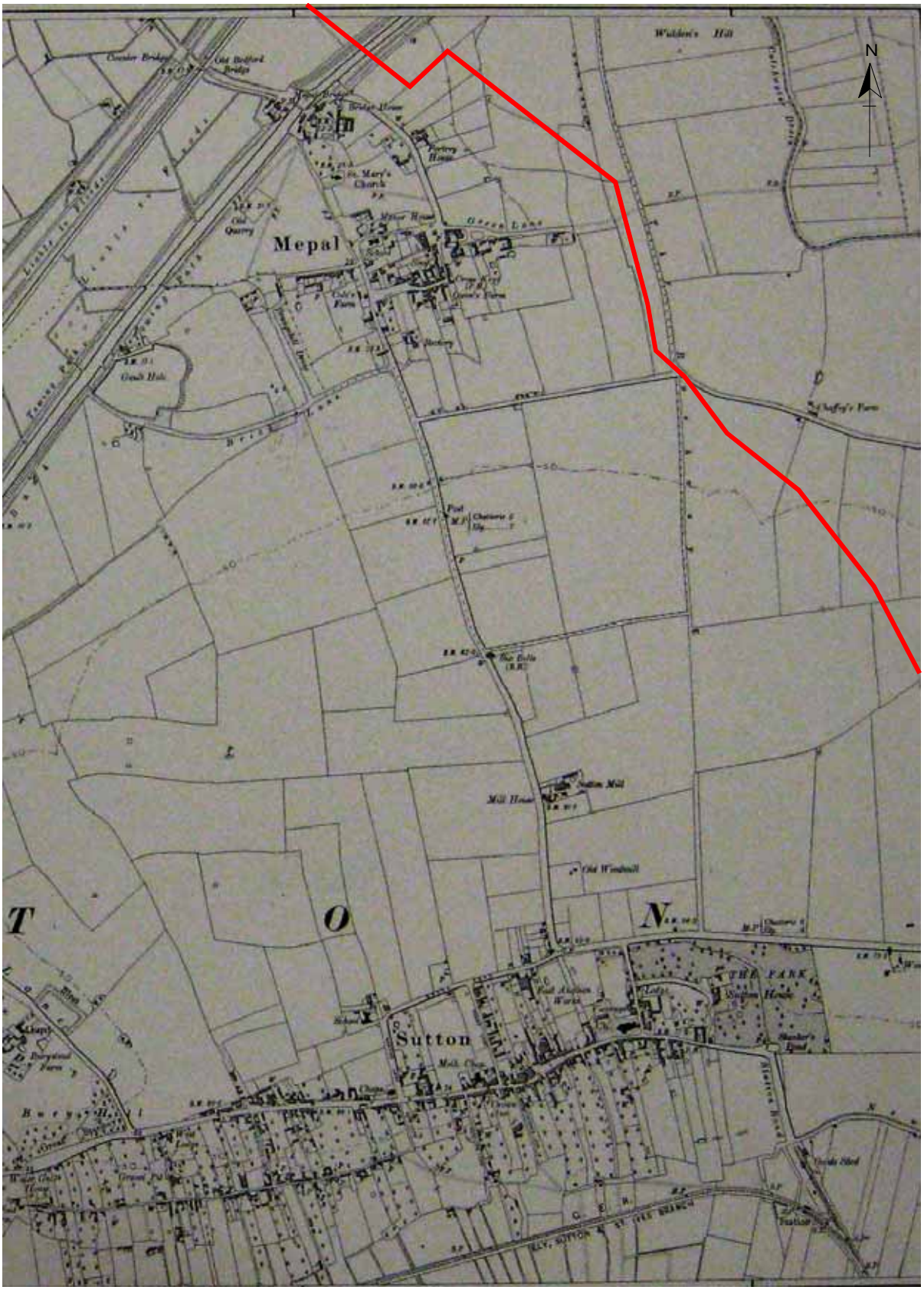
Archaeological Project Services		
Project Name: Sutton to March Rezone Chatteris to Haddenham		
Scale 1:NA	Drawn by: DT	Report No: 08/2008

Figure 22. Hinton Hall, Haddenham, hall and garden remains from Brown and Taylor, 1977



Archaeological Project Services		
Project Name: Sutton to March Rezone SUMR07 Chatteris to Haddenham		
Scale 1:15000	Drawn by:DT	Report No: 08/2008

Figure 23. Sutton and Mepal. 1st Edition Ordnance Survey Map. Dated 1886

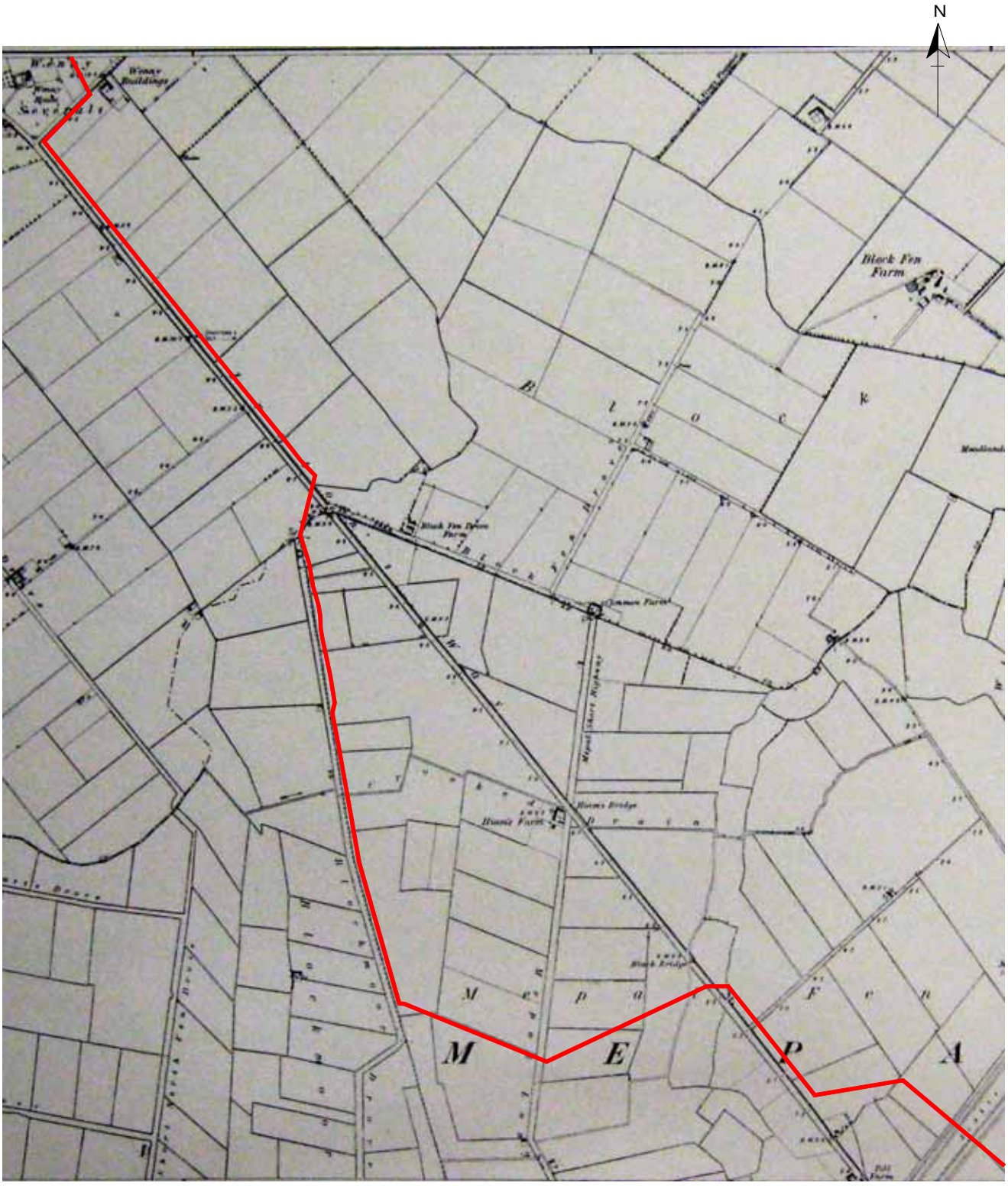


Archaeological Project Services

Project Name: Sutton to March Rezone SUMR07
Chatteris to Haddenham

Scale 1:15000	Drawn by:DT	Report No: 08/2008

Figure 24. Sutton and Mepal. 2nd Edition Ordnance Survey Map. Dated 1903

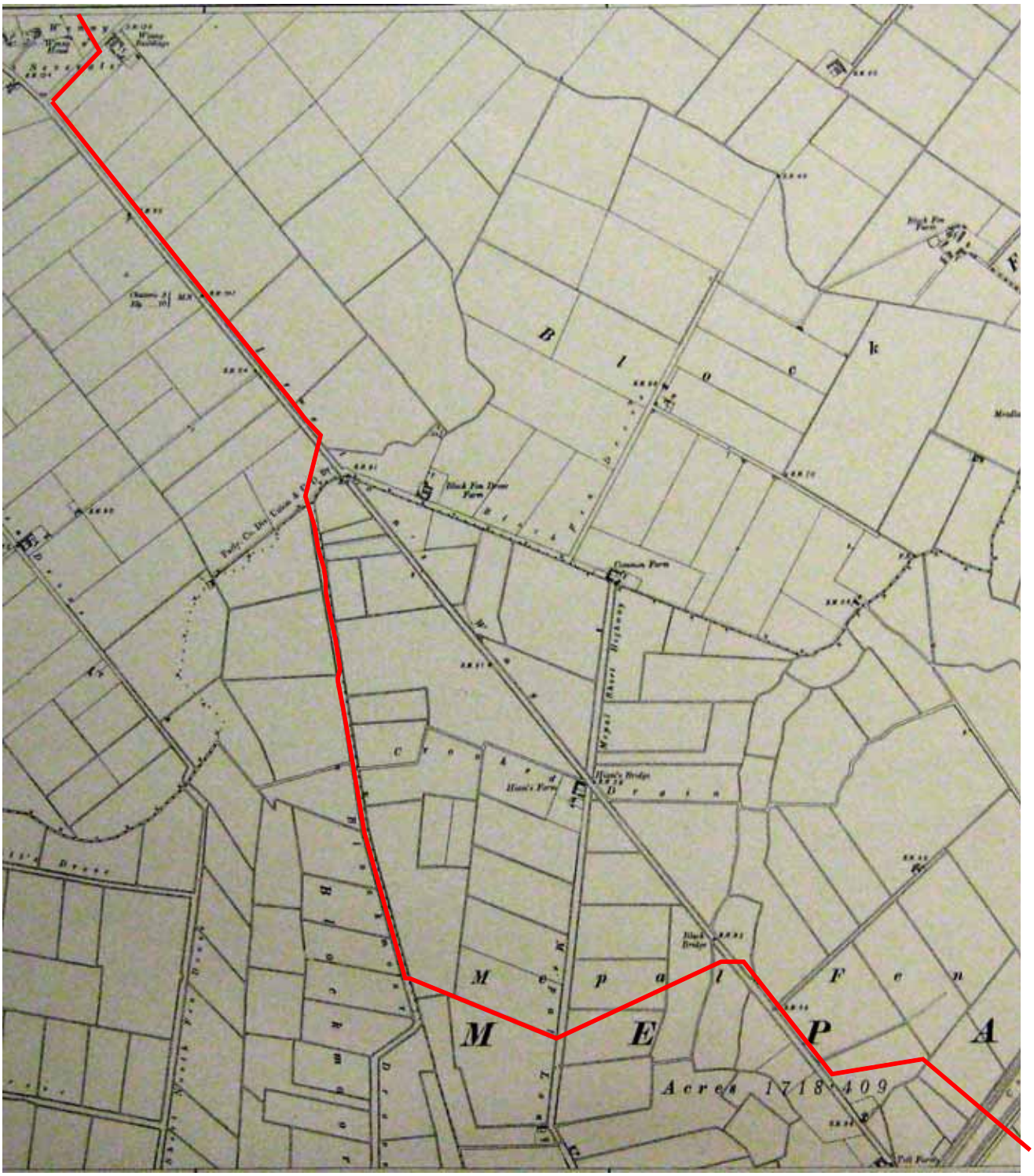


Archaeological Project Services

Project Name: Sutton to March Rezone SUMR07
Chatteris to Haddenham

Scale 1:15000	Drawn by:DT	Report No: 08/2008

Figure 25 Mepal and Block Fen. 1st Edition Ordnance Survey Map. Dated 1886



Archaeological Project Services		
Project Name: Sutton to March Rezone SUMR07 Chatteris to Haddenham		
Scale 1:15000	Drawn by:DT	Report No: 08/2008

Figure 26 Mepal and Block Fen. 2nd Edition Ordnance Survey Map. Dated 1903

Archaeological Project Services		
Project Name: Sutton to March Rezone SUMR07 Chatteris to Haddenham		
Scale 1:15000	Drawn by:DT	Report No: 08/2008

Figure 27 Chatteris. 1st Edition Ordnance Survey Map. Dated 1887

Plate 1 View at southern end of pipeline route, showing water tower at Haddenham, looking northwest

Plate 2 Extant mound on playing fields at Haddenham, looking east

Plate 3 Earthworks leading to the original site of Hinton Hall, looking northeast

Plate 4 View along the pipeline route, from Hinton Hall, looking north

Plate 5 Extant ridge and furrow at New Farm, Haddenham, looking west

Plate 6 View of pipeline route, nearing Sutton, with site the potential triple ditch in the foreground, looking northwest

Plate 7 View of pipeline route across Nightlayer's Fen Chatteris, taken from Fenton way/Dock Road, looking east

Plate 8 Extant ridge and furrow at Campole Drove, Chatteris, looking northwest

Plate 9 View across Block Fen to Langwood Hill drove, looking north

Plate 10 View along the pipeline route at Langwood Hill Drove, looking northwest

Plate 11 The New Bedford River and point of pipeline crossing at Mepal, looking from Mepal Bridge to the northeast

APPENDIX 1

GAZETTEER OF SITES AND FINDS LISTED IN THE CAMBRIDGESHIRE HER
(*c*.500m to either side of proposed pipeline route)

Map Reference (Figure *)	HER Ref. No.	HER Mon. ID	NGR	Description	Parish	Period
1	05660	MCB6894	TL 4675 7509	Site of Pest House. Documentary sources indicate the building to have stood on a mound. The building and mound no longer exist, the site falling in a landscaped area of grass at the foot of a new water tower.	Haddenham	Post Medieval
2	05802	MCB7068	TL 4665 7511	The site of a mound, cleared to make way for a housing estate, and now occupied by council houses at 18 and 29 Perry close. Excavations by G Fowler and C Bester produced finds of animal bones, together with 15th to 17th century pottery, and a Nuremburg token.	Haddenham	Post Medieval
2	05802A	MCB7069	TL 4665 7511	Excavations on the site of a mound (see HER 05802, above) produced pottery of 13th to 15th century date.	Haddenham	Medieval
3	05719	MCB6960	TL 4671 7520	A large probable mill mound 75ft wide and 6ft high. Described in earlier sources as ditched and flat topped but the ditch no longer exists. A small indentation on top supports the mill mound identification. Alternatively, could be an ornamental mound connected with the 19th century grounds of Hinton Hall.	Haddenham	Post Medieval
4	08651	MCB10370	TL 4690 7544	Find spot at Hinton Hall of medieval pottery.	Haddenham	Medieval
4	08651A	MCB10371	TL 4690 7544	Find spot at Hinton Hall of post Medieval pottery.	Haddenham	Post Medieval
5	MCB16166	MCB16166	TL 46990 75543	Garden remains at Hinton Hall. Now destroyed by agricultural activity, the remains comprised a complex of earthworks, perhaps of the late 17th or early 18th centuries, including ponds, canals, terraces and other features. Subjected to an earthwork survey (Event No. ECB1772).	Haddenham	Post Medieval
6	05795	MCB7059	TL 4697 7557	Medieval manor house at Hinton Hall. The principal part of the manor lay beneath a modern building and the remainder had suffered much from 17th and 18th century modifications. Ploughing has removed all earthworks in the vicinity of the hall, but part of the approach road has survived. A hollow lying to the west of the track to the modern hall has been interpreted as a	Haddenham	Medieval

				quarry.		
6	05795A	MCB7060	TL 4697 7557	Saxo-Norman structures at Hinton Hall. The remains of two timber buildings were found beneath medieval remains. The earlier structure was of wattle construction. Pottery of 11th century date was found in association with the buildings. Flooding prevented excavation beneath 10th century levels.	Haddenham	Saxo-Norman
6	05795B	MCB7061	TL 4697 7557	Roman remains found at Hinton Hall included a structure and pottery. Flooding prevented excavation below 10th century levels.	Haddenham	Roman
7	12106	MCB14231	TL 468 757	Relict grounds (parkland) attached to Hinton Hall. Completely destroyed apart from a small garden at the existing 19th century house.	Haddenham	
8	05718	MCB6959	TL 467 758	A series of quarries and associated mounds. Central to the quarries is an area of disturbance, possibly representing a building associated with the workings.	Haddenham	
9	05721	MCB6966	TL 4619 7503	Site of Ovin's Cross as indicated on the OS 25 inch map, 1905. Ovin's Cross (*c.* AD 676?) is now in Ely Cathedral - only the base and foot of the shaft survive. *Victoria County History records that it was moved from Haddenham in the 19th century, where it had long been used as a horse-block.*	Haddenham	Middle Saxon
10	MCB16174	MCB16174	TL 4621 7503	Pilgrim badge found in a garden. Fleurs de lys decoration with circular surround. Probably 14/15th century.	Haddenham	Medieval
11	MCB17365	MCB17365	TL 4627 7509	An evaluation at 69 High Street, Haddenham identified two medieval boundary ditches, a possibly associated trackway, and the base of a shallow medieval feature in the eastern part of the site. A late post Medieval boundary ditch and other late post Medieval/Victorian features were also recorded.	Haddenham	Medieval to 19th Century
12	05623	MCB6856	TL 463 753	Find spot of badly worn Roman coin.	Haddenham	Roman
13	CB15289	MCB15289	TL 46412 75403	An evaluation at 7-11 High Street, Haddenham revealed mid-late Medieval and post Medieval features. One pit and one small posthole along with residual pottery were dated as medieval. The majority of post Medieval features were 18th century, associated with extant buildings at the front of the plot.	Haddenham	Medieval and post Medieval
14	MCB17161	MCB17161	TL 4635 7542	Wesleyan Methodist Chapel. Built in 1800; rebuilt in 1843 and 1891.	Haddenham	18th Century to Modern
15	09831	MCB11678	TL 4650 7548	Saxon inhumations were found at the Three Kings public house. Excavations were carried out in 1989, following the discovery of burials	Haddenham	Early Saxon

				during work to extend the car park. A double burial was found – the male accompanied by a spear, knife, shield boss and buckle, the female by 27 amber and 7 glass and silver beads, a bronze brooch, tweezers and a spindle whorl. Clearance over a larger area revealed only fragmentary human remains (representing identifiably 9 individuals). The burials probably all date from the first half of the sixth century. The limits of the cemetery were not established.		
16	MCB17162	MCB17162	TL 4638 7552	Baptist chapel built in 1905, taking over from the old Baptist church.	Haddenham	Modern
17	05697	MCB6935	TL 464 756	Holy Trinity Church. Pevsnor notes that the building looks Victorian but is predominantly late 13th to early 14th century. Building appears to have started at the chancel end, with the chancel arch and clerestory remodelled in the 15th century.	Haddenham	Medieval to Modern
18	09869	MCB11725	TL 465 762	Earthworks of sinuous ridge and furrow running north-south. Present in the whole field and includes a possible headland.	Haddenham	Medieval
19	09868	MCB11724	TL 466 771	Earthworks of ridge and furrow observed in 'Haddenham Field', New Farm. Ploughed in some areas but still visible in favourable light conditions.	Haddenham	Medieval
20	CB15177	MCB15177	TL 467 775	Night and daytime bombing decoy for RAF Wyton and RAF Waterbeach.	Haddenham	World War II
21	07715	MCB9323	TL 46236 78850	Roman settlement represented by pottery recorded during the Fenland Survey. The finds were associated with a 'dark area' and pebbles.	Wentworth	Roman
22	07713	MCB9321	None Given	Pottery indicating Saxon settlement. Recorded during the Fenland Survey	Wentworth	Saxon
23	MCB16695	MCB16695	TL 46 79	Find spot of Roman pottery scatter reported by metal detectorist.	Sutton	Roman
24	05596	MCB6827	TL 458 791	A windmill depicted on the enclosure map of 1840.	Sutton	Medieval to 19th C
25	05595	MCB6826	TL 455 791	A windmill depicted on the enclosure map of 1840.	Sutton	Medieval to 19th C
26	09272	MCB11080	TL 456 794	Ridge and furrow visible as a cropmark on vertical AP's	Witcham	Medieval
27	09271	MCB11079	TL 465 794	Ridge and furrow visible as a cropmark. Further extent apparent on the ground	Witcham	Medieval
28	MCB16614	MCB16614	TL 452 800	Extant straw burning power station. Built in 2000.	Sutton	Modern
29	05838	MCB7108	TL 46 80	Find spot of a bronze socketed spearhead.	Witcham	Bronze Age
30	MCB16308	MCB16308	TL 46082 79986	An evaluation at 30 Silver Street, Witcham revealed a large number of features, the majority dating to the medieval period, and comprising a series of parallel ditches with associated pits and a gully. Some undated and post Medieval features were recorded. Further excavation revealed post Medieval surfaces interpreted as yards, as well as ditches interpreted as drainage and property boundaries, suggesting reorganisation of property divisions in the 18th century. The skeletal remains of three dogs were found (16th – 18th C).	Witcham	Medieval to 20th Century

31	09269	MCB11077	TL 451 807	Ridge and furrow between Mepal and Witcham, surviving as low earthworks *c*. 0.20m high. Extends through two fields – in one aligned east-west, with another patch aligned north-south. Cropmarks of adjoining ridge and furrow to the north and south are visible on AP's.	Sutton	Medieval
32	11464	MCB13474	TL 4463 8075	Cropmarks of ridge and furrow, aligned north-south. Slight earthwork ridge and furrow lies to the west, on what is now the Recreation Ground.	Mepal	Medieval
33	09505	MCB11318	TL 4527 8118	Cropmark of a rectangular enclosure. Small, rectangular ditched enclosure visible on RAF AP's.	Mepal	Unknown
34	MCB16264	MCB16264	TL 449 815	Find spot of Roman pottery and metalwork. Saxon metalwork was also found by metal detector.	Mepal	Roman to late Saxon
35	MCB17181	MCB17181	TL 4417 8093	Extant building. Mepal Baptist Chapel. The chapel of the 'United Protestant Dissenters' dates from 1846. The building is now used as a Baptist Chapel, but the congregation is not in association with the Baptist Union.	Mepal	19th Century to Modern
36	05831	MCB 7101	TL 441 811	At Manor Farm, Mepal, earthworks of a possible shrunken village are visible on RAF and CUCAPAP's. The earthworks are in fields surrounding the church, which stands slightly apart from the village. Various banks and ditches have been noted, as wells as hollow ways and probable house platforms; also ridge and furrow in a field situated to the west of a path running north from the church. A headland has been observed, running N-S through trees north of the church. A possible pond lies between Manor Farm and the church, and a possible moat extends around Manor Farm.	Mepal	Medieval
37	CB14893	MCB14893	TL 4406 8110	St Mary's Church. Built in rubble and flint with Barnack stone dressings, consisting of a chancel, nave and south porch, with a double bellcote on the west gable of the nave. The nave and chancel date from the first half of the 13th century. Listed building	Mepal	13th Century to modern
38	9270	MCB11078	TL 439 810	Ridge and furrow surviving as low earthworks *c*. 0.20m high.	Mepal	Medieval
39 *	12172	MCB14297	TL 440 810	Gardens at Bridge House.	Mepal	Medieval
40	08042	MCB9682	TL 436 816	Find spot of a polished stone axe and smoothed pebble found at Hall (=Toll?) Farm, near Mepal Bridge. Exact location not known	Mepal	Neolithic
41	09493	MCB11305	TL 422 827	A circular cropmark showing on MAFF AP's. The blurred, dark ring is 30m in diameter.	Mepal	Unknown
42	10670	MCB12648	TL 416 829	Cropmark comprising three linear, parallel bank-like features. The central one lies along the otherwise unmarked Chatteris/Sutton parish boundary. Noted on NMR AP's.	Chatteris	Unknown
43	09482	MCB11293	TL 419 832	AP's show cropmarks of ring ditches. No surface trace was in evidence but	Sutton	Unknown

				a spread of light sand was observed from the field edge.		
44	05823	MCB7092	TL 422 833	Find spot of a flint axe-head.	Mepal	Neolithic
45	08888	MCB10665	TL 424 834	Find spot of Neolithic axe. No details available	Chatteris	Neolithic
46	10675	MCB12653	TL 421 835	Cropmark of a linear ditch in Block Fen. Probably the westerly continuation of a feature from cropmarks at Site 22 (Fenland Survey, Chatteris).	Chatteris	Unknown
47	10907	MCB12818	TL 4185 8361	Undated hearth represented by burnt stone and flint, fire-cracked flint and a few waste flakes. Presumed by DN Hall to be Neolithic. (Site U3, Fenland Survey, Chatteris)	Chatteris	Prehistoric
48	08799	SAM20805	TL 4104 8335	Neolithic enclosures at Grey's Farm, Horsley Fen (Scheduled Monument 20805). Finds scatter located by the Fenland Survey comprises a dark area yielding flints (including large scrapers), pottery, burnt flint and a large quantity of burnt pebbles. The monument, as seen on AP's includes three adjoining enclosures defined by interconnecting ditches. On the eastern side of the western enclosure there are remains of an internal bank and part of the ditch survives as an earthwork. Sampling of this ditch revealed a depth of up to 1.5m and evidence of a palisade slot. The enclosures are the most outstanding in a series of features, some ceremonial in character, indicated by cropmarks over an area of c. 68ha and dated to the Neolithic or Bronze Age.	Chatteris	Neolithic
49	05805	MCB7072	TL 416 847	Find spot of a stone axe hammer found at Wenny Farm East.	Chatteris	Bronze Age
50	01516	MCB1934	TL 416 848	Find spot of looped palstave found in 1963, during drain cutting on Wenny Farm.	Chatteris	Bronze Age
51	12002	MCB14127	TL 414 848	Find spot of lead disc, decorated on the front with a raised 'flower' design. Possibly a horse decoration.	Chatteris	Medieval to 19th Century
52	10893	MCB12798	TL 4130 8495	Cropmark and Iron Age pottery from an area of dark soil. Believed to represent site of occupation. (Site 24, Fenland Survey, Chatteris)	Chatteris	Iron Age
53	08793	MCB10567	TL 411 850	Find spot of Iron Age material located during the Fenland Survey.	Chatteris	Iron Age
54	05813	MCB7080	TL 4105 8502	Find spot of a flint core and blade/scraper.	Chatteris	Bronze Age
55	01512	MCB1930	TL 41 85	Find spot of Roman and other pottery from Langwood Hill: several hundred sherds collected by field-walking from 1963 onwards, representing all periods but predominantly of Roman (over 50 sherds).	Chatteris	Early Bronze Age to Medieval
55	01532	MCB1973	TL 41 85	Find spot of assorted Bellamine ware sherds.	Chatteris	Post Medieval
56	05804	MCB7071	TL 405 852	Find spot of barbed and tanged flint arrowheads.	Chatteris	Bronze Age
57	08771	MCB10533	TL 401 854	Brick foundations of a substantial building were found during fieldwalking along the route of the Chatteris bypass. The foundations were associated	Chatteris	Post Medieval

				with an area of brick paving. Pottery recovered from the site ranged between 14th and 17th century in date, with the majority dated to around AD 1600. The building, which post-dated ridge and furrow earthworks, has been interpreted as forming part of a Medieval/post Medieval agricultural complex, possibly incorporating a stable or sheepfold.		
57	08771A	MCB10534	TL 401 854	Ridge and furrow was observed in a field bounded by Wenny Road and Campole Drove, and bisected by the Chatteris bypass. An AP shows more ridge and furrow in an adjoining field to the west. Occasional pottery sherds were found during fieldwalking along the route of the bypass.	Chatteris	Medieval
57	08771B	MCB10535	TL 401 854	Find spot of possible flint knaps were found during fieldwalking along the route of the bypass.	Chatteris	Prehistoric
58	11462	MCB13472	TL 4080 8573	Cropmarks indicating north-south and east-west aligned ridge and furrow.	Chatteris	Medieval
59	09481	MCB11292	TL 4014 8586	Traces of a circular enclosure are visible on RAF AP's. It is about 60m in diameter and there is an entrance on the southern side. The interior appears to be slightly raised.	Chatteris	Unknown
60	CB14729	MCB14729	TL 40205 85955	Find spot of 17-18th century iron sword found at 'The Elms'.	Chatteris	Post Medieval
61	09861	MCB11717	TL 403 860	Very low ridge and furrow earthworks seen from the bypass, running approximately east-west. Visible on CUCAP AP's	Chatteris	Medieval
62	11463	MCB13473	TL 4080 8615	Cropmarks of northeast-southwest aligned ridge and furrow.	Chatteris	Medieval
63	CB15163	MCB15163	TL 405 863	Site of searchlight battery, with nearby Type 22 pillbox (extant but condition unknown).	Chatteris	World War II
64	MCB15979	MCB15979	TL 40042 86326	Find spot of polished flint axe found in the garden of No. 3 Delve Terrace, New Road, Chatteris.	Chatteris	Neolithic
65	MCB16699	MCB16699	TL 40033 86325	Neolithic axe found in a garden at a reported depth of 3 ft. Black polished stone.	Chatteris	Neolithic
66	11461	MCB13471	TL 4065 8670	Faint cropmarks indicating ridge and furrow.	Chatteris	Medieval
67	08670	MCB10394	TL 3940 8650	A survey of earthworks in 1990, carried out in advance of a residential development, revealed remains of ridge and furrow covering 4ha, in fields known as Manor Park, located east of the High Street and north of New Road, Chatteris. The remains comprised three groups (furlongs) of ridge and furrow. The northeastern furlong was bounded by ditches to the south and west.	Chatteris	Medieval
68	01528	MCB1969	TL 393 869	Architectural fragments from the former abbey of St Mary, Chatteris. Comprises four worked stones, one a lintel and two possibly from columns.	Chatteris	Medieval

69	MCB16469	MCB16469	TL 394 875	Type 28 anti-tank gun emplacement (pillbox). Extant but condition unknown.	Chatteris	World War II
70	CB15314	MCB15314	TL 3853 8737	An evaluation on Doddington Road, Chatteris revealed only a few Medieval and post Medieval pottery sherds, a small quantity of animal bone and some building material. Gravel extraction during the post Medieval period and beyond may account for the low level of activity.	Chatteris	Medieval and post Medieval
71	03686	MCB4515	TL 39 88	Find spot of flint axe, Curf Fen. No details.	Chatteris	Prehistoric

* Bridge House wrongly located by HER – lies immediately adjacent to Mepal Bridge

APPENDIX 2

GAZETTEER OF RECORDING EVENTS

MAP REF.	EVENT NO.	SITE NAME/ DESCRIPTION	FIELDWORK BY	DATE
I	ECB1772	Earthwork survey of garden remains relating to Hinton Hall, Haddenham	Dept of Adult Education, Leicester, London Extra-Mural Dept and Cambridge Extra Mural Board	1969
II	ECB2160	Evaluation at 69 High Street, Haddenham	The Heritage Network	February 2006
III	ECB194	Evaluation at 7-11 High Street, Haddenham	Cambridge Archaeological Unit	April 1998
IV	ECB958	Salvage excavation at the Three Kings, Haddenham	Cambridgeshire County Council Archaeological Field Unit	January 1990
V	ECB1846	Evaluation at 30 Silver Street, Witcham	Archaeological Solutions	December 2004
V	ECB1865	Excavation at 30 Silver Street, Witcham	Archaeological Solutions	January 2005
VI	ECB2771	Monitoring visit to inspect foundations revealed by digging at the western end of St Mary's church, Mepal.	Tony Baggs	June 2004
VII	ECB1547	AP assessment at Block Fen	Air Photo Services (Cambridge)	May 1992
VIII	ECB1373	Evaluation at Block Fen A, Mepal	Tempus Reparatum	Jan – Nov 1992
IX	ECB442	Fieldwalking along Ely, Apes Hall, Soham area bypasses	Ely & District Archaeological Society	1980-1989
V	ECB573	Earthwork survey at Manor Park, Chatteris,	Cambridgeshire County Council Archaeological Field Unit	Jan – Feb 1990
XI	ECB971	Evaluation of land SW of Doddington Road, Chatteris, Cambridgeshire	Hertfordshire Archaeological Trust	December 2002
XI	ECB1121	AP appraisal, Land SW of Doddington Road, Chatteris	Air Photo Services (Cambridge)	November 2002

APPENDIX 3

GAZETTEER OF LISTED BUILDINGS

MAP REF.	ID NO.	ALT REF.	NAME	DESCRIPTION	STATUS DATE	GRADE	NGR
A	DCB1342	49536	No. 5 Aldreth Rd, Haddenham	House. Late 17th/early 18th C. Red brick, now cement rendered.	18/08/1988	II	TL 46187 74991
B	DCB971	49540	Barn, about 20 yards West of No. 1, Duck Lane, Haddenham	Early 18th C threshing barn.	18/08/1988	II	TL 46314 75039
C	DCB798	49541	No. 57 High Street, Haddenham	Cottage. Early 18th C and late 18th/early 19th C remodelling.	18/08/1988	II	TL 46280 75167
D	DCB800	49546	Three Kings Inn, Station Rd, Haddenham	Early 17th C inn. Some alterations of late 17th C. Timber framed	18/08/1988	II	TL 46432 75503
E	DCB1343	49539	Church of Holy Trinity, Church Rd, Haddenham	Parish church. Late 13th and 14th century. Major restoration in 1876.	05/02/1952	I	TL 46391 75638
F	DCB974	49547	36 & 38 High St, Haddenham	Cottage. Now a pair. Early 18th C, refronted late 18th C.	18/08/1988	II	TL 46448 75804
G	DCB974	49547	36 & 38 High St, Haddenham	See above	As above	II	TL 46445.7 75795.5
H	DCB975	49549	The Beristead, No. 25 Station Rd, Haddenham	House. 1710 with late 18th/early 19th C alterations.	18/08/1988	II	TL 46444.8 75882.5
I	DCB765	49548	The Limes, No. 40 Station Rd, Haddenham	Three principal building periods: 16th, mid 17th and early 19th C. Includes timber frame.	19/08/1982	II	TL 46470 75896
J	DCB1356	49555	15 High Street, Mepal	House. Mid to late 18th C in brick.	18/08/1988	II	TL 44332 80859
K	*	*	No. 8 High Street, Mepal	House. Early 19th C in brick	18/08/88	II	TL 44310 80820
L	DCB977	49554	No. 3 High Street, Mepal	Cottage. Late 17th C. Timber framed	18/08/1988	II	TL 44183 80868
M	*	*	No. 1 High Street, Mepal	House. Of *c.* 1840. Brick and stone dressings	18/08/88	II	TL 44160 80840
N	DCB1262	49558	Ash Cottage, No. 2 School Lane, Mepal	Cottage. Late 17th or early 18th C. 19th C extension. Mainly brick but	05/02/1952	II	TL 44149 80881

				possibly some timber framing			
O	DCB978	49556	St Mary's Church, River Close, Mepal	Parish Church, 13th C with restorations of 19th/20th C.	05/02/1952	II*	TL 44066 81106
P	DCB767	49551	Grove House, Bridge Rd, Mepal	House. Late 18th or early 19th C. Brick-built with slate roof.	18/08/1988	II	TL 44027 81296

* ID No. not supplied

APPENDIX IV

AERIAL PHOTOGRAPHIC ASSESSMENT

AIR PHOTO SERVICES
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AWS CHATTERIS TO HADDENHAM PIPELINE, TL391874 to TL468750, CAMBRIDGESHIRE:

AERIAL PHOTOGRAPHIC ASSESSMENT

REPORT No: 2007/23

DECEMBER 2007

Commissioned by:
Archaeological Project Services
The Old School
Cameron Street
Heckington
Sleaford
Lincs NG34 9RW

AWS CHATTERIS TO HADDENHAM PIPELINE,

TL391874 to TL468750,

CAMBRIDGESHIRE:

AERIAL PHOTOGRAPHIC ASSESSMENT

SUMMARY

This assessment of aerial photographs examined a 1 km wide corridor along the route of a 17km pipeline between Chatteris (TL391874) and Haddenham (TL468750) to identify and accurately map archaeological, recent and natural features.

Not all of the soils through which the pipeline passes are good for the purposes of recording archaeological features from the air. However, a number of ditched features was identified on the more gravel-based soils. Of these only two are likely to be cut by the pipeline:

A double ditched track that appears to extend west from a group of enclosures on Block Fen.

A triple ditched feature with adjacent ditches and possible occupation areas.

The pipeline also cuts through ridge and furrow that was formerly parts of the open fields of Chatteris, Mepal-Sutton and Haddenham.

Between Mepal and Sutton, the pipeline crosses land occupied by a Second World War airfield and its associated buildings.

Periglacial cracks occur in the area of Langwood Fen and may hinder ground interpretation.

Original photo interpretation and mapping was at 1:2500 level.

AWS CHATTERIS TO HADDENHAM PIPELINE,

TL391874 to TL468750,

CAMBRIDGESHIRE:

AERIAL PHOTOGRAPHIC ASSESSMENT

Rog Palmer MA MIFA

INTRODUCTION

This assessment of aerial photographs was commissioned to examine a 1 km wide corridor along the route of a 17km pipeline between Chatteris (TL391874) and Haddenham (TL468750). The purpose of the assessment was to identify and accurately map archaeological, recent and natural features and thus provide a guide for field evaluation. The level of interpretation and mapping was to be at 1:2500.

ARCHAEOLOGICAL AND NATURAL FEATURES FROM AERIAL PHOTOGRAPHS

In suitable cultivated soils, sub-surface features – including archaeological ditches, banks, pits, walls or foundations – may be recorded from the air in different ways in different seasons. In spring and summer these may show through their effect on crops growing above them. Such indications tend to be at their most visible in ripening cereal crops, in June or July in this part of Britain, although their appearance cannot accurately be predicted and their absence cannot be taken to imply evidence of archaeological absence. In winter months, when the soil is bare or crop cover is thin (when viewed from above), features may show by virtue of their different soils. Upstanding remains, which may survive in unploughed grassland, are also best recorded in winter months when vegetation is sparse and the low angle of the sun helps pick out slight differences of height and slope.

Grass sometimes shows sub-surface features through the withering of the plants above them. This may occur towards the end of very dry summers and usually indicates the presence of buried walls or foundations. Such dry summers occurred in Britain in 1949, 1959, 1975, 1976, 1984, 1989 and 1990 (Bewley 1994, 25) and more recently in 1995, 1996 and 2006. This does not imply that every grass field will reveal its buried remains on these dates as local variations in weather and field management will affect parching. However, it does provide a list of years in which photographs taken from, say, mid July to the end of August may prove informative. These dry summers are also among the critical dates on which crops on clay soils may indicate the presence of sub-surface features (Evans 2007). Such clay soils occur in the southern part of the pipeline corridor.

Such effects are not confined only to archaeological features as any disturbance of soil and bedrock can produce its own range of shadow, crop and soil. Natural faults and deposits can cause similar differences in crop growth and may also appear as colour differences in bare winter soils. On the gravely soils in parts of this assessment area we may expect indications of

periglacial cracks – which may be mistaken for archaeological ditches – and the fen soils are likely to show the courses of former rivers and streams (roddons), some of which had relevance to the location of former occupation sites. Both can affect the growth of crops and become visible at the same times as archaeological features.

PHOTO INTERPRETATION AND MAPPING

Photographs examined

The most immediately informative aerial photographs of archaeological subjects tend to be those resulting from observer-directed flights. This activity is usually undertaken by an experienced archaeological observer who will fly at seasons and times of day when optimum results are expected. Oblique photographs, taken using a hand-held camera, are the usual products of such investigation. Although oblique photographs are able to provide a very detailed view, they are biased in providing a record that is mainly of features noticed by the observer, understood, and thought to be of archaeological relevance. To be able to map accurately from these photographs it is necessary that they have been taken from a sufficient height to include surrounding control information.

The collection of military obliques recently acquired by English Heritage comprises some 70,000 prints taken in the 1940s, 50s and 60s. Subjects include anti-invasion defences and other military sites along with some post-war developments, rural and coastal sites.

Vertical photographs cover the whole of Britain and can provide scenes on a series of dates between (usually) 1946-7 and the present. Many of these vertical surveys were not flown at times of year that are best to record the archaeological features sought for this Assessment and may have been taken at inappropriate dates to record crop and soil responses that may be seen above sub-surface features. Vertical photographs are taken by a camera fixed inside an aircraft and with its exposures timed to take a series of overlapping views that can be examined stereoscopically. They are often of relatively small scale and their interpretation requires higher perceptive powers and a more cautious approach than that necessary for examination of obliques. Use of these small-scale images can also lead to errors of location and size when they are rectified or re-scaled to match a larger map scale.

Cover searches were obtained from the Cambridge University Collection of Aerial Photographs (CUCAP) and the National Monuments Record: Air Photographs (NMRAP), Swindon. Air Photo Services also hold a small number of photographs that cover parts of the pipeline corridor. Photographs included those resulting from observer-directed flights and routine vertical surveys. Google and Microsoft layers in www.flashearth.com were also examined.

Photographs consulted are listed in the Appendix to this report.

Base maps

Digital data from original survey at a scale of 1:2500 or greater were provided by the client.

Study area

Photographs were examined in detail for a corridor extending 500 m each side of the proposed pipeline route. In places this corridor was slightly extended by the addition of mapping done for earlier assessments.

Photo interpretation and mapping

All photographs were examined by eye and under slight (2x) magnification, viewing them as stereoscopic pairs when possible. NMRC allow photographs to be taken of their photographs and this was done for potentially useful photos using a Canon PowerShot A650 IS. The lens on this camera introduces radial distortion in each image and this was removed using the program PTLens (Niemann 2007). The most informative photographs were transformed to match the digital data using the specialist program AirPhoto (Scollar 2002). All digital photographs were enhanced using the default setting in AirPhoto before being examined on screen. Transformed files were set as background layers in AutoCAD Map, where features were overdrawn, making reference to the original prints, using standard conventions. Layers from this final drawing have been used to prepare the figures in this report and have been supplied to the client in digital form.

Accuracy

AirPhoto computes values for mismatches of control points on the photograph and map. In all transformations prepared for this assessment the mean mismatches were less than ±1.50m. These mismatches can be less than the survey accuracy of the base maps themselves and users should be aware of the published figures for the accuracy of large scale maps and thus the need to relate these mismatches to the Expected Accuracy of the Ordnance Survey maps from which control information was taken (OS 2007).

COMMENTARY

Soils

The Soil Survey of England and Wales (SSEW 1983) shows, in general terms, that the route of the pipeline extends from mixed clay-gravely soils at Chatteris (soil associations 573a: WATERSTOCK and 872a: PEACOCK) through glaciofluvial drift at Langwood Fen (soil association 873: IRETON). South of the Old Bedford Rivers the corridor cuts through clays – mostly Oxford Clay ((soil association 411c: EVESHAM 3) but with a deposit of Boulder Clay (soil association 411d: HANSLOPE) immediately north of Sutton. On the south side of Sutton, the corridor cuts across a more gravely deposit (soil association 872a: PEACOCK). Aerial photographs show that crops on the IRETON and PEACOCK deposits indicate archaeological, natural and recent features that now lie below the surface.

The geology and soils are described in greater detail by David Hall following his field work for the Fenland Survey (Hall 1992; 1996).

Archaeological features (Figures 1-4)

In this assessment, the features recorded on aerial photographs fall into two categories: those that were mostly upstanding in pasture fields at the time of the earliest photography (medieval) and those that are levelled and are visible through their effect on crops growing above them (archaeological, natural and recent). For both types the photographic record may not be complete: upstanding features require sympathetic lighting and those in crops are subject to many variables (date of photography, type of crop, weather, crop management, etc) and may well represent a minimal picture of past activity in this area. The presence of medieval fields may also mask indications of earlier features (Palmer 1996).

Some of the features mapped derive from previous assessments of aerial photographs done in parts of Block Fen and Horseley Fen (Palmer 1991; 1992; 1998a; 1998b; 2001). Copies of the original reports are in Cambridgeshire HER.

Pre-medieval features

Few features have been identified that are directly on the pipeline route. Those within the corridor are as follows:

TL408839: figure 2, 3. Rectangular ditched enclosure at the edge of the corridor. There is no evidence that this extends to the pipeline.

TL414831: figure 2, 3. Various ditches. These intrude into the corridor from the larger group mapped at Horseley Fen (Palmer 1998b).

TL419831: figure 2, 3. A single ring ditch, possibly with a remnant mound (1967 photograph), shows the site of a probable bronze age burial. Recent photographs show a possible arc of a second, and overlapping, ring ditch on its south side (Microsoft VE layer of http://www.flashearth.com). Neither ring ditch is close to the pipe route and are unlikely to extend into it.

TL421835: figure 2, 3. Double parallel ditches appear to extend west from the enclosure group at Block Fen (TL426837: Palmer 1992, 1998a, 2001). If these extend further west they will be cut by the pipeline.

TL424827: figure 3. Possible part of an enclosure of unknown form and extent. There is no evidence that this extends to the pipeline.

TL461781: figure 4. Some 350m of triple ditches with other ditches adjacent (possibly an earlier or later enclosure) and dark areas that may indicate occupation debris. The pipeline cuts through the triple ditches (only one of which is visible at that point). Once the alignment of these ditches had been established it was possible to suggest their

continuation to the east in recent photographs (Microsoft VE layer of http://www.flashearth.com).

Medieval features

Three groups of medieval cultivation have been mapped. These form part of the open fields of Chatteris (figure 2), Mepal-Sutton (figure 3) and Haddenham (figure 4) and would formerly have been more extensive. Most modern fields are now in arable use and the ridge and furrow is levelled, but within the corridor are a few modern pasture fields that retain earthwork medieval fields. In places (eg Chatteris) the distribution of ridge and furrow, on the higher ground, defines the medieval fen edge.

Military features

A Second World War airfield was constructed between Mepal and Sutton (figure 3) and in 1946 was photographed in use by Lancasters. Part of the airfield is within the pipeline corridor and the pipe route cuts across one of the former dispersal pads. In 1946, the airfield had a number of groups of huts to its east, one of which is cut by the pipe route. The Catalogue of UK Airfields (http://www.homepages.mcb.net/bones/06airfields/UK/uk.htm) notes that the airfield was opened in 1943 as part of 3 Group bomber operations. At a later date it was converted to be a base for Thor missiles and the pads for these that were recorded on photographs taken in 1969 although, according to the Catalogue, use of the base for missiles ended in 1963.

Little of the former airfield now survives although part of the perimeter track is followed by modern roads.

Non-archaeological features (Figures 1-4)

Two types of natural feature have been mapped. A number of minor roddons mark former watercourses and occur in the low-lying fenland and here serve to indicate those deposits.

In the area of Langwood Fen (TL4184: figure 2) several modern fields have been recorded with a network of polygonal periglacial fissures below the ground. The presence of these may be confined to a single soil type (soil association 873: IRETON) on which indications of these features is dependent on the date of photography and crop type. Those illustrated indicate the confusing soil conditions that may be encountered in the field after topsoil has been removed.

Some earlier quarrying in the Langwood Fen area (TL411846: figure 2) was apparent on aerial photographs. One group that showed as a series of small hand-dug pits is probably more extensive and filled the area to the north in which no periglacial fissures are mapped. The pipeline route will cut through some of these former quarries.

A small number of former field boundaries has been identified and mapped.

Land use (Figure 5)

Most of the fields in the pipeline corridor have been in arable use on all dates of photography. Exceptions are those pasture fields – mostly indicated on Figure 1 by ridge and furrow – and those around Haddenham that have been orchards. These are indicated in a map of land use as

they may mask evidence of earlier features. Also on that map are symbols (D) that show fields in which drains have been identified. Field drains are likely to damage any archaeological contexts through which they are laid.

The amount of arable land suggests that a good record of archaeological features could have been gathered in the 60 year span of photographs examined for this assessment. However, not all soils in the corridor will readily affect crop growth and it is recognised that archaeological observer-photographers tend to fly where they expect good results will be achieved. Much of the area may have been avoided by those photographers and we are left with the just the possibilities that remain by chance discoveries on photographs taken at times when crops are responding to features below the ground. The triple ditches, recorded during a routine flight by the Ordnance Survey, show that such possibilities remain to be exploited.

REFERENCES

Bewley, R. H., 1994. *Prehistoric Settlements.* Batsford/English Heritage, London.

Evans, R, 2007. The weather and other factors controlling the appearance of crop marks on clay and other 'difficult' soils. In J. Mills and R. Palmer (ed) *Populating Clay Landscapes*. Tempus: Stroud, 16-27.

Hall, D. N., 1992. *The Fenland Project Number 6: The South-western Cambridgeshire Fenlands, E Anglian Archaeol* 56.

Hall, D.N., 1996. *The Fenland Project, Number 10*: *Cambridgeshire Survey, Isle of Ely and Wisbech. East Anglian Archaeol* 79.

Niemann 2007. http://epaperpress.com/ptlens/

OS, 2007. http://www.ordnancesurvey.gov.uk/productpages/landline/positional-background.htm

Palmer, R., 1991. *Langwood Fen, Chatteris: aerial photographic evidence.* Air Photo Services Report 13.

Palmer, R., 1992. *Block Fen, Chatteris, Cambridgeshire: aerial photographic assessment.* Air Photo Services Report 20.

Palmer, R., 1996. A further case for the preservation of earthwork ridge and furrow. *Antiquity* 70, 436-440.

Palmer, R., 1998a. *Block Fen, TL443840, Mepal-Chatteris, Cambridgeshire: aerial photographic assessment.* Air Photo Services Report 1998/06.

Palmer, R., 1998b. *RMC Extraction Area, Horseley Fen, Area centred TL4082, Cambridgeshire: aerial photographic assessment*. Air Photo Services Report 1998/09.

Palmer, R., 2001. *Block Fen, Chatteris, area centred TL428837, Cambridgeshire: aerial photographic updating assessment*. Air Photo Services Report 2001/15.

Scollar, I., 2002. Making things look vertical, in Bewley, R.H. and Rączkowski, W., (ed). *Aerial archaeology: developing future practice*. NATO Science Series, Vol **337**, 166-172.

SSEW, 1983. *Soils of England and Wales: sheet 4: Eastern England (1:250,000)*. Soil Survey of England and Wales, Harpenden.

APPENDIX

Aerial photographs examined

Source: Cambridge University Collection of Aerial Photographs (searched 6 December 2007)

Chatteris to Bedford Rivers

Oblique photographs

PHOTO	*SUBJECT*	*NGRE*	*NGRN*	*DATE*
LG70-72	Cropmarks, Langwood, 2 miles SE of Chatteris	542000	284600	21 Apr 1953
LV9-11	Cropmarks, 1.75 miles SE of Chatteris	542000	284600	05 Jun 1953
ABJ24-25	Cropmarks, 3 miles NNW of Sutton	541900	283100	22 Jun 1960
AED3-4	Soilmarks, ring-ditch, 3 miles NW of Sutton	541900	283200	07 May 1962
BJA86-87	Crop marks, 3 miles NNW of Sutton	541900	283100	28 Jun 1972
BKJ7	Crop patterns, 2 miles SE of Chatteris	541700	284000	01 Sep 1972
CDR51	Old Bedford River near Mepal, looking NE from	543500	281000	30 Jul 1977
CLH41-46	Floods, Bedford Levels, near Mepal	543500	280900	02 Jan 1980
CLH47-50	Floods, Bedford Levels, near Mepal	544000	281600	02 Jan 1980

Vertical photographs

PHOTO_ID	*DATE*	*SUBJECT*	*SCALE*	*NGRE*	*NGRN*
RC8BY102	01 Jun 1977	Bedford Level Washes	14800	543526	280970
RC8CO001	06 Apr 1978	Soil survey area, March to Methwold	15000	539768	286807
RC8CO002	06 Apr 1978	Soil survey area, March to Methwold	15000	541159	286826
RC8CX004	19 Apr 1979	Quarrying gravel, Block Fen, Chatteris	5000	542819	283439
RC8DC091	12 Jul 1979	Agricultural Landscape, Earith to Wilburton	10000	541509	283517
RC8DC092	12 Jul 1979	Agricultural Landscape, Earith to Wilburton	10000	541948	282751
RC8DC093	12 Jul 1979	Agricultural Landscape, Earith to Wilburton	10000	542387	281986
RC8DC094	12 Jul 1979	Agricultural Landscape, Earith to Wilburton	10000	542826	281220
RC8EC152	24 Mar 1982	Fenland Survey	10000	542094	281815
RC8EC153	24 Mar 1982	Fenland Survey	10000	542716	282554
RC8EC234	24 Mar 1982	Fenland Survey	10000	542210	284563
RC8EC235	24 Mar 1982	Fenland Survey	10000	541575	284045
RC8EC268	24 Mar 1982	Fenland Survey	10000	540700	284420
RC8EC269	24 Mar 1982	Fenland Survey	10000	541348	285380
RC8ED083	24 Mar 1982	Fenland Survey	10000	540810	287091
RC8ED084	24 Mar 1982	Fenland Survey	10000	540434	286533
RC8EH009	05 Apr 1982	Fenland Survey	10000	543313	280911
RC8EH010	05 Apr 1982	Fenland Survey	10000	543856	281604
RC8EH219	14 Apr 1982	Fenland Survey	10000	539428	287998
RC8EH220	14 Apr 1982	Fenland Survey	10000	539042	287459
RC8JR025	04 Sep 1987	Chatteris	5000	538775	287589
RC8JR026	04 Sep 1987	Chatteris	5000	539090	287195
RC8JR027	04 Sep 1987	Chatteris	5000	539385	286919

RC8JR031	04 Sep 1987	Chatteris	5000	540238	285466
RC8JR032	04 Sep 1987	Chatteris	5000	540538	285131
RC8JR036	04 Sep 1987	Chatteris	5000	539361	287961
RC8JR037	04 Sep 1987	Chatteris	5000	539671	287710
RC8JR038	04 Sep 1987	Chatteris	5000	539937	287350
RC8JR039	04 Sep 1987	Chatteris	5000	540198	286973
RC8JR040	04 Sep 1987	Chatteris	5000	540356	286648
RC8JR041	04 Sep 1987	Chatteris	5000	540538	286239
RC8JR042	04 Sep 1987	Chatteris	5000	540800	285931
RC8JR043	04 Sep 1987	Chatteris	5000	541026	285596
RC8JR046	04 Sep 1987	Chatteris	5000	541701	286633
RC8knBK028	13 Jun 1988	Cambridgeshire	10000	540728	287146
RC8knBK029	13 Jun 1988	Cambridgeshire	10000	539827	287106
RC8knBK030	13 Jun 1988	Cambridgeshire	10000	538939	287138
RC8knBK094	13 Jun 1988	Cambridgeshire	10000	540069	285408
RC8knBK095	13 Jun 1988	Cambridgeshire	10000	540978	285424
RC8knBK096	13 Jun 1988	Cambridgeshire	10000	541867	285368
RC8knBK147	13 Jun 1988	Cambridgeshire	10000	542180	283980
RC8knBK148	13 Jun 1988	Cambridgeshire	10000	541204	284019
RC8knBK221	13 Jun 1988	Cambridgeshire	10000	542518	282297
RC8knBK222	13 Jun 1988	Cambridgeshire	10000	543311	282384
RC8knBL225	14 Jun 1988	Cambridgeshire	10000	542891	281004
RC8MB100	25 Jul 1990	Crop patterns and ring ditch SE of Chatteris and Doddington	5000	543250	282700
RC8MB101	25 Jul 1990	Crop patterns and ring ditch SE of Chatteris and Doddington	5000	542921	283130
RC8MB102	25 Jul 1990	Crop patterns and ring ditch SE of Chatteris and Doddington	5000	542659	283381
RC8MB103	25 Jul 1990	Crop patterns and ring ditch SE of Chatteris and Doddington	5000	542465	283659
RC8MB104	25 Jul 1990	Crop patterns and ring ditch SE of Chatteris and Doddington	5000	542250	284104
RC8MB105	25 Jul 1990	Crop patterns and ring ditch SE of Chatteris and Doddington	5000	542042	284335
RC8MB106	25 Jul 1990	Crop patterns and ring ditch SE of Chatteris and Doddington	5000	541749	284690
RC8MB107	25 Jul 1990	Crop patterns and ring ditch SE of Chatteris and Doddington	5000	541457	284963

Bedford Rivers to Haddenham

Oblique photographs

PHOTO	*SUBJECT*	*NGRE*	*NGRN*	*DATE*
UB70-72	Haddenham	546300	275500	28 Mar 1957
ADD52-54	Market-gardening, orchards, Haddenham, looking E	546700	274900	02 Jun 1961
AII7-8	Panorama of The Wash near Mepal, looking NE	544000	281300	22 Nov 1963

Vertical photographs

PHOTO_ID	DATE	SUBJECT	SCALE	NGRE	NGRN
V-P080	28 Nov -0001	Haddenham, Cambs	3500	546531	274886
V-P081	28 Nov -0001	Haddenham, Cambs	3500	546565	275153
V-P082	28 Nov -0001	Haddenham, Cambs	3500	546599	275421
V-P083	28 Nov -0001	Haddenham, Cambs	3500	546632	275689
V-P084	28 Nov -0001	Haddenham, Cambs	3500	546666	275956
V-P085	28 Nov -0001	Haddenham, Cambs	3500	546700	276224
V-P086	28 Nov -0001	Haddenham, Cambs	3500	546733	276491
V-P087	28 Nov -0001	Haddenham, Cambs	3500	546767	276759
K17K238	28 Nov -0001	Haddenham district, Cambridgeshire	3200	546841	276127
K17K239	28 Nov -0001	Haddenham district, Cambridgeshire	3200	546620	276278
K17K240	28 Nov -0001	Haddenham district, Cambridgeshire	3200	546399	276429
K17K241	28 Nov -0001	Haddenham district, Cambridgeshire	3200	546179	276579
K17K242	28 Nov -0001	Haddenham district, Cambridgeshire	3200	545958	276730
K17K246	28 Nov -0001	Haddenham district, Cambridgeshire	3200	546971	276258
K17K247	28 Nov -0001	Haddenham district, Cambridgeshire	3200	546783	276129
K17K248	28 Nov -0001	Haddenham district, Cambridgeshire	3200	546595	276000
RC8P053	02 Feb 1970	Bedford Level Wash	8000	544308	281474
RC8kiK014	08 May 1974	Soil survey area, Mepal	15000	544441	281502
RC8BY102	01 Jun 1977	Bedford Level Washes	14800	543526	280970
RC8DC101	12 Jul 1979	Agricultural Landscape, Earith to Wilburton	10000	545898	275860
RC8DC102	12 Jul 1979	Agricultural Landscape, Earith to Wilburton	10000	546337	275094
RC8DC111	12 Jul 1979	Agricultural Landscape, Earith to Wilburton	10000	544440	281528
RC8DC112	12 Jul 1979	Agricultural Landscape, Earith to Wilburton	10000	544912	280719
RC8DC113	12 Jul 1979	Agricultural Landscape, Earith to Wilburton	10000	545384	279909
RC8DC114	12 Jul 1979	Agricultural Landscape, Earith to Wilburton	10000	545857	279099
RC8DC115	12 Jul 1979	Agricultural Landscape, Earith to Wilburton	10000	546329	278289
RC8EB231	23 Mar 1982	Fenland Survey	10000	546041	275477
RC8EB232	23 Mar 1982	Fenland Survey	10000	546727	276293
RC8EC016	24 Mar 1982	Fenland Survey	10000	546021	278238
RC8EC046	24 Mar 1982	Fenland Survey	10000	544880	279469
RC8EC047	24 Mar 1982	Fenland Survey	10000	545204	280091
RC8EC118	24 Mar 1982	Fenland Survey	10000	543941	281024
RC8knBL223	14 Jun 1988	Cambridgeshire	10000	544716	281012
RC8knBL224	14 Jun 1988	Cambridgeshire	10000	543811	281035
RC8knBM079	16 Jul 1988	Cambridgeshire	10000	545494	279353
RC8knBM092	16 Jul 1988	Cambridgeshire	10000	545760	278234
RC8knBM189	16 Jul 1988	Cambridgeshire	10000	546382	276464
RC8knBM194	16 Jul 1988	Cambridgeshire	10000	546867	274996
RC8knBM195	16 Jul 1988	Cambridgeshire	10000	546002	275004
RC8knDF216	06 May 1992	Vegetation, Ouse Washes	10000	544122	281453

Source: Air Photo Services Cambridgeshire

Vertical photographs (ex Soil Survey)

FSL/6705: 1919-1920	13 March 1967	1:10560
FSL/6705: 1949-1952	13 March 1967	1:10560
FSL/6705: 1955-1957	13 March 1967	1:10560
FSL/6705: 1980-1981	13 March 1967	1:10560

Source: National Monuments Record: Air Photographs (cover search 21045)

Specialist collection

NGR Index No.	*Accession No.*	*Frame*	*Original No.*	*Date Flown*	*6 Fig NGR*
TL4183/2	NMR 1126	267-268	F 328	16-Apr-1977	TL415832
TL4183/6	NMR 1310	100-102		10-Aug-1978	TL415836
TL4183/8	NMR 1521	390-391		18-May-1979	TL417838
TL4183/12	NMR 21322	14		20-Jul-2001	TL417834
TL4183/13	NMR 21322	15		20-Jul-2001	TL416834
TL4183/14	NMR 21295	11		20-Jul-2001	TL417834
TL4183/15	NMR 21295	12		20-Jul-2001	TL418834
TL4183/16	NMR 21295	13		20-Jul-2001	TL418834
TL4183/17	NMR 21295	14		20-Jul-2001	TL418834
TL4183/18	NMR 21295	15		20-Jul-2001	TL418834
TL4184/4	NMR 1829	270		23-Jul-1980	TL417846
TL4184/5	NMR 1829	271		23-Jul-1980	TL417846
TL4184/6	NMR 1829	272		23-Jul-1980	TL417846
TL4184/7	CCX 16293	15	92.67	02-Jul-1992	TL412847
TL4184/8	NMR 21235	14		18-Jun-2001	TL411847
TL4184/9	NMR 21235	15		18-Jun-2001	TL411847
TL4184/10	NMR 21178	10		18-Jun-2001	TL411847
TL4184/11	NMR 21178	11		18-Jun-2001	TL411847
TL4283/1	NMR 1126	273-274	F 328	16-Apr-1977	TL421836
TL4283/5	NMR 1310	66-67		10-Aug-1978	TL420832
TL4283/9	NMR 1665	457-458		26-Jul-1979	TL423832
TL4283/13	CCX 16293	11	92.67	02-Jul-1992	TL421834
TL4381/1	CCC 11759	2023	2023		TL438815
TL4479/3	NMR 18012	2		28-Apr-1998	TL448799
TL4479/4	NMR 18012	3		28-Apr-1998	TL448799
TL4479/5	NMR 18012	4		28-Apr-1998	TL448799
TL4481/1	CCC 8530	1852	1852	01-Apr-1921	TL440815
TL4579/1	NMR 18026	2		28-Apr-1998	TL457798
TL4579/2	NMR 18026	3		28-Apr-1998	TL458798
TL4579/3	NMR 18012	5		28-Apr-1998	TL458799
TL4579/4	NMR 18012	6		28-Apr-1998	TL457798
TL4579/5	NMR 18012	7		28-Apr-1998	TL458798
TL4579/6	NMR 18012	8		28-Apr-1998	TL458798
TL4579/7	NMR 18012	9		28-Apr-1998	TL459795
TL4679/1	NMR 18026	5		28-Apr-1998	TL460797

Military obliques

NGR Index No.	Accession No.	Frame	Original No.	Film Details	Date Flown	6 Fig NGR
TL3986/3	MSO 31102	O-H3	17OTU/H	M 5x5"	16-Jun-1941	TL397860
TL3986/4	MSO 31102	O-H4	17OTU/H	M 5x5"	16-Jun-1941	TL395861

Vertical collection

Sortie Number	Library Number	Camera Position	Start Frame	End Frame	NGR Start	NGR End	Date	Scale 1:
RAF/106G/UK/1557	386	FP	1069	1071	TL436819	TL423819	07-Jun-1946	9800
RAF/106G/UK/1557	386	FS	2344	2345	TL468745	TL463746	07-Jun-1946	9800
RAF/106G/UK/1557	386	RP	3073	3073	TL413844	TL413844	07-Jun-1946	9800
RAF/106G/UK/1557	386	RS	4077	4077	TL391882	TL391882	07-Jun-1946	9800
RAF/106G/UK/1557	386	RV	6077	6077	TL401861	TL401861	07-Jun-1946	9800
RAF/106G/UK/1589	408	FP	1048	1048	TL449805	TL449805	21-Jun-1946	10000
RAF/106G/UK/1589	408	RP	3051	3051	TL465786	TL465786	21-Jun-1946	10000
RAF/106G/UK/1589	408	RS	4050	4050	TL463747	TL463747	21-Jun-1946	10000
RAF/106G/UK/1589	408	RV	6052	6052	TL469764	TL469764	21-Jun-1946	10000
RAF/106G/UK/1634	416	FP	1452	1452	TL439814	TL439814	09-Jul-1946	10000
RAF/106G/UK/1634	416	FS	2467	2467	TL387876	TL387876	09-Jul-1946	10000
RAF/106G/UK/1634	416	V	5461	5461	TL403855	TL403855	09-Jul-1946	10000
RAF/106G/UK/1704	450	RP	3058	3058	TL439825	TL439825	28-Aug-1946	9800
RAF/106G/UK/1704	450	RS	4059	4061	TL443803	TL455805	28-Aug-1946	9800
RAF/CPE/UK/1801	499	RP	3228	3228	TL442811	TL442811	25-Oct-1946	9840
RAF/CPE/UK/1801	499	RS	4230	4230	TL456792	TL456792	25-Oct-1946	9840
RAF/CPE/UK/1891	534	FP	1354	1354	TL443807	TL443807	10-Dec-1946	9840
RAF/CPE/UK/1891	534	FS	2369	2371	TL411849	TL408848	10-Dec-1946	9840
RAF/CPE/UK/1891	534	RP	3361	3363	TL419834	TL416833	10-Dec-1946	9840
RAF/CPE/UK/1952	554	FP	1239	1239	TL472745	TL472745	25-Mar-1947	10000
RAF/CPE/UK/1952	554	FS	2235	2235	TL460785	TL460785	25-Mar-1947	10000
RAF/CPE/UK/1952	554	RP	3238	3238	TL465764	TL465764	25-Mar-1947	10000
RAF/CPE/UK/1952	554	RS	4235	4235	TL452803	TL452803	25-Mar-1947	10000
RAF/CPE/UK/1938	567	RP	3139	3139	TL412844	TL412844	18-Jan-1947	9840
RAF/CPE/UK/1938	567	RP	3179	3179	TL464783	TL464783	18-Jan-1947	9840
RAF/CPE/UK/1938	567	RS	4069	4069	TL446806	TL446806	18-Jan-1947	9840
RAF/CPE/UK/1938	567	RS	4140	4140	TL421826	TL421826	18-Jan-1947	9840
RAF/CPE/UK/1938	567	RS	4182	4182	TL449802	TL449802	18-Jan-1947	9840
FSL/6705	1206	V	1920	1920	TL418823	TL418823	13-Mar-1967	10560
FSL/6705	1206	V	1956	1956	TL401857	TL401857	13-Mar-1967	10560
FSL/6705	1206	V	1980	1980	TL388874	TL388874	13-Mar-1967	10560
RAF/58/1337	1505	F21	31	31	TL469741	TL469741	11-Jan-1954	10000
RAF/58/1337	1505	F21	51	51	TL456796	TL456796	11-Jan-1954	10000
RAF/58/1337	1505	F21	108	108	TL443809	TL443809	11-Jan-1954	10000
RAF/58/1337	1505	F22	32	32	TL467760	TL467760	11-Jan-1954	10000
RAF/58/1337	1505	F22	52	52	TL463776	TL463776	11-Jan-1954	10000
RAF/58/1337	1505	F22	112	113	TL422829	TL416829	11-Jan-1954	10000
RAF/58/1337	1505	F22	147	148	TL391872	TL398871	11-Jan-1954	10000
RAF/543/552	1900	F21	175	175	TL441809	TL441809	12-May-1959	10400
RAF/543/552	1900	F22	174	174	TL425821	TL425821	12-May-1959	10400
RAF/58/2688	1933	F21	145	145	TL470755	TL470755	25-Jan-1959	9600
RAF/58/2688	1933	F21	151	151	TL453803	TL453803	25-Jan-1959	9600
RAF/58/2688	1933	F22	146	146	TL466774	TL466774	25-Jan-1959	9600
RAF/58/2688	1933	F22	152	152	TL462783	TL462783	25-Jan-1959	9600

RAF/543/1107	2001	TRIV	33	33	TL441814	TL441814	05-Nov-1960	10000
RAF/58/5754	2153	V	26	28	TL461778	TL436810	04-Jun-1963	11000
RAF/543/2409	2180	1F21	43	43	TL397872	TL397872	16-Sep-1963	10000
MAL/68061	5155	V	142	142	TL416840	TL416840	12-Aug-1968	10000
MAL/68061	5155	V	153	154	TL400856	TL409857	12-Aug-1968	10000
MAL/68061	5155	V	161	161	TL393869	TL393869	12-Aug-1968	10000
MAL/68061	5155	V	171	171	TL403856	TL403856	12-Aug-1968	10000
MAL/69056	5418	V	50	53	TL482748	TL453748	09-Jun-1969	10500
MAL/69056	5418	V	74	74	TL463763	TL463763	09-Jun-1969	10500
MAL/69056	5418	V	117	118	TL469778	TL459778	09-Jun-1969	10500
MAL/69056	5418	V	141	142	TL455794	TL465794	09-Jun-1969	10500
MAL/69056	5418	V	180	181	TL447812	TL438812	09-Jun-1969	10500
MAL/69056	5418	V	196	196	TL419826	TL419826	09-Jun-1969	10500
MAL/69057	5419	V	27	28	TL418840	TL408840	10-Jun-1969	10500
MAL/69057	5419	V	61	61	TL401857	TL401857	10-Jun-1969	10500
MAL/69057	5419	V	77	78	TL386873	TL396873	10-Jun-1969	10500
OS/76127	9938	V	482	482	TL392880	TL392880	01-Jul-1976	7500
OS/76127	9938	V	503	503	TL391870	TL391870	01-Jul-1976	7500
OS/76128	9939	V	16	16	TL405856	TL405856	02-Jul-1976	7500
OS/76128	9939	V	87	87	TL415842	TL415842	02-Jul-1976	7500
OS/76128	9939	V	120	120	TL419829	TL419829	02-Jul-1976	7500
OS/76128	9939	V	167	167	TL436815	TL436815	02-Jul-1976	7500
OS/76128	9939	V	212	212	TL449802	TL449802	02-Jul-1976	7500
OS/72146	10311	V	187	193	TL467747	TL466784	23-May-1972	7000
OS/71498	10314	V	86	86	TL433810	TL433810	08-Sep-1971	7500
OS/71498	10314	V	140	141	TL442804	TL442810	08-Sep-1971	7500
OS/71498	10314	V	142	144	TL453805	TL454793	08-Sep-1971	7500
OS/70177	10508	V	9	10	TL399866	TL399860	04-Jun-1970	7500
OS/70210	10509	V	164	165	TL387873	TL386879	04-Jun-1970	7500
OS/69102	11701	V	56	56	TL392872	TL392872	09-Apr-1969	7500
OS/69103	11707	V	10	10	TL404855	TL404855	09-Apr-1969	7500
OS/86077	12806	V	10	10	TL465774	TL465774	12-Jun-1986	7500
OS/86077	12806	V	13	16	TL459792	TL444806	12-Jun-1986	7500
OS/83177	13062	V	10	10	TL396871	TL396871	26-Aug-1983	10000
OS/89100	13449	V	309	310	TL399866	TL398860	30-Apr-1989	7500
OS/89100	13449	V	322	322	TL387874	TL387874	30-Apr-1989	7500
OS/90002	13636	V	22	22	TL459793	TL459793	02-Mar-1990	7500
OS/90002	13636	V	24	24	TL466782	TL466782	02-Mar-1990	7500
OS/93375	14481	V	11	11	TL387876	TL387876	06-Aug-1993	7500
OS/93375	14481	V	46	46	TL398864	TL398864	06-Aug-1993	7500
OS/93379	14484	V	62	64	TL411841	TL411852	13-Aug-1993	7700
OS/95655	14962	V	12	12	TL457795	TL457795	30-Jul-1995	7200
OS/95655	14962	V	58	59	TL464781	TL458781	30-Jul-1995	7200
OS/95655	14962	V	79	80	TL464769	TL470769	30-Jul-1995	7200
OS/95655	14962	V	123	124	TL471756	TL464756	30-Jul-1995	7200
OS/95655	14962	V	145	145	TL464743	TL464743	30-Jul-1995	7200

Most informative photographs

Archaeological and natural features:

ABJ 25
BKJ 7
RC8-CO 1
RC8-DC 92-93
RC8-MB 104, 105, 107
TL4183/2/267
TL4183/12
TL4184/8
TL4283/13
FSL/6705: 1919-1920
OS/71498: 86
OS/95655: 59

Military features (Mepal-Sutton airfield)

106G/UK/1589: 1048
CPE/UK/1801: 4230
MAL/69056: 141

TERMS AND CONDITIONS

Air Photo Services have produced this assessment for their clients, Archaeological Project Services, subject to the following conditions:

Air Photo Services will be answerable only for those transcriptions, plans, documentary records and written reports that it submits to the clients, and not for the accuracy of any edited or re-drawn versions of that material that may subsequently be produced by the clients or any other of their agents.

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Air Photo Services has consulted only those aerial photographs specified. It cannot guarantee that further aerial photographs of archaeological significance do not exist in collections that were not examined.

Due to the nature of aerial photographic evidence, Air Photo Services cannot guarantee that there may not be further archaeological features found during ground survey which are not visible on aerial photographs or that apparently 'blank' areas will not contain masked archaeological evidence.

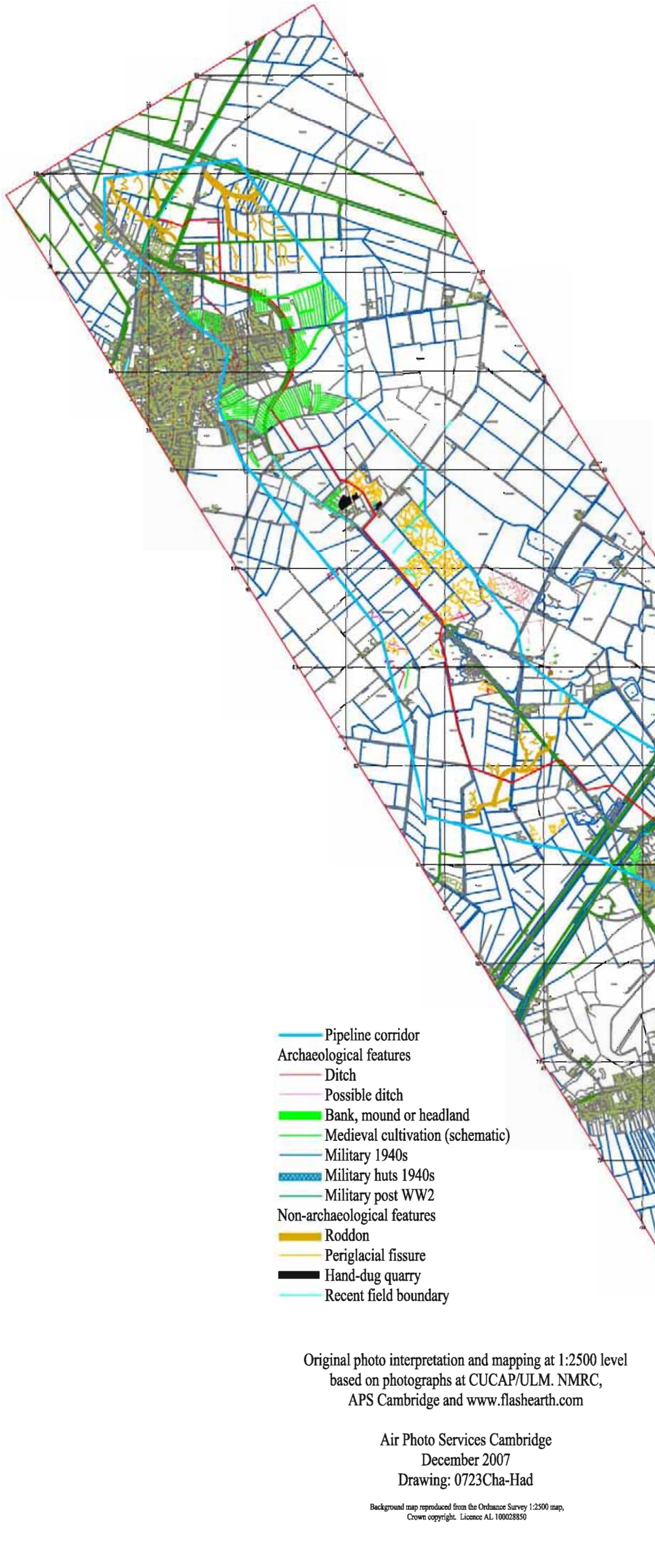
We suggest that if a period of 6 months or more elapses between compilation of this report and field evaluation new searches are made in appropriate photo libraries. Examination of any newly acquired photographs is recommended.

That the original working documents (being interpretation overlays, control information, and digital data files) will remain the property of Air Photo Services and be securely retained by it for a period of three years from the completion date of this assessment after which only the digital files may be retained.

It is requested that a copy of this report be lodged with the relevant Sites and Monuments Record within six months of the completion of the archaeological evaluation.

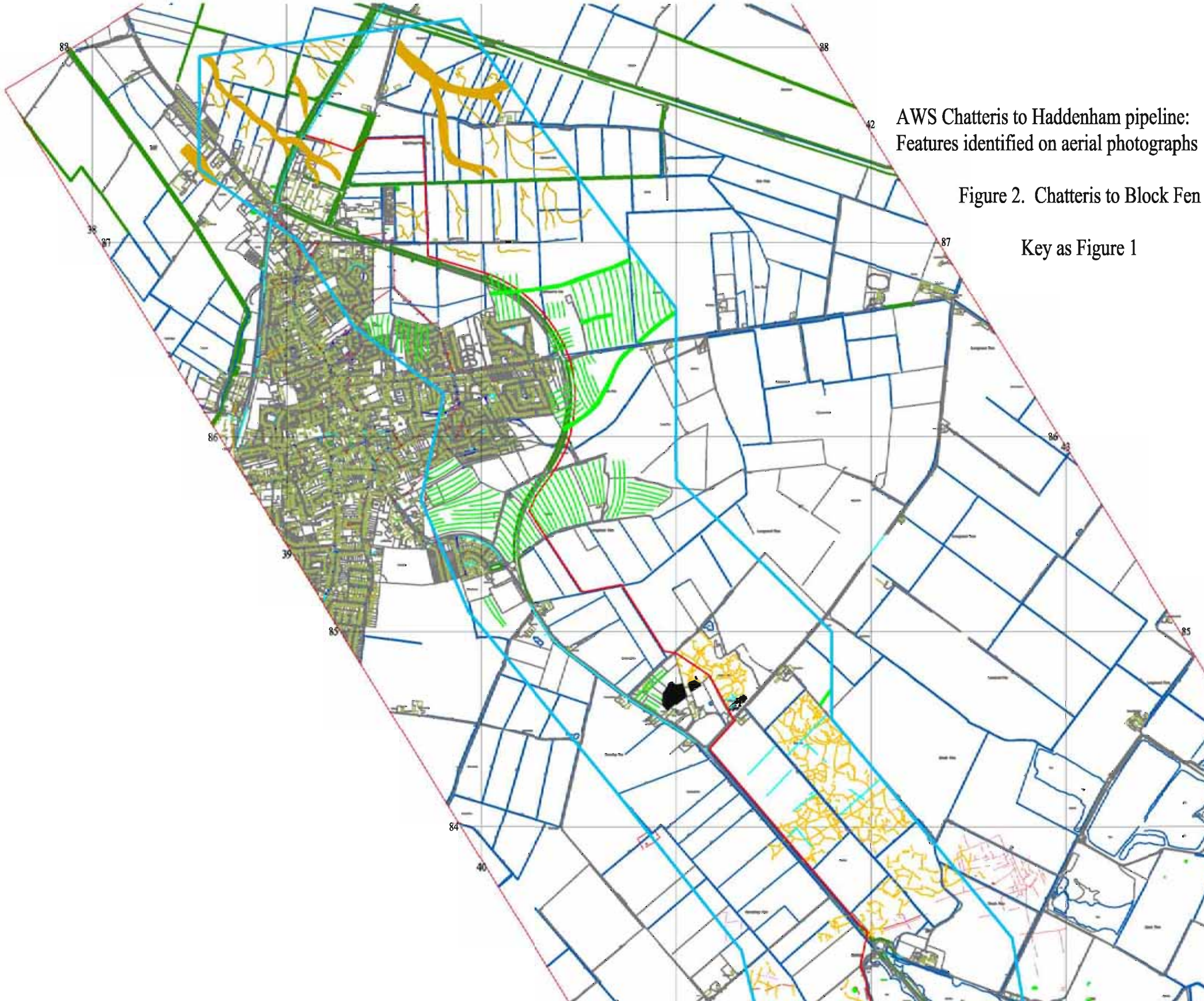
AWS Chatteris to Haddenham pipeline, Cambridgeshire:
Features identified on aerial photographs

Figure 1. Overview



Original photo interpretation and mapping at 1:2500 level
based on photographs at CUCAP/ULM. NMRC,
APS Cambridge and www.flashearth.com

Air Photo Services Cambridge
December 2007
Drawing: 0723Cha-Had



AWS Chatteris to Haddenham pipeline:
Features identified on aerial photographs

Figure 2. Chatteris to Block Fen

Key as Figure 1

AWS Chatteris to Haddenham pipeline:
Features identified on aerial photographs

Figure 3. Block Fen to Sutton

Key as Figure 1

AWS Chatteris to Haddenham pipeline:
Features identified on aerial photographs

Figure 4. Sutton to Haddenham

Key as Figure 1

AWS Chatteris to Haddenham pipeline, Cambridgeshire:

Figure 5. Land use identified on aerial photographs