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HIGHWAYS AGENCY

A11 FIVEWAYS TO THETFORD IMPROVEMENT

DMRB STAGE 3 ENVIRONMENTAL STATEMENT VOLUME 2 REPORT

PART 2 – CULTURAL HERITAGE

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FOREWORD

In 1998 the Government published the Roads Review 'A New Deal for Trunk Roads in England', reporting on the Government's roads programme against criteria of accessibility, safety, economy, environment and integration. The A11 Trunk Road was included in this Review.

The A11 is part of the Core National Route linking London, Cambridge and the northern part of East Anglia. The road between Fiveways roundabout in Barton Mills, Suffolk to the Thetford Southern Bypass roundabout in Norfolk is the last remaining stretch of single carriageway road on the A11.

This document focuses on the Highways Agency (HA) proposal to dual a 14.8 kilometre section of the A11, referred to as the A11 Fiveways to Thetford Improvement.

The dualling of this section of the A11 (herein referred to as the Scheme) would lead to improved journey time reliability for traffic. The Scheme would generally follow the existing road alignment, with the exception of a new bypass around the village of Elveden.

An Environmental Impact Assessment (EIA) of the Scheme proposals has been undertaken. This is a means of drawing together, in a systematic way, an assessment of the Scheme's likely significant environmental impacts.

This report comprises the Environmental Statement (ES), reporting on the findings of the EIA for the Scheme. It is intended to allow an understanding of the predicted effects of the Scheme and the proposed mitigation measures. The main aim of the EIA is to ensure that the Authority giving the consent for the Scheme (i.e. the Secretary of State) makes its decision in the knowledge of any likely significant effects on the environment.

The ES has been published in four parts:

- Non-Technical Summary (NTS)
- Environmental Statement Volume 1
- Technical Reports (TR) Volume 2
- Environmental Statement Figures Volume 3

Technical reports are intended to provide supporting information to the text and information presented in ES Volume 1. Technical reports have been prepared for the following environmental topics:

Topic	Technical Report	Corresponding Volume 1 Chapter
Air Quality	Part 1	Chapter 6
Cultural Heritage	Part 2	Chapter 7
Disruption due to Construction	Part 3	Chapter 17
Ecology and Nature Conservation	Part 4	Chapter 8
Landscape and Visual Effects	Part 5	Chapter 9
Land Use	Part 6	Chapter 10
Noise and Vibration	Part 7	Chapter 11
Pedestrians, Cyclists, Equestrians and Community Effects	Part 8	Chapter 12
Road Drainage and the Water Environment	Part 10	Chapter 14
Policies and Plans	Part 12	Chapter 16

The ES will be available for review at deposit locations, which are detailed in Chapter 1. The NTS will be available free of charge at deposit locations, at the Public Exhibitions and can also be viewed on the HA website www.highways.gov.uk.

Following deposit of this ES, public exhibitions will be held as detailed in the NTS. Members of the public are invited to comment on the environmental effects of the Scheme. These will be considered in the Secretary of State's decision.

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2 CULTURAL HERITAGE

2.1 Introduction

2.1.1 This study looks at the Cultural Heritage implications of the proposed A11 road improvements between Fiveways in Suffolk and Thetford in Norfolk. It therefore concentrates on an examination of an approximate 14km length of an existing single carriageway section of the A11, running from the Fiveways Roundabout at Barton Mills in Suffolk (NGR TL 727 741) to the roundabout at the southern end of the existing Thetford bypass in Norfolk (NGR TL 850 818).

2.1.2 For the purposes of the Scheme the aim and scope of this assessment has been to examine all readily available archaeological and historic sources in order to:

- Describe the survival and extent of known archaeological features that may be affected by the proposals
- Provide an evaluation of their importance
- Assess any previous impacts to the area which may have affected archaeological survival and assess the likely scale of impacts, both construction and operational, arising from the proposals
- Outline suitable mitigation measures to avoid, reduce or remedy adverse impacts
- Provide an assessment of any residual impacts which may remain after mitigation

2.1.3 The scope of this study concentrates on the areas to be directly affected by the proposed route, but also examines sources for a wider area (a 1km study corridor on either side of the existing A11 road) in order to assess the archaeological context and overall potential.

2.2 Scheme Description

2.2.1 The route is described in detail below and is shown on 1:5000 scale in Figures B1 – B9 in the Environmental Statement (ES) Volume 3. The proposed route would be constructed to dual 2 lane standard with access restricted to junctions and is generally online widening, except for the 5.1km bypass of Elveden, with the existing carriageway being used as one of the proposed carriageways. Local improvements would be made to Fiveways roundabout as part of the Scheme.

2.2.2 From Fiveways roundabout, the route is an online widening of the existing A11 on a fairly flat, straight alignment to cross the Cut Off Channel approximately 260m north east of the roundabout. A new bridge would be provided to the north of the existing Fiveways Bridge to take the second carriageway over the Cut Off Channel. The alignment then moves offline to the north away from the Rex Graham Reserve and climbs through Mildenhall Woods, passing through a cutting with a maximum depth of 5.8m before dropping again to the edge of the woods and rejoining the existing road. The C616 would be stopped up to vehicular traffic. North of the C616 the proposed southbound carriageway would utilise the existing carriageway. Through the woodland the new alignment is approximately 25m north of the existing road. Beyond Mildenhall Woods, the alignment continues straight on a gentle uphill gradient across open agricultural land, again following the line of the existing road as it crosses the B1112.

2.2.3 The B1112 would be diverted beneath the proposed A11 on the present alignment. During construction it may be closed for up to 6 months by agreement with Suffolk County Council. This is the preferred option. However, as a contingency, extra land has been allowed for a temporary road to enable the B1112 underpass to be constructed without affecting vehicular access to the A11.

2.2.4 Beyond the junction with the B1112, the gradient increases past How Hill Tumulus, and the alignment bends right and then left. The existing road at this point has a sub-standard horizontal alignment and both carriageways would therefore be offline.

2.2.5 The route would continue online, following a relatively flat and straight alignment with the northbound carriageway. At Canada Drive – the Elveden Estate's main access and crossing point for farm vehicles – a new accommodation overbridge would be provided to enable access between the two parts of the Estate. At Gate Lodge an environmental screen wall would be constructed.

2.2.6 Both carriageways would be realigned between Weather and Horn Heaths so that the new works would be contained between the existing highway boundary fences. To achieve this, the existing road could not be used for the proposed carriageway through this section. From the War Memorial the alignment continues with the new carriageway on the south before reaching Chalk Hall Farm.

2.2.7 The bypass of Elveden would commence at Chalk Hall and curve northwards past Chalk Hall Farm. It would pass through the London Road Slips and to the north of the village playing field, before crossing the B1106 to the southeast of the Center Parcs holiday village. Access to Chalk Hall Farm would be maintained by means of an accommodation overbridge linking to the existing A11 immediately west of Elveden Village. Access to this section of the road would be stopped up and it would become a private road.

2.2.8 A compact grade-separated junction would be provided with the B1106. The grade-separated junction is shown on Figure B7. The alignments of the proposed A11 and B1106 would avoid the Center Parcs site and two existing ponds west of the B1106.

2.2.9 Beyond the B1106 the new dual carriageway would continue on a straight alignment to the north of the village, bend south to follow the County Boundary and pass north of Elveden Gap cottages before rejoining the existing road. At this point a southbound diverge slip road would provide a route for southbound Heavy Goods Vehicles (HGV) bound for the C633 which avoids the lorry ban through Thetford. Where the diverge slip road meets the two way existing A11 a turning banjo would be provided for local traffic.

2.2.10 From Elveden Gap the alignment is again relatively flat and straight. The new carriageway would be positioned to the south of the existing road and the dual carriageway would widen to join the Thetford roundabout at the north end of the Scheme. A widened central reserve would be provided over this length of road in order to retain a deciduous tree belt. New accesses would be provided from the Thetford Roundabout in to the forestry land to the south west and to the MOD firing range to the north of the A11.

2.2.11 A major element of the Scheme's mitigation proposals is the off-site creation of habitat near Weeting Heath National Nature Reserve (NNR) in Norfolk to mitigate potential impacts to the Breckland Special Protection Area (SPA) and three European Union (EU) Annex 1 protected bird species. The 'Weeting Heath Extension' would contain a total of 54 ha of species-rich grassland and mixed woodland to be managed indefinitely for the benefit of stone curlew, woodlark and nightjar.

2.2.12 This provision would replace the Breckland SPA habitats affected by disturbance and/or land-take and also replace the removed Weather and Horn Heath Site of Special Scientific Interest (SSSI) road verges. The habitat creation works would commence in the year prior to the construction of the Scheme in order to maximise the ecological benefits and to ensure that the new habitat is functional before the loss/damage of existing habitats and disturbance to the Annex I bird species. A programme of works has been set out in the Habitat Creation and Management Plan for the Weeting Heath Extension.

2.3 Method of Assessment

2.3.1 The assessment was conducted in accordance with DMRB Volume 11 Section 3 Part 2 (HA208/07) and with regard to the Institute of Field Archaeologists (IFA) standards as appropriate (IFA 2001). The general approach and methodology considered the Cultural Heritage resources in three main groups:

- Archaeological sites/monuments
- Historic buildings
- Historic landscape character and features

2.3.2 These resources might be nationally or locally designated (by registration, listing or scheduling), or may appear in the national or local archaeological record, or may be identified by specialist scrutiny of the landscape and historic records. This assessment is based on data initially gathered in January 2000 and updated in November 2003.

2.3.3 The approach was to describe the survival and extent of Cultural Heritage features that are potentially affected by the Scheme. The method comprised a desk-based survey to provide general information on the line of the Scheme and a 1km 'Study Corridor' on either side of it using documentary, cartographic and archaeological sources, including results from any archaeological investigations in the close proximity of the Scheme, in order to determine the likely nature, extent, preservation and importance of any archaeological remains that may be present.

2.3.4 A walkover survey was carried out along the line of the proposed improvements and their immediate vicinity (~ 50m), in June 2000. The purpose of this inspection was to assess the topography of the area, evaluate the information obtained from other sources, to look for any additional features which may have survived and note any areas of previous ground disturbance. A further site visit was conducted in July 2003 in order to assess the land use along the line of the proposed road for the evaluation phase (below).

2.3.5 Following this initial assessment and its recommendations, a programme of field investigation was implemented in 2004 comprising archaeological monitoring and recording during geo-technical survey, field walking survey, targeted cultural topographic survey, geophysical survey and trial trenching to provide a detailed understanding of the character, date, extent, significance and state of preservation of surviving archaeological remains in order to assess fully the direct affects of the Scheme on both known and previously unknown sites. The results of these investigations are presented as Technical Appendices D - G of this report.

2.3.6 A gazetteer of archaeological sites, finds and Listed Buildings identified within the study area is provided in Appendix A and cross-referenced by an Oxford Archaeology reference number (e.g. OA 40), Listed Buildings being given the prefix L (e.g. L1), to mapping. The cultural heritage features have been mapped on five maps (Figures 2.1.1 - 2.1.5). These maps show all sites and findings recorded by national and local data holding bodies and include all features identified from historic maps, aerial photographs, walkover survey and field evaluation for the route corridor and wider Study Area. Figures 2.2 and 2.3.1 – 2.3.2 show select historic mapping of the route corridor. Figures 2.4.1 and 2.4.3 show the areas where and what type of mitigation is proposed while Figures 2.5.1 and 2.5.2 show the areas of woodland where field evaluation is still required.

2.3.7 A full list of the individual sources and detailed methodology on how various sources were used can be found in Appendix B.

2.3.8 The actual assessment then uses this baseline data to describe the survival and extent of cultural heritage features that may be affected by the Scheme. The importance and sensitivity of the known and recorded remains has been assessed by reference to designations and type of record. The nature and severity of direct and indirect impacts has been considered using professional judgement against the baseline data, field evaluation data and assessment of importance.

2.4 Limitations of Study

2.4.1 The study involved an extensive programme of baseline survey that was conducted along the proposed route option corridor, although, additional field survey has been limited in areas of currently inaccessible woodland (Mildenhall Wood and Thetford Warren) located at both the western and eastern extents of the Scheme proposals. With the exception of Mildenhall Wood, which has been subject to a more detailed walkover survey and the excavation of a single targeted evaluation trench (NAU 2004a), no systematic invasive evaluation programme has yet been undertaken within these areas to more fully characterise and date known features or ascertain the potential for unknown sites to be present. These areas will be surveyed when vegetation clearance as part of advanced works has taken place.

2.5 Assessment of Significance

2.5.1 The assessment of significance work has been carried out in accordance with the guidelines laid out in the most recent Volume 11 DMRB (HA208/07). The overall effect of the construction of the Scheme has been assessed through the production of a worksheet, which is included within this document.

2.6 Importance of the receptor

2.6.1 Determination of the importance of receptors (sites and features) has been based mainly on existing designations, but allows for professional judgment where features are found that do not have any formal national or local designation. Table 2.1 below contains the criteria used to assess probable importance of receptor. It should be noted that almost all of the known sites within the proposal area do not fall under any national or local designation and professional judgment has therefore been used to determine importance.

2.7 Assessment of Impacts

2.7.1 The determination of magnitude of change is based on the level of and the current state of survival/condition of the receptor. The survival of archaeological deposits within any given area is often uncertain, as is their exact extent. Magnitude of change can therefore be difficult to predict with any certainty, for this reason.

2.7.2 There are a number of variables in determining magnitude of change within the proposed development area. These include the sensitivity or vulnerability of a site to change (for example, depth of alluvium/colluvium, or the presence of Made Ground etc), the nature of past development or management effects, and the differing nature of proposed development processes such as topsoil stripping etc. Table 2.2 below provides a list of the criteria used to determine Magnitude of Change.

Table 2.1: Criteria Used to Determine Importance of the Receptor

Importance of Receptor	Equivalent to:
Very High (International/National)	Sites of National Importance Scheduled Monuments Grade I and II* Listed Buildings World Heritage Sites
High (Regional/County)	English Heritage Registered Park and Garden Conservation Area Sites of Regional or County Importance Grade II Listed Buildings
Medium (District/High Local)	Important Sites on a District level Sites with a District value or interest for education or cultural appreciation Sites which are so badly damaged that too little remains to justify inclusion into a higher grade
Low (Low local)	Important Sites on a Local level Sites with a Local (i.e. parish) value or interest for education or cultural appreciation Sites which are so badly damaged that too little remains to justify inclusion into a higher grade
Negligible	Sites or features with no significant value or interest Sites which are so badly damaged that too little remains to justify inclusion into a higher grade
Uncertain	Possible archaeological sites for which there is limited existing information. It has not been possible to determine the importance of the site based on current knowledge. Such sites might comprise isolated findspots or cropmarks visible on air photographs.

Table 2.2: Criteria Used to Determine Magnitude of Change

Magnitude of Change	Description of change
Major	Complete destruction of the site or feature; Change to the site or feature resulting in a fundamental change in our ability to understand and appreciate the resource and its historical context and setting
Moderate	Change to the site or feature resulting in an appreciable change in our ability to understand and appreciate the resource and its historical context and setting
Minor	Change to the site or feature resulting in a small change in our ability to understand and appreciate the resource and its historical context and setting
Negligible	Negligible change or no material change to the site or feature. No real change in our ability to understand and appreciate the resource and its historical context and setting
Uncertain	Extent and exact location of archaeology is uncertain; impact is therefore uncertain or because precise construction methods/impacts are uncertain.

2.8 The Significance of Environmental Effects

2.8.1 This section assesses the significance of environmental effects for each individual development proposal. The Significance of Environmental Effects is determined by two variables:

- The importance of the receptor (in local, regional, national or international terms)
- The magnitude of change upon the receptor (the level of impact of the development proposals upon the receptor)

2.8.2 Table 2.3 provides a general guideline to the Significance of Environmental Effects. The Environmental Effects listed in the table below can be either Adverse (negative) or Beneficial (positive), depending on the nature of the impact. For example:

- A Minor 'positive' change on the historic setting of a receptor of High Importance, such as a Listed Building, would result in a Moderate/Slight Beneficial Environmental Effect
- A Minor 'negative' change on the historic setting of a receptor of High Importance, such as a Listed Building, would result in a Moderate/Slight Adverse Environmental Effect
- Note that the resultant Environmental Effect outlined in Table 2.3 below is the Effect without mitigation. An appropriate programme of mitigation could reduce the severity of a negative (adverse) Effect or remove it completely.

Table 2.3: The Significance of Environmental Effects

Magnitude of Change	Importance of Receptor				
	Very High (International/ National)	**High (Regional/ County)**	**Medium (District)**	**Low (Local)**	**Negligible (Site Specific)**
Major	Very Large	Large	Large/ Moderate	Slight	Slight/ Neutral
Moderate	Very Large	Large/ Moderate	Moderate	Slight	Slight/ Neutral
Minor	Large/ Moderate	Moderate/ Slight	Slight	Slight/ Neutral	Slight/ Neutral
Negligible	Slight	Slight	Slight/ Neutral	Slight/ Neutral	Neutral
Uncertain	Unknown	Unknown	Unknown	Unknown	Unknown

2.9 Baseline Conditions

Statutory Constraints

2.9.1 A single Scheduled Monument marking the site of How Hill Tumulus (OA 8) is situated adjacent to the development corridor, lying immediately to the north of the existing A11 carriageway, at chainage 3750 (Figure 2.1.2). To the east of this monument, again located immediately to the north of the existing carriageway at chainage 6950, lies the Grade II Listed 1920s War Memorial (L7) (Figure 2.1.3). The Elveden Conservation Area and five Listed Buildings (L8 - L12) contained within, also lies adjacent to the development corridor (Figure 2.1.4). The existing A11 passes through the Elveden Conservation Area.

Site Description and Topography

2.9.2 The Scheme is approximately 14km in length and runs from the Fiveways Roundabout at Barton Mills in Suffolk (NGR TL 727 741) to the roundabout at the southern end of the existing Thetford bypass in Norfolk (NGR TL 850 818). From west to east, the Scheme crosses the ancient parishes of Mildenhall, Elveden, Icklingham and Eriswell (Forest Heath District in Suffolk) and Thetford (Breckland District in Norfolk). The Scheme crosses a predominantly rural landscape comprising a combination of agricultural fields, heathland and woodland. This includes a number of woodland belts utilised as field boundaries and roadside verges. The Scheme lies at a height of approximately 10m OD at its southwest end, rising to approximately 40m OD at its northeast extent.

2.9.3 Information on the geology of the Study Corridor was obtained from the British Geological Survey, from the OS 1" drift geology map dated to 1836 (the area has not been mapped by the British Geological Survey at the larger 1:50,000 scale). Approximately two-thirds of the Scheme, the western and eastern sections of the route, crosses Cretaceous Chalk noted as having a subsoil of 'sandy soil and thin sand'. The central section, between Weather Heath and the point at which the new road connects with the existing A11 road east of Elveden, crosses Glacial Boulder Clay described as 'comparatively free from sand'. At the western end of the route in the area of the Fiveways Junction, the geology is Alluvium associated with the floodplain of the River Lark. East of Elveden at approximately TL 840 810, the route crosses a thin island of Glacial Loam.

Site Visit

2.9.4 The development corridor was visited on the 27th and 28th June 2000 in weather conditions that were reasonable, providing sufficient visibility for systematic examination of the study area. In some areas the identification of potential archaeological and historical features was hindered by tall wheat crop, or thick undergrowth within areas of deciduous woodland, which obscured the natural ground level. Further visits were made in July 2005 to assess the areas of woodland (Thetford Warren and Mildenhall Woods) for the feasibility of conducting evaluation trenching.

2.9.5 The features identified during the site visits have been added to the gazetteer (Appendix A) and marked on Figures 2.1.1 - 2.1.5.

Previous Archaeological Investigations

2.9.6 A number of previous archaeological investigations have been carried out within the Study Corridor. These have revealed evidence of past human activity dating from the prehistoric to later medieval periods. These comprise:

- Investigations by local enthusiasts in the late 19th/early 20th century comprising the excavation of an Anglo-Saxon cemetery within Mildenhall Woods (OA 4), and a possible excavation, undertaken prior to 1923, of How Hill tumulus, immediately north of the Scheme (OA 8).
- Excavations of the High Lodge Palaeolithic flint-manufacturing site, ~ 300m north of the Scheme, were carried out between 1920 and 1967 (OA 60). In the 1920s Professor Marr and J. Moir discovered Palaeolithic flints during excavations within a nearby clay pit, ~ 100m north of the Scheme (OA 62).
- A number of non-intrusive surveys were carried out just outside the area of Scheme and its immediate vicinity, comprising field walking (OA 29, 36, 40 and 97), a metal detector survey (OA 33) and a site visit (OA 51). The surveys revealed evidence of multi-period activity from the prehistoric period. In 2001 Suffolk County Council Archaeological Service carried out a rapid earthwork identification survey, which covered Mildenhall and Thetford Warrens. Several earthworks (OA 93) were identified outside the area of Scheme.

- Intrusive archaeological investigations carried out in recent years in response to development. These comprise a watching brief ~ 400m to the south of the Scheme, which revealed an area of prehistoric activity (OA 65), investigations in what is now Center Parcs Holiday Village ~ 500m to the north-west of the Scheme, which revealed evidence of prehistoric activity (OA 77 and 144), and an evaluation in Thetford Warren, ~ 200m to the north of the Scheme, which revealed no archaeology (OA 93).
- A Norfolk Archaeological Unit (NAU) evaluation was carried out in 1988, of the Thetford Bypass, ~ 100m to the north of the Scheme (OA 30 and OA 95). A number of undated prehistoric struck flints and animal bone and several features were revealed, including a possible pit and hearth containing burnt black soil and post-medieval material. NAU carried out another evaluation ~ 500m to the northeast of the Scheme that same year, which revealed prehistoric and Romano-British activity along with some Saxon pottery (OA 100).

Archaeological and Historical Potential

2.9.7 This forms a summary of the detailed archaeological and historic background that can be found in Appendix C.

2.9.8 The updated Stage 2 DMRB assessment provided a statement regarding the potential (High, Medium, Low or Uncertain) for archaeological remains of each period to be present within the proposed route corridor based on a determination of the information currently available at the time the report was submitted in August 2003 (OA 2003). This potential was identified as:

- High - for the proposed route corridor to contain archaeology dated to the prehistoric period
- Uncertain - for the presence of archaeological remains dating to the Roman period
- Low - for the presence of archaeological remains dating to the early medieval (early to mid Saxon) and later early medieval period
- High to Low - for the later medieval period determined on the basis that the Scheme crosses through two warrens, Mildenhall Warren (OA 57) and Thetford Warren (OA 93), which are currently wooded, but have a number of extant boundary banks. Other than the warrens, the potential was identified as low as for much of its length the proposed route would cross open heathland.

2.9.9 In light of the identified potential for the Scheme to impact upon previously unrecorded archaeological remains, a staged programme of evaluation was undertaken along the majority of the proposed route (the exception being within those areas of the Scheme currently lying in woodland, Mildenhall Woods and Thetford Warren, and presently managed as inaccessible wooded verges). The implementation of the evaluation has enabled the presence/absence, date, character, significance and state of preservation of the surviving archaeological resource along the majority of the proposed route to be determined. In general, the results of this evaluation have reflected the identified potential as determined by the Stage 2 DMRB assessment. One significant difference was identified by the evaluation and this was the heightened significance for surviving archaeological remains dating to the Roman period to be present, as seen by the identification of a significant Romano-British farmstead settlement (OA 400) within the development corridor.

2.9.10 Subject to the results recorded by the staged programme of evaluation the potential for archaeological remains of all periods to be present is as described in outline below.

2.9.11 The potential for archaeological remains dating to between the Prehistoric and Medieval periods has been realised by the evaluation conducted within much of the development corridor. In those areas yet to be subject to detailed evaluation at the western and eastern extents of the Scheme, the potential for archaeological remains to be present, especially within the area of Mildenhall Woods, is considered high.

Palaeolithic Period (c 550,000BP to 9,000BP)

2.9.12 The proposed route is situated within an area which is known for its rich abundance of sites where Palaeolithic artefacts (dating from the Lower Palaeolithic period 550,000 BP onwards) have been found within interglacial deposits, indicative of the earliest presence of human occupation and exploitation within Britain. Known sites are markedly clustered at the western end of the development corridor due to its location within the floodplain of the River Lark. Whilst other find-spots of palaeolithic artefacts have been recovered on the chalk geology to the east of the river floodplain, no additional evidence for activity within this period was identified by the staged programme of evaluation undertaken within the presently accessible areas of the study corridor.

Mesolithic Period (c. 9,000 BP to 4,000 BC)

2.9.13 The pattern of hunting and gathering seen in human communities from the Palaeolithic period continued into the late glacial and Mesolithic period (9000 - 5000 BC). The flint tool assemblage exploited by these later hunters became more sophisticated, adapting to the changing environment and the game available for hunting that developed following the recession of the ice. Evidence of activity during this period within the study corridor is predominantly characterised by the recovery of surface artefacts, although a possible early prehistoric flint mine has been recorded approximately 1.1km to the north of the proposed route.

2.9.14 The staged programme of evaluation has produced some further limited evidence for Mesolithic activity from within the study corridor, however the recorded artefacts showed no distinct clustering that could be suggestive for example of the presence of over wintering or hunting camps. Sites of this period within Suffolk are known to concentrate within the Breckland and along the major rivers (Dymond and Martin 1989, 34). The archaeological potential for remains of this period to be present within those areas of the proposed route that have yet to be subject to detailed evaluation, especially within the area of Mildenhall Woods, is therefore considered high. Further evaluation of these areas will be possible once vegetation has been cleared as part of the advance works.

Neolithic Period (4,000 – 2,200 BC)

2.9.15 It was during this period that permanent settlements and farming developed, for which the Breckland soils would have proved particularly suitable as they were easily tilled (Clarke 1960 quoted in Davies 1993, 441). The valuable flint resource found within the Breckland area was also extensively exploited, its importance demonstrated by the famous prehistoric flint mines at Grimes Graves, lying ~ 8km to the north of the eastern end of the proposed route.

2.9.16 Artefacts, in the form of flint implements, dating to the Neolithic period have been found across the study corridor, both by chance and by previous and recent field walking survey. In addition, further evidence of potential occupation and/or settlement activity, represented by surviving sub-surface features, has been recorded by the recent evaluation trenching undertaken along the study corridor.

2.9.17 The staged programme of evaluation has demonstrated the significant potential for archaeological remains dating to the Neolithic period to be present within the study corridor, both in the form of stray artefacts and as sub-surface remains. Much of this potential has already been realised within the study corridor, however, significant

potential still remains in those areas of inaccessible woodland situated at the western (Mildenhall Woods) and eastern (Thetford Warren) extents of the Scheme proposals.

Bronze Age Period (2,200 – 800 BC)

2.9.18 Activity during the Bronze Age period is predominantly characterised by evidence of a number of burial monuments within the study corridor; these are in the form of round barrows and ring ditches (the ploughed-out remains of round barrows where only the surrounding ditch survives). It is likely that these monuments would have been closely associated with settlement that at this time was considered to have been responding to increasing population density. Only limited evidence from previous archaeological investigations undertaken at the western and eastern extents of the study corridor has produced evidence of Bronze Age settlement features.

2.9.19 The recovery of residual artefacts from within the study corridor would suggest the likely potential for further occupation activity to be present. However, recent trial trench evaluation has produced inconclusive results regarding the survival of subsurface features that may be directly attributable to occupation/settlement activity of this period. The potential for Bronze Age remains to be present within the proposed route corridor is still considered moderate, as those areas of inaccessible woodland within which further survey still remains to be carried out, lie in closer proximity to previously recorded areas of Bronze Age settlement activity and are unlikely to have experienced such extensive disturbance from agricultural impacts. These surveys will be conducted prior to the main construction phase commencing.

Iron Age Period (800 BC – AD 43)

2.9.20 During the late Iron Age this region of Norfolk and Suffolk probably fell within the tribal territory of the Iceni. At this time an important crossing of the River Thet at Thetford was defended and controlled by a multi-vallate (multi-walled) hillfort on Castle Hill (Davies and Gregory 1991, 29). The hillfort would have acted as a central place for the surrounding communities (Miles 1998, 15). During this period intensive agricultural landscapes were established in many parts of Norfolk (NMS 1991, 28) and it is likely that the light Breckland soils in the hinterland around the hillfort at Thetford was intensively farmed. Despite this apparent intensification within the landscape during this period, evidence for associated occupation activity within the study corridor remains elusive, comprising of a single high status cremation burial site, and four findspots of Iron Age artefactual material prior to recent evaluation.

2.9.21 The staged programme of evaluation within the study corridor has provided additional evidence to suggest that the identified later Romano-British farmstead settlement may have originated in this period. The recovery of further surface artefactual material of this period in close proximity to recorded undated subsurface features may also further suggest potential occupation activity. The potential for archaeological remains to be present within the study corridor dating to this period is therefore still considered high, given the closer proximity of the area of inaccessible woodland (Thetford Warren) to Thetford and to the likely reduced nature of any extensive disturbance from agricultural impacts within these areas.

Roman period (AD 43 - 410)

2.9.22 Limited archaeological evidence recorded within the study corridor would suggest that areas previously utilised for settlement during the Iron Age were either re-occupied or continued in use into the Roman period. This assumption is based on the evidence recorded from the trial trench evaluation recently undertaken within the study corridor; it identified the well-preserved remains of a Romano-British farmstead, which appears to have it origins in the later Iron Age period.

2.9.23 Prior to the identification of the surviving farmstead settlement, evidence of Roman occupation activity within the study corridor was predominantly characterised by the recovery of stray surface artefacts; previous direct evidence of settlement only having been identified on the northeast margins of the study area. With the exception of the recorded settlement site, no further clearly identifiable Roman settlement or occupation activity was recorded by the trial trench evaluation. The results of the evaluation have however demonstrated that the potential for archaeological remains dating to the Roman period to be present within those areas that have not yet been surveyed must be considered high. These surveys will be conducted prior to the main construction phase commencing.

Early medieval period (AD 410 - 1066)

2.9.24 Limited evidence for early medieval occupation activity has been found within the study corridor. With the exception of a recorded inhumation cemetery excavated within Mildenhall Woods, all other finds relate to surface artefacts that have either been recovered by chance or through field walking or metal detector survey. The staged programme of evaluation recently undertaken within the study corridor has produced no direct or dateable evidence of early medieval settlement or occupation activity.

2.9.25 The potential for early medieval activity may exist in further more detailed examination of the features recorded at the identified Romano-British farmstead site. Although no current discernible early medieval features have been recorded from this site, the recovery of a torc in close proximity to the site could suggest continued occupation activity on the site following the decline of Roman settlement in the 4th/5th century AD. The potential for archaeological remains dating to this period remains low in those areas previously not subject to survey.

Later medieval period (AD 1066 - 1550)

2.9.26 Evidence from later historic maps would suggest that during this period, much of the study corridor would have been open heathland and common land used for rough pasture, and as such it would have remained essentially undeveloped. Some areas were used for arable cultivation and remnants of ridge and furrow (corrugated earthworks created by ploughing in the medieval period) have been noted from air photographs in the vicinity of Elveden (OA 124 and 136) and Weather Heath (OA 112, 113 and 132). The evidence recorded within the study corridor for occupation activity of this period is therefore dominated by peripheral landscape and land management features; they are characterised by the presence of extant boundary banks associated with Mildenhall and Thetford Warrens, the surviving remains of a series of extant woodland banks and sections of parish boundaries.

2.9.27 A number of later medieval findspots have also been recorded within the study corridor, although these are suggested, from the evidence recently recorded by evaluation, to be the likely products of agricultural manuring practices. Trial trench evaluation has produced no additional evidence of later medieval settlement or occupation activity within the study corridor and the archaeological potential for previously unidentified settlement/industrial sites to be present is therefore considered low. Further field survey should be carried out within both Mildenhall Woods and Thetford Warren, where many features of this period have been identified. These surveys will be conducted prior to the main construction phase commencing. The potential for archaeological remains dating to this period within these areas is therefore considered high

Post-medieval/Modern period (AD 1550 to present)

2.9.28 Examination of historic maps up to the present day, indicate that the landscape of the study corridor has remained largely unchanged in at least the last 150 years (Figures 2.2 and 2.3.1 – 2.3.2). Existing field boundaries and the network of roads are shown on the

tithe maps and OS 1st edition maps, while the pattern of settlement has remained largely unchanged. It is likely that this post-medieval settlement pattern reflects an earlier, medieval pattern of settlement distribution.

2.9.29 Between 1793 and 1815 much of the heathland was enclosed by Act of Parliament (NMS 1991, 124). In 1768 the existing A11 was 'turnpiked' i.e. straightened and maintained (Dymond and Martin 1989, 127). This probably occurred simultaneously with the enclosure of the open heathland. The medieval warrens may have continued to be used during this period but eventually reverted to woodland.

2.9.30 During World War II a number of defensive measures were put in place. These included a series of anti-glider ditches across Weather Heath and Horn Heath (OA 66), constructed on the flat and open heathland in order to prevent enemy landings. Four of these ditches extend up to the existing A11 road on its north side, further identification of which was established by the recent evaluation. Other defences include pillboxes, such as that on Weather Heath, immediately north of the Scheme. Trial trench evaluation has produced only very limited evidence of post-medieval activity, represented by quarry pits, within the study corridor. Therefore, the potential is considered to be low for Post Medieval archaeological remains within those areas of the study corridor that have not yet been subject to detailed survey.

2.10 Mitigation

2.10.1 By implementing an effective programme of mitigation, it is anticipated that the impact of the Scheme upon any known or hitherto unrecorded archaeology would be prevented or reduced to an acceptable level.

2.10.2 Further evaluation should be carried out within Mildenhall Woods and Thetford Warren, following vegetation clearance as part of the advance works. This would enable the remaining uncertain effects of the proposed development on known sites to be assessed and any potential previously unrecorded archaeology identified. The results of this investigation would form the basis for the development of any further mitigation strategy that may be considered necessary to reduce or remove any adverse impact on surviving archaeological remains from the proposed development. The strategy proposal for both the further evaluation and any subsequent mitigation would need to be agreed with Suffolk and Norfolk County Councils and English Heritage prior to the commencement of work.

2.10.3 A Moderate/Large Adverse Effect, before mitigation, has been identified on a single site of Medium Importance, this being the recorded remains of a Romano-British settlement (OA 400).

2.10.4 In order to mitigate the impact to Site OA 400, this area should be subject to an open area excavation prior to the commencement of the Scheme. The nucleus of settlement appears to be defined within Field 49 (Landing Ground), an area equating to the whole working width and length of the development corridor/easement that should be investigated. Fields 5 and 6 (Brandon North) situated immediately to the east have also produced a small concentration of undated features. They possibly relate to activity on the periphery of the main settlement and it is considered that they could be appropriately mitigated through the implementation of an archaeological monitoring and recording action, as described in detail below.

2.10.5 A Moderate Adverse Effect, before mitigation, was identified on 5 sites of Medium Importance these being an earthwork bank which forms the Eriswell/Icklingham parish boundary (OA 67), 2 sites of identified Neolithic occupation activity (OA 201/408 and 413) and 2 sites of probable prehistoric settlement/occupation activity (OA 305/402 and 403).

2.10.6 Sympathetic tree planting would mitigate the impact on OA 67, a surviving extant bank and ensure its retention within the landscape. Whilst mapping indicates that OA 67 now exists only as a potential below ground feature, any adverse impact would be mitigated by archaeological monitoring and recording.

2.10.7 Adverse impact on the 4no.recorded sites of known and suspected prehistoric occupation (OA 201/408, OA 305/402, 403 and 413) would be mitigated by 'Strip, map and sample' excavation. This technique is proposed as the recorded remains are generally dispersed and an understanding of their precise extent and significance remains uncertain. Implementing a 'Strip, map and sample' of these sites would allow a rapid assessment and record to be made. Should their significance prove to be greater than previously thought, then a more detailed record would be feasible. The use of such a technique would substantially reduce the risk of significant archaeological remains being adversely affected by the proposed development.

2.10.8 A Slight Adverse Effect, before mitigation, has been identified on 20no. sites of Low or Medium importance: the World War II anti-glider ditches (OA 66), plantation banks of probable 19th or 20th century date (OA 128), medieval ridge and furrow earthworks (OA 132 and 136), 5 recorded surface artefact scatters (OA 131/151/152/202, 153/200/410, 154-155 and 203), recorded sites of undated sub-surface features believed to be peripheral to any settlement/occupation activity (OA 145-147, 149-150, 401, 404-406 and 412) and post-medieval quarrying and modern activity (OA 407).

2.10.9 In order to prevent or reduce the identified Slight and Slight/Neutral Adverse Effects a programme of archaeological monitoring and recording (a watching brief) would be maintained during the course of all topsoil removal from along the proposed route. Such a programme would also enable any further potential adverse impact to be prevented or reduced on any unrecorded remains that may be exposed during the course of the works. The areas identified for further mitigation and the type of mitigation proposed are shown on Figures 2.4.1 – 2.4.3 in ES Volume 3.

2.10.10 Further investigative evaluation will be required to ascertain if any previously unidentified sites of archaeological interest exist in the wooded areas along the proposed route. The areas of woodland that remain to be evaluated are shown on Figures 2.5.1 – 2.5.2 in ES Volume 3.

2.11 Residual Effects

2.11.1 Although the Scheme would result in the physical loss of some of the identified heritage resource, the implementation of a comprehensive programme of mitigation would increase our knowledge and understanding of the archaeology and historic landscape of the Breckland area. On balance the overall impact of the Scheme would be neutral.

2.11.2 The proposed realignment of the proposed new carriageway further to the south, away from the setting of How Hill round barrow, a Scheduled Monument (OA 8); would have a Moderate beneficial effect.

2.11.3 The proposed realignment of the road east of Weather Heath would have a Slight adverse effect to the setting of the Grade II Listed 1920s War Memorial (L7), as the road would move ~ 3m closer to the Listed Building.

2.11.4 The proposed bypass around Elveden village would have a Very Large beneficial effect on the Elveden Conservation Area and upon the setting of the 5no. Listed Buildings contained within it. The Scheme would take the new road ~ 500m to the north of Elveden thereby removing much of the traffic that currently runs through the village centre. Additionally the woodland would screen the new carriageway from all of the properties within the Conservation Area.

2.12 Assessment of Impacts

Previous Impacts

2.12.1 As part of this study an assessment was made of past impacts along the line of the Scheme, which may have compromised the survival of archaeology. Several sources were used to determine possible past impacts, including, Ordnance Survey maps from the 1st edition (1882-98) up to the present day, air photographs, observations made on the OA site visit in 2000, and data gathered from the OA 2002 watching brief and NAU 2004 field evaluation.

2.12.2 In general, the line of the Scheme has seen no substantial past impacts. The area has seen little building development. Ordnance Survey maps from the 1st edition (1882-98) up to the present day, show numerous small pits along the entire length of the study corridor. These represent small-scale hand-dug pits that would have been dug in order to extract chalk to marl fields.

2.12.3 Other pits may have been dug to extract sand and gravel. Further evidence of modern quarry pitting was identified during the evaluation programme (OA 407 and 408). Any archaeology that may have been present within the footprint of a pit would have been removed.

2.12.4 Other impacts would include damage from ploughing and from tree planting within Mildenhall Warren and along road verges. Ploughing would have re-worked and homogenised the former upper ground surface to a depth of up to ~ 300-400mm below ground level. The impact of tree planting is uncertain, but may have damaged archaeology through root growth. Both impacts are unlikely to have completely removed deeper cut features such as pits, ditches, flint mines or wells.

2.12.5 More localised impacts would also include the presence of service runs, such as the recorded high-pressure gas pipeline and field drains. The excavated service trenches for these features are likely to have removed or truncated any surviving sub-surface archaeological remains.

Construction Impacts

2.12.6 This section discusses in detail the possible impacts upon archaeology of the proposed route shown on 1:5000 scale in Figures B1 – B9 in the ES Volume 3. A summary of the impacts in the form of a worksheet is included in this report in accordance with the latest DMRB guidance outlined in IAN 76/06 to 82/06, 92/07 and HA 208/07.

2.12.7 This assessment did not access the archaeological implications of construction compounds, construction access roads, and topsoil storage areas. The locations of these areas, which can be quite large, are not known at the time of writing.

2.13 Types of Impact

Topsoil stripping and ground reduction

2.13.1 The Scheme would entail topsoil stripping and some land re-grading, within areas of new land take, either prior to road construction or during landscaping. Removal of topsoil is an archaeological impact as it exposes any archaeology that may be present immediately beneath the topsoil, which is then damaged by subsequent movement of vehicles and plant involved in construction activities (i.e. through rutting and compaction). In addition, it is possible that topsoil removal without archaeological supervision may result in over-stripping, which would have a direct impact upon archaeological deposits located beneath the topsoil, or under-stripping, where archaeological features are concealed beneath a thin layer of topsoil but are then exposed and unprotected from subsequent construction

activities. Land re-grading could have cause to either severely truncate or completely remove archaeological deposits.

2.13.2 Topsoil would be stripped from not only the line of the proposed route, but also from proposed accommodation accesses, junction improvement areas and areas of proposed landscaping. Topsoil stripping is also likely to be required for construction compounds, access roads and topsoil storage areas. The locations of these features are presently unknown and are not discussed in this assessment (see above).

Road construction, Accommodation accesses and Junction improvements

2.13.3 The impact of plant movement involved in construction activities within areas stripped of topsoil is dealt with under 'Topsoil Stripping' above. Any archaeological mitigation that may be required is likely to have already been implemented by the road construction stage, through mitigating any adverse negative effect prior to or following the initial topsoil strip.

Vegetation Planting

2.13.4 Planting of trees and shrubs is in itself unlikely to cause much ground disturbance and would not constitute a significant impact. However, future root development/growth could potentially cause significant damage to buried archaeological deposits. The impact of vegetation planting has therefore been considered by this assessment to be, over time, a Medium impact.

Rabbit and Badger Fencing

2.13.5 Along the course of the Scheme, some limited rabbit and badger fencing would be constructed. The nature of the proposed fencing and method of its construction would follow the methodology set out in the Model Contract for Highways Works for fencing.

Landscaping

2.13.6 A number of mounds are proposed along the length of the new carriageway and these have the potential to adversely effect possible below ground archaeological deposits as a result of compaction.

2.14 Direct Impact on the Cultural Heritage

Known Designated Sites

2.14.1 No Scheduled Monuments, Listed Buildings or Conservation Areas would be directly affected by the Scheme. Proposed development will, however, have an indirect effect on the setting of a number of designated sites, the impact of which is discussed below.

Known Cultural Heritage

2.14.2 This assessment has identified that the Scheme proposals would have a direct negative impact upon 34 known sites and findspots (OA 57, 66/303, 69/304, 74, 128-130, 131/151-2/202, 132, 135, 136, 138/400, 140, 145-7, 149-150, 153/200/410, 154-155, 201/408, 203-205, 305/402, 401, 148/403-407, 412 and 413). These have been tabulated, along with their importance, the nature and magnitude of change (impact) and the resultant Significance of Effect (without mitigation), in Table 2.4 below. An agreed programme of mitigation would reduce or remove any Adverse Effects and this is discussed later in this study. The likely impacts are discussed in more detail below.

Moderate Effects

2.14.3 A single Moderate Adverse Effect has been identified after suitable mitigation has been implemented. This would result from the impact of topsoil stripping for the proposed road, and other works consisting of re-grading, landscaping and junction improvements on a site of Medium/High Importance, a Romano-British farmstead settlement (OA 138/400). Trial trench evaluation has produced extensive evidence of surviving below ground archaeological features characterised by ditches, pits, postholes and gullies indicative of the presence of a multi-period settlement site that is likely to have its origins in the later prehistoric (Iron Age) period. Without mitigation the impact of the proposed road corridor on the known settlement would have the effect of diminishing the integrity of the surviving remains and reducing the overall understanding of its form, function, date and development. It is considered that this effect could be adequately mitigated (see Section 2.10 for discussion of proposed Mitigation strategy).

Slight Adverse Effects

2.14.4 Five sites have been identified where proposed development impacts would (with adequate Mitigation) result in a Slight Adverse Effect (OA 67, 201/408, 305/402, 148/403 and 413).

2.14.5 Woodland tree and shrub planting would impact upon an extant bank, located between chainage 3500-5600 that forms part of the Eriswell/Icklingham parish boundary (OA 67). The OS 1st edition map of 1882-98 shows the boundary as both a single and a double bank earthwork. A section that survives as a single bank would be affected by proposed vegetation planting.

2.14.6 Topsoil stripping for the proposed road would have a direct impact on the site of recorded Neolithic occupation activity (OA 201/408). The presence of this site was identified during the phased programme of evaluation. Field walking survey within the proposed route corridor recorded 344 worked flints, 28 fragments of burnt flint and solitary sherds of prehistoric and medieval pottery in the locality of the later recorded sub-surface features (OA 201). Subsequent trial trench evaluation revealed the remains of a Neolithic ditch terminus/pit and ditch and burnt pit containing cremated bone, as well as a further number of undated pits of possible contemporary or later prehistoric origin (OA 408). These remains would be subject to impact from any topsoil stripping operations and subsequent construction works.

2.14.7 Topsoil stripping for the proposed road would have a direct impact on the site of a number of recorded geophysical anomalies (OA 305) and associated undated sub surface features of probable prehistoric origin, indicative of potential Bronze Age or Iron Age settlement/occupation activity (OA 402). The presence of this site was identified during the phased programme of evaluation and whilst definitive confirmation of the correlation of the anomalies recorded by the Phase 2 survey work and the recorded features exposed during the Phase 3 trenching, and date of the recorded activity, remains unclear, the combined evidence would suggest the potential for settlement activity to be present. These remains would be subject to impact from any topsoil stripping operations and subsequent construction works.

2.14.8 Topsoil stripping for the proposed road would have a direct impact on the site of possible prehistoric settlement/occupation activity (OA 403). The presence of this site was identified during the phased programme of evaluation with trial trenching revealing the presence of up to 20 sub-surface features comprising pits, postholes and ditches. Whilst no dating evidence was recovered, it is considered likely that the site is prehistoric in origin, with its potential to be indicative of a possible settlement; this is suggested by the high density of features recorded. These remains would again be subject to impact from any topsoil stripping operations and subsequent construction works.

2.14.9 Topsoil stripping for the proposed road would have a direct impact on the site of recorded Neolithic occupation activity (OA 413). The presence of this site was identified during the phased programme of evaluation. Trial trenching revealed the remains of a Neolithic pit containing worked flint and 39 sherds of pottery. An undated pit and three postholes were also recorded in association with the pit and these may potentially be contemporary in origin. The Neolithic pit lies in close proximity to the Scheduled Monument of How Hill, and its potential to contain structured deposits could suggest that it may be ritual in origin. These, and any further potential remains, as yet unidentified, would be subject to impact from any topsoil stripping operations and subsequent construction works.

2.14.10 It is considered that these effects could be adequately mitigated (see Section 2.14 for discussion of proposed Mitigation strategy).

2.14.11 A further twenty sites have been identified where the proposed development impacts would result in a Slight or Slight Adverse Effect (OA 66/303, 128, 131/151/152/202, 132, 136, 145-147, 149-150, 153/200/410, 154-155, 203, 401, 404-407 and 412).

2.14.12 Topsoil stripping and ground reduction works both sides of the existing road on Weather Heath would have an impact on the ends of four World War II anti-glider ditches (OA 66/303) where they extend up to, or close to, the existing road on its north side. The ditches are considered of Low Importance, and as the impact is minor, the Scheme is unlikely to constitute a significant effect.

2.14.13 Topsoil stripping would have a direct impact upon banks noted on the site visit (OA 128). The banks lie parallel to the road and were probably created with the laying out of plantations in the last century.

2.14.14 Topsoil stripping for the proposed road would have a direct impact upon the remains of relic medieval ridge and furrow earthworks identified by the site visit on the south side of the current A11 road immediately east of Weather Heath (OA 132).

2.14.15 Topsoil stripping for the proposed road would have a direct impact upon the remains of relic medieval ridge and furrow earthworks (OA 136). As the earthworks have not been accurately surveyed their position in relation to the proposed road, and the exact level of impact on the earthworks, is uncertain.

2.14.16 Topsoil stripping for the proposed road and accommodation access works and tree and shrub planting would have a direct impact on the site of a recorded surface artefact scatter (OA 131/151/152/202). An extensive spread of worked flint of prehistoric origin was noted in this location during an OA site visit in 2000 (OA 131), with further concentrations of worked flint artefacts being recovered as part of a watching brief, maintained in 2002 during geo-technical survey of the proposed route corridor (OA 151-152). A field walking survey of this area produced a further assemblage of 285 worked flints and 37 fragments of burnt flint (OA 202), indicative of occupation activity dating from the Mesolithic through to the early Bronze Age period. Trenched field evaluation has however revealed no correlation between the presence of these surface artefacts and surviving below ground remains within the proposed development corridor. This would appear to indicate that the surviving archaeological activity remains preserved only within topsoil and subsoil derived contexts. Although this would make the resource particularly sensitive to any proposed groundwork operations, the nature of current agricultural practice on the site is likely to already have already had a major impact on the surviving resource and as such the level of further impact from the proposed works can be considered minor.

2.14.17 Topsoil stripping for the proposed road would have a direct impact upon two further recorded surface artefact scatters (OA 153/200/410 and 203). Both sites were identified during the phased programme of evaluation by a field walking survey. Site OA 153/200/410 produced a significant assemblage of worked and burnt flint, whilst a more

modest and mixed finds assemblage comprising worked and burnt flints, five sherds of abraded pottery (dated either as prehistoric, Roman or Medieval) and a worn George III halfpenny was recovered from OA 203. The results of the field walking were further tested by trial trench evaluation. With the exception of a small number of postholes of uncertain archaeological origin OA 410, trenching produced no evidence of any associated surviving below ground archaeological remains. The recorded remains could represent past activity on the area that now only survives as artefactual material within topsoil and subsoil contexts; although the mixed nature of the finds assemblage recovered from OA 203 could suggest that it derives on the site as a by-product of manuring practices. In both instances the nature of current agricultural practice on the site is likely to already have already had a major impact on the surviving resource and as such the level of further impact from the proposed works can be considered minor.

2.14.18 Topsoil stripping for the proposed road, and other works consisting of re-grading, landscaping and junction improvements would have a direct impact on the site of a further surface artefact scatter (OA 154 and 155). The worked flint artefacts were retrieved during the monitoring of geotechnical trial pitting. The recorded scatter lies in close proximity to the later prehistoric and Roman-British settlement site identified through recent trial trench evaluation. It is likely that the recorded scatter reflects the presence of dislocated artefactual material associated with disturbed sub surface features of the adjacent settlement. The scatter itself is therefore considered of low significance.

2.14.19 Topsoil stripping for the proposed road would have a direct impact upon the recorded sites of a number of undated sub surface features (OA 145-147, 149-150, 401, 404-406 and 412). These sites were either identified during monitoring of geo-technical survey or during the trial-trenching phase of the staged programme of evaluation undertaken within the proposed road corridor. The recorded features whilst having the potential to be prehistoric or later in origin appear to lie in relative isolation, suggesting that they are likely to reflect activity peripheral to the main focus of any occupation or settlement. As such their significance has been considered low.

2.14.20 Topsoil stripping for the proposed road would have a direct impact upon the recorded site of post-medieval quarrying and modern activity (OA 407). The site was identified during the trial trenching phase of the staged programme of evaluation undertaken within the proposed road corridor. The recorded features are of Low Importance and as the impact is Minor, the Scheme is unlikely to constitute a significant effect.

2.14.21 It is considered that these effects could be adequately mitigated (see Section 2.14for discussion of proposed Mitigation strategy).

2.14.22 Six sites have been identified where proposed development impacts would result in an uncertain (possibly Slight) Adverse Effect (OA 67, 67/69/304/74, 129, 204, 205 and 135). Three further sites have been identified where proposed development impacts would result in an Uncertain Adverse Effect (OA 57, 130 and 140). In these uncertain cases the probable “worst case” rating of Slight Adverse Effect has been used to indicate the significance of effect in table 2.4.

2.14.23 Topsoil stripping west of Weather Heath would have an Uncertain (possibly Slight) Adverse Effect upon any below ground remains of the Eriswell/Icklingham parish boundary that might survive, where it meets the existing A11 road at chainage 5700 (OA 67). The OS 1st edition map of 1882-98 shows the boundary as a double bank earthwork on the south side of the road and a single boundary on the north side of the road. The OA site visit identified no traces of this feature in the area of the Scheme, although it is possible that traces of either a buried bank or ditch survive below ground and will be affected by the road widening.

2.14.24 Topsoil stripping at the eastern end of Weather Heath would have a direct impact upon the site of a junction of three parish boundaries (OA 67/69/304/74). This would result in

an uncertain (possibly Slight) Adverse Effect. The site visit noted that one of the boundaries, demarcating the boundary between Eriswell and Elveden parishes (OA 74) survives as a low earthwork bank with a shallow depression along its east side, and extends up to the existing A11 road. The date of the bank is not known but it is likely to be of post-medieval (possible medieval) in date. The OS 1st edition map of 1882-98 shows the boundary as a double bank. Road widening by ~ 3 m on the north side of the road will truncate the end of this feature. Evidence for the Elveden and Icklingham parish boundary (OA 69) to survive below ground has been indicated by the results of recent geophysical survey (OA 304), which also noted some surviving extant remains. It is further possible given this evidence that the other parish boundary, demarcating Eriswell and Icklingham (OA 67) also survives below ground. These surviving remains would be affected by the proposed ~ 3m road widening on the south side of the existing A11 carriageway. The OS 1st edition map of 1882-98 shows the boundaries as double banked earthworks.

2.14.25 Topsoil stripping and vegetation planting would have a direct impact upon earthwork banks identified on the OA site visit and during the more recent detailed topographic survey (OA 129, 204 and 205). This would result in an uncertain (possibly Slight) Adverse Effect. The exact date and function of the banks is uncertain. They lie within an area of deciduous woodland of possible historic interest and may represent the remains of internal boundary banks of post-medieval (possibly later medieval) date associated with woodland management.

2.14.26 Topsoil stripping prior to the proposed road construction would have a direct impact upon the south-eastern end of a ~ 500mm high by ~ 40m long north-west to south-east aligned bank noted on the site visit (OA 135). This would result in an uncertain (possibly Slight) Adverse Effect. The growing crop concealed the exact dimension/width of the feature, and as its exact position has not been surveyed, it is not clear exactly how much of the feature would be truncated. The nature, date and significance of the bank is uncertain, although it probably represents the remains of a field boundary bank of post-medieval (possibly later medieval) date.

2.14.27 Topsoil stripping would have an impact upon the boundary of Mildenhall Warren (OA 57). The warren is of medieval date and its boundary survives as a bank in places. The boundary would be affected by road construction at two locations where no boundary bank was noted on the site visit, at chainage 500 and 2400. It is possible however that, below ground, the remains of a boundary ditch or the buried remains a bank survive, and would be affected by the Scheme.

2.14.28 Topsoil stripping would have a direct impact upon an extant boundary bank and trackway (on the west side of the bank) identified during the field inspection survey (OA 130). This would result in an Uncertain Adverse Effect. The date of the features is not known, but it is likely that the bank represents the remains of a woodland boundary bank of post-medieval (possibly later medieval) date.

2.14.29 Topsoil stripping for the proposed road would have an impact upon a number of low earthworks on the north side of the current A11 road, identified during the field inspection survey (OA 140). This would result in an Uncertain Adverse Effect. The earthworks comprise two or three ~ 500mm wide by ~ 250mm high rectilinear banks. The banks are of uncertain nature and may represent the remains of a possible prehistoric field system or perhaps more likely of former woodland boundaries. It is possible that further remains of the field system survive below ground, such as banks and the bottoms of ditches.

2.14.30 It is considered that these effects could be adequately mitigated (see Section 2.14 for discussion of proposed Mitigation strategy).

Unevaluated Cultural Heritage

2.14.31 The whole length of the Scheme corridor has been demonstrated to be situated within an area of high archaeological potential dating in particular to the prehistoric period. Much of the potential previously unrecorded archaeology within the development corridor has now been assessed through evaluation; however, those areas of woodland represented by Mildenhall Woods and Thetford Warren have yet to be subject to full detailed evaluation. Limited non-invasive and targeted invasive evaluation has been undertaken within Mildenhall Woods that in general produced negative results. Detailed assessment of the potential for surviving sub-surface deposits within Mildenhall Woods was not implemented. In addition, a number of wooded roadside verges have not been examined, as they were inaccessible for survey. These areas presently retain the high risk that hitherto unsuspected archaeological deposits may be affected during ground disturbance.

2.15 Indirect Impacts

2.15.1 Indirect impacts comprise the temporary and permanent noise and visual impacts upon the historic setting of extant Cultural Heritage receptors such as Scheduled Monuments, Listed Buildings, Conservation Areas or the historic landscape in general. They comprise temporary impacts arising from construction activities during the construction period, as well as long-term/permanent impacts during the operational period.

2.15.2 The Scheme would take the new road ~ 500m to the north of Elveden Conservation Area and the five Listed Buildings within it (L8 - L12). The new road would not be visible from Elveden due to the presence of woodland. The proposed changing of the course of the A11 road, so that it skirts north of Elveden rather than passing through its centre as at present, would have a considerable beneficial effect on the Conservation Area and upon the setting of the five Listed Buildings contained within it.

2.15.3 The proposed re-alignment of the road would move the road ~ 35 - 40m further south of How Hill round barrow, a Scheduled Monument (OA 8). Whilst a temporary Slight Adverse Effect to the monument's setting may be experienced during the construction period, the overall residual impact of the Scheme is likely to have a Moderate/Slight Beneficial effect on the general setting of the monument.

2.15.4 The proposed widening of the road east of Weather Heath would move the road ~ 3m closer to a Grade II Listed 1920s War Memorial (L7). This is likely to result in a temporary and permanent Moderate/Slight Adverse Effect on the setting of the War Memorial.

Table 2.4 Summary of Impacts upon Cultural Heritage

Impact	OA Reference	Description	Chainage	Importance of Receptor	Nature of Impact	Impact Significance (with Mitigation)
Direct	**57**	Boundary of Mildenhall medieval Warren and ancient parish boundary.	500	Medium	Truncation/removal of subsurface archaeological remains from topsoil stripping for proposed road.	Slight Adverse
			2400		Truncation/removal of subsurface archaeological remains from topsoil stripping for proposed road.	Slight Adverse
Direct	**66**	WWII anti-glider ditches on Horn Heath. Irregular grid of single ditches ~ 100-200 m apart, with small mounds, ~ 10 m apart on either side. OA site visit in 2000 noted that four anti-glider ditches extend up to, or close to, the existing road on its north side (within Highways Agency land boundary on north side of road)	6100-6900	Low	Truncation/removal of subsurface archaeological remains from topsoil stripping for proposed road.	Slight Adverse
Direct	**67**	Eriswell/Icklingham Parish boundary. Survives in places as double bank earthwork.	3500-5600	Medium	Truncation/disturbance of extant woodland bank by tree and shrub planting and reinforcement of existing shelter belt	Slight Adverse
			5700		Truncation/removal of subsurface archaeological remains from topsoil stripping for proposed road.	Slight Adverse

Impact	OA Reference	Description	Chainage	Importance of Receptor	Nature of Impact	Impact Significance (with Mitigation)
Direct	**67/ 69/304 74**	Junction of three parish boundaries (Icklingham/Elveden/Eriswell). The boundaries are shown as double banks on the OS 1st edition map of 1882-98. No above ground remains were noted on the site visit. Possible below ground remains may survive. NA geophysical survey within study corridor undertaken in May 2004 recorded a curvilinear anomaly at the eastern end of Weather Heath, much of which still remains as an extant feature. This ditch is thought possibly to relate to a boundary that can be seen on the Ordnance Survey 1890-1891 1st edition map (OA 69).	6900	Medium	Truncation/removal of subsurface archaeological remains from topsoil stripping for proposed road.	Slight Adverse
Direct	**128**	Banks parallel to road noted on OA site visit in 2000. Probably created with the laying out of a plantation (last century?).	600	Low	Truncation/removal of subsurface archaeological remains from topsoil stripping and understorey planting for proposed road.	Slight Adverse
Direct	**129**	Group of woodland boundaries of uncertain date within deciduous woodland noted on OA site visit in 2000.	1100	Uncertain (Low)	Truncation/removal of subsurface archaeological remains from topsoil stripping and some understorey woodland tree and shrub planting.	Slight Adverse
Direct	**130**	Boundary bank with trackway on the west side noted on OA site visit in 2000. Follows contour. Date of bank and track not known. The feature would appear to be a continuation of a linear bank to the north noted on the SMR OA 61.	1300	Uncertain (Low)	Truncation/removal of subsurface archaeological remains from topsoil stripping and understorey planting for proposed road.	Slight Adverse

Impact	OA Reference	Description	Chainage	Importance of Receptor	Nature of Impact	Impact Significance (with Mitigation)
Direct	**131/151/152/202**	Extensive spread of worked flint of prehistoric origin noted on OA site visit in 2000, watching brief in 2002 and fieldwalking survey in 2004. Trenched field evaluation revealed no correlation between the presence of surface artefacts and surviving below ground remains within the study corridor. The spread may be indicative of an area of flint manufacture with artefactual material preserved only within topsoil and subsoil contexts.	4900-5700	Medium	Truncation/removal of subsurface archaeological remains from topsoil stripping and woodland tree and shrub planting.	Slight Adverse
Direct	**132**	Probable remains of medieval ridge and furrow earthworks noted on OA site visit in 2000.	7000	Low	Truncation/removal of subsurface archaeological remains from topsoil stripping for proposed road.	Slight Adverse
Direct	**135**	Bank aligned north-west to south-east visible in growing crop noted on OA site visit in 2000.	9700	Uncertain (Low)	Truncation/removal of subsurface archaeological remains from topsoil stripping for proposed road.	Slight Adverse
Direct	**136**	Probable remains of medieval ridge and furrow earthworks noted on OA site visit in 2000.	9800	Low	Truncation/removal of subsurface archaeological remains from topsoil stripping for proposed road.	Slight Adverse
Direct	**138/400**	Broad linear cropmark aligned north-west to south-east noted from ground level within growing carrot crop, noted on OA site visit in 2000. Trenched evaluation within area of cropmark produced significant evidence of presence of surviving Romano-British farmstead settlement.	1300	Medium to High	Truncation/removal of subsurface archaeological remains from topsoil stripping for proposed road and associated tree planting.	Moderate Adverse

Impact	OA Reference	Description	Chainage	Importance of Receptor	Nature of Impact	Impact Significance (with Mitigation)
Direct	**140**	Two or three ~ 0.5 m wide by ~ 0.25 m high rectilinear banks on the north side of the current A11 road identified on the site visit. The banks are of uncertain nature and may represent the remains of a possible prehistoric field system or perhaps more likely of former woodland boundaries. It is possible that further remains of the field system survive below ground, such as the bottoms of ditches	7100	Uncertain	Truncation/removal of subsurface archaeological remains from topsoil stripping for proposed road.	Uncertain Adverse
Direct	**145**	OA watching brief of geotechnical test pits revealed an undated possible linear feature, orientated approximately north to south and measuring *c* 0.95 m deep by in excess of 2.80 m wide, cut through natural chalk. Trenched evaluation along proposed road corridor produced no additional evidence of linear or any associated features.	3300	Low	Truncation/removal of subsurface archaeological remains from topsoil stripping for proposed road.	Slight Adverse
Direct	**146**	OA watching brief of geotechnical test pits revealed an undated possible linear feature, orientated approximately north to south measuring *c* 0.55 m deep by *c* 0.30 m wide, cut through natural sand. The feature was thought to be geological in origin. Trenched evaluation along proposed road corridor produced no additional evidence of linear or any associated features.	2900	Low/None	Truncation/removal of subsurface archaeological remains from topsoil stripping for proposed road.	Slight Adverse
Direct	**147**	OA watching brief of geotechnical test pits revealed an undated possible linear feature/pit, orientated approximately north west to south east measuring *c* 0.50 m deep by *c* 0.70 m wide, cut through natural chalk. Trenched evaluation along proposed road corridor produced no additional evidence of linear or any associated features.	3400	Low	Truncation/removal of subsurface archaeological remains from topsoil stripping for proposed road.	Slight Adverse

Impact	OA Reference	Description	Chainage	Importance of Receptor	Nature of Impact	Impact Significance (with Mitigation)
Direct	**149**	OA watching brief of geotechnical test pits revealed two undated inter-cutting linear features, orientated north west to south east, measuring *c* 1.10 m deep by *c* 3.60 m wide, cut through natural chalk and sand. The features were thought to be geological in origin.	4300	Low/None	Truncation/removal of subsurface archaeological remains from topsoil stripping for proposed road.	Slight Adverse
Direct	**150**	OA watching brief of geotechnical test pits an undated possible linear feature/pit, orientated approximately north to south measuring *c* 1.1 m deep by *c* 0.80 m wide, cut through natural chalky sand.	13000	Low	Truncation/removal of subsurface archaeological remains from topsoil stripping for proposed road.	Slight Adverse
Direct	**151**	OA watching brief of geotechnical test pits revealed a small concentration (8 pieces) of flintwork dates mainly to the Neolithic and Bronze Age period.	5500	See OA 131 above	See OA 131 above	See OA 131 above
Direct	**152**	OA watching brief of geotechnical test pits revealed a small concentration of flintwork (23 pieces) dated mainly to the Neolithic and Bronze Age period.	5800	See OA 131 above	See OA 131 above	See OA 131 above
Direct	**153/200/410**	OA watching brief of geotechnical test pits revealed a small concentration of flintwork (10 pieces) dated mainly to the Neolithic and Bronze Age period. Fieldwalking survey undertaken in 2004 produced a further 258 worked flints, 46 fragments of burnt flint and a single sherd of prehistoric pottery in Field 334 (Deal). Trial trench evaluation conducted in September - November 2004 recorded five possible undated postholes within a single trench although no clear correlation between the distribution of surface artefacts and sub surface features could be made.	4300	Medium	Truncation/removal of subsurface archaeological remains from topsoil stripping for proposed road.	Slight Adverse

Impact	OA Reference	Description	Chainage	Importance of Receptor	Nature of Impact	Impact Significance (with Mitigation)
Direct	**154**	OA watching brief of geotechnical test pits revealed a small concentration of flintwork (8 pieces) dated mainly to the Neolithic and Bronze Age period. Recorded artefacts lie in close proximity to known site of later prehistoric and Roman settlement as identified through recent trial trench evaluation. The recorded artefacts are likely to reflect the presence of disturbed residual finds associated with subsurface features relating to the recorded settlement.	10100	Low	Truncation/removal of subsurface archaeological remains from topsoil stripping for proposed road.	Slight Adverse
Direct	**155**	OA watching brief of geotechnical test pits revealed a small concentration of flintwork dated mainly to the Neolithic and Bronze Age period. Recorded artefacts lie in close proximity to known site of later prehistoric and Roman settlement as identified through recent trial trench evaluation. The recorded artefacts are likely to reflect the presence of disturbed residual finds associated with subsurface features relating to the recorded settlement.	10100	Low	Truncation/removal of subsurface archaeological remains from topsoil stripping for proposed road.	Slight Adverse
Direct	**201/408**	NAU fieldwalking survey within proposed route corridor in April 2004 produced 344 worked flints, 28 fragments of burnt flint and solitary sherds of prehistoric and medieval pottery in Field 336 (Forty Acres). Trial trench evaluation conducted in September - November 2004 recorded a Neolithic ditch terminus/pit and ditch and burnt pit containing cremated bone, further undated pits and a large modern pit feature (40 Acres (S) IKL 145 (Zone A4)).	5000	Medium	Truncation/removal of subsurface archaeological remains from topsoil stripping for proposed road.	Slight Adverse

Impact	OA Reference	Description	Chainage	Importance of Receptor	Nature of Impact	Impact Significance (with Mitigation)
Direct	**203**	NAU fieldwalking survey within proposed route corridor in April 2004 produced 70 worked flints, 64 fragments of burnt flint, 5 sherds of abraded pottery (dated either as prehistoric, Roman or Medieval) and a worn George III halfpenny in Field 4 (Parsons Slip). Trial trench evaluation within Field 4 produced no evidence of any associated surviving below ground archaeological features. The recorded remains could either reflect the product of manuring practices or only survive as artefactual material only preserved in the topsoil and subsoil.	11600-12000	Low	Truncation/removal of subsurface archaeological remains from topsoil stripping for proposed road.	Slight Adverse
Direct	**204**	NAU detailed topographic walkover survey, carried out in July 2004, recorded a north west to south east section of earthen bank, ~ 0.20 to 0.30 m high by 1.5 m wide, likely associated with complex of woodland banks noted previously in this area as OA 55.	1400	Uncertain (Low)	Truncation/removal of subsurface archaeological remains from topsoil stripping for proposed road and associated understorey, woodland tree and shrub planting.	Slight
Direct	**205**	NAU detailed topographic walkover survey, carried out in July 2004, recorded a north to south aligned section of earthen bank, ~ 0.20 to 0.30 m high by 1.5 m wide, likely associated with complex of woodland banks noted previously in this area as OA 55.	1400	Uncertain (Low)	Truncation/removal of subsurface archaeological remains from topsoil stripping for proposed road and associated understorey, woodland tree and shrub planting.	Slight Adverse

Impact	OA Reference	Description	Chainage	Importance of Receptor	Nature of Impact	Impact Significance (with Mitigation)
Direct	**303**	NA geophysical survey within study corridor undertaken in May 2004 recorded a north to south aligned linear anomaly at the western end of Weather Heath. This is thought to form part of a series of WWII glider defences previously recorded over the Heath. Trial trench evaluation within the proposed development corridor was unable to substantiate the presence of the sub surface anomaly recorded by the earlier survey.	6300-6500	Low	Truncation/removal of subsurface archaeological remains from topsoil stripping for proposed road.	Slight Adverse
Direct	**305/402**	NA geophysical survey within study corridor undertaken in May 2004 recorded a series of weak curvilinear anomalies adjacent to a high-pressure gas pipeline. These may have the potential to be archaeological in origin although a false positive reading due to interference from the gas main cannot be discounted. Trial trench evaluation conducted over the survey area in September - November 2004 recorded a number of undated pits and linear features, two prehistoric burnt pits and tree throws (Milestone ELV 054 (Zone Z1)). This evidence taken with that produced from the geophysical survey could suggest the potential presence of prehistoric settlement activity of probable Bronze Age or Iron Age date.	12500-12900	Medium	Truncation/removal of subsurface archaeological remains from topsoil stripping for proposed road.	Slight Adverse
Direct	**401**	Trial trench evaluation conducted in September - November 2004 recorded an undated linear feature in Trench 20. (Milestone ELV 053 (Zone A1)).	13100	Low	Truncation/removal of subsurface archaeological remains from topsoil stripping for proposed road.	Slight Adverse

Impact	OA Reference	Description	Chainage	Importance of Receptor	Nature of Impact	Impact Significance (with Mitigation)
Direct	**403/148**	Trial trench evaluation conducted in September - November 2004 recorded undated features comprising linears, postholes, ditch termini and pits within Trenches 122 to 125. (Opposite Chalk Hall ELV 061 (Zone Z3)). The nature and density of the recorded features are considered likely to reflect evidence of probable prehistoric activity. OA watching brief of geotechnical test pits revealed an undated possible pit located in the south east section measuring *c* 0.40 m deep by in excess of *c* 0.50 m wide, cut through natural sand and gravel (OA 148).	8800-9100	Medium	Truncation/removal of subsurface archaeological remains from topsoil stripping for proposed road.	Slight Adverse
Direct	**404**	Trial trench evaluation conducted in September - November 2004 recorded an undated ditch termini and pit within Trenches 128 and 128b. Sheep Run I ELV 062 (Zone Z3).	8400-8600	Low	Truncation/removal of subsurface archaeological remains from topsoil stripping for proposed road.	Slight Adverse
Direct	**405**	Trial trench evaluation conducted in September - November 2004 recorded probable prehistoric pit and undated pit and linear within Trenches 130 to 132. Sheep Run II ELV 063 (Zone Z3)	8000-8250	Low	Truncation/removal of subsurface archaeological remains from topsoil stripping for proposed road.	Slight Adverse
Direct	**406**	Trial trench evaluation conducted in September - November 2004 recorded possible prehistoric burnt pit within Trench 139. (Weather Heath (Memorial Heath) ERL138 (Zone A3)).	6650	Low	Truncation/removal of subsurface archaeological remains from topsoil stripping for proposed road.	Slight Adverse
Direct	**407**	Trial trench evaluation conducted in September - November 2004 recorded post-medieval marl pit and probable modern pit/ditch within Trenches 158 and 161. (Gibsons South IKL 144 (Zone A4)).	5500-5700	Low	Truncation/removal of subsurface archaeological remains from topsoil stripping for proposed road.	Slight Adverse

Impact	OA Reference	Description	Chainage	Importance of Receptor	Nature of Impact	Impact Significance (with Mitigation)
Direct	**412**	Trial trench evaluation conducted in September - November 2004 recorded an undated curvilinear/gully recorded in Trench 187. (No Name (S) IKL 147 (Zone Z4)). This feature could possibly be viewed in correlation to other features and artefacts identified to the east (OA 153/200, 409 and 410) and to the north (OA 411).	4300	Low	Truncation/removal of subsurface archaeological remains from topsoil stripping for proposed road.	Slight Adverse
Direct	**413**	Trial trench evaluation conducted in September - November 2004 recorded Neolithic pit in Trench 196 and undated pit and three postholes recorded in Trenches 192 and 197. Natural feature recorded in Trench 198. (King Carlos IKL 148 (Zone A5)).	3800-4100	Medium	Truncation/removal of subsurface archaeological remains from topsoil stripping for proposed road.	Slight Adverse
Direct	**Possible Archaeology**	Much of the Schemes development corridor has now been subject to detailed evaluation, however, the archaeological potential of currently inaccessible wooded areas of the Scheme such as Mildenhall Woods, Thetford Warren and some roadside verges have yet to be assessed. The possibility that ground intrusive activities will affect hitherto unrecorded archaeological deposits within these areas therefore remains.	Wooded areas and verges	Uncertain	Truncation/removal of subsurface archaeological remains from topsoil stripping for proposed road.	Uncertain
Indirect	**8**	How Hill Tumulus. Scheduled Monument.	3750	High	Minor improvement to the setting of the Monument due to moving the road ~ 35 - 40 m further south.	Moderate Beneficial Effect on setting
Indirect	**L7**	1920s War Memorial at the side of the existing road. Grade II Listed.	6950	High	Road to be moved ~ 3 m closer to the monument	Slight Adverse

Impact	OA Reference	Description	Chainage	Importance of Receptor	Nature of Impact	Impact Significance (with Mitigation)
Indirect	**Elveden Conservation Area**	Conservation Area including five Listed Buildings (L8-12). Three Listed Buildings are Grade II*, two are Grade II.	9500-1350	High	The proposals would move the A11 road ~ 500 m to the north and would not be visible from Elveden due to the presence of woodland. Reduction in traffic noise and visibility.	Very Large Beneficial Effect on setting

2.16 Summary

2.16.1 This assessment has identified that the Scheme proposals would have a variable impact on the heritage resource within the proposed route. The major impact on known and potential archaeological remains would be their truncation/removal by initial preparatory groundwork operations such as the removal of topsoil from within the proposed road corridor. Further, minor impacts, such as new planting, fence construction and soft landscaping would also have limited impact on a number of identified known archaeological features. A programme of mitigation has been agreed with SCC, NCC and English Heritage to offset these impacts. This consists of a mixture of open or `Strip, Map and Sample' excavation (carried out pre-construction), as well as the implementation of a monitoring and recording (Watching Brief) action during the construction activities. These mitigation areas are shown on Figures 2.4.1 – 2.4.3 in ES Volume 3.

2.16.2 The Scheme proposals would have no direct impact on any Scheduled Monuments, Listed Buildings or Conservation Areas. Indirect effects have been identified on the settings of a limited number of known designated sites adjacent to the proposed route. Overall, the Scheme would have beneficial impacts on the Scheduled Monument of How Hill Tumulus as well as Elveden Conservation Area and the Listed Buildings therein. The scheme proposals would have a Slight negative impact on the setting of the Listed 1920s War Memorial.

2.17 References

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Cartographic Sources*

** A number of estate maps were not accessible due to their fragile nature*

Ordnance Survey 1" Map 1836

Eriswell Parish Enclosure map (1817)

Elveden Parish Tithe Map (1841)

Eriswell Parish Tithe Map (1839)

Icklingham Parish Tithe Map (1839)

Mildenhall Parish Tithe Map (1858)

(There is no Tithe map for Thetford or for Barton Mills)

Ordnance Survey 1st Edition 6" Map. Suffolk (1876-85) and Norfolk (1879-98)

Ordnance Survey 2nd Edition 6" Map. Suffolk (1900-4) and Norfolk (1900-6)

Engineering Drawings Consulted

David Huskisson Associates/PB *A11 Fiveways to Thetford Stage 2. Draft Environmental Design*. Drawing number DHA/374/001. Scale 1:2500 dated Feb 2003.

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APPENDICES

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APPENDIX A

Cultural Heritage Gazetteers

Note:
OA numbers **1** to **37** refer to sites listed in the original survey by John Samuels Consultants (1994). Site numbers indicated with a * indicate where the original 1994 gazetteer entry has been rewritten with additional/correct information.
OA numbers **38-100** refer to additional sites from the OA update (OAU January 2000).
OA numbers **101-127** are previously unknown sites identified by the Air Photographic Assessment (OAU April 2000).
OA numbers **128 - 140** are previously unknown sites identified by this assessment during field inspection.
OA numbers **145 - 155** are previously unknown sites/findspots identified by Watching Brief undertaken in July - September 2002
OA numbers **200 - 206** are previously unknown sites/findspots identified by Fieldwalking and Topographic survey carried out in April - July 2004.
OA numbers **300 - 305** are previously unknown potential sites identified by geophysical survey undertaken in May 2004.
OA numbers **400 - 413** are previously unknown sites identified by trial trench evaluation undertaken in September - November 2004.

Abbreviations:
OA = Oxford Archaeology (OA: previously OAU), OAU = Oxford Archaeological Unit (now named OA), SSMR = Suffolk Sites and Monuments Record, NSMR = Norfolk Sites and Monuments Record, NMR = National Monuments Record, SM = Scheduled Monument

Site	Description	NMR / SMR No.
1	Possible Bronze Age round barrow in Mildenhall Woods.	SSMR MNL478
2	Scatter of flintwork and a Neolithic flaked axe found on the surface in Mildenhall Woods	NMR 380091 SSMR MNL108
3	Old Keeper's Lodge west of Highlodge Farm. Mid 16th century. **Scheduled Monument.**	SSMR MNL134
4*	Three Hills is one of the richest sites in terms of Palaeolithic implements, and has produced more hand axes than any other site in Britain (over 2,000). Most of implements were retrieved during gravel working from the 19th century to 1950s. The 'Three Hills' are actually Bronze Age round barrows recorded in 1728 and destroyed in 1866. Three Hills is also the site of an Anglo-Saxon cemetery, where ~18 graves with grave goods were recorded in the latter half of the 19th century. Site visit in 1976 noted extensive quarrying and woodland cover.	NMR 380088 NMR 380112 NMR Event 647153-6 SSMR MNL001
5	Ring Ditch (possibly a Bronze Age round barrow).	SSMR ERL044
6	Findspot of bronze looped palstave (Bronze Age axe head)	SSMR IKL104
7*	Early Bronze Age burial site revealed through excavation by Briscoe in 1953.	NMR 379858 NMR Event 647112 SSMR IKL029
8	How Hill Tumulus. The 2.6 m high by 35 m diameter mound is located on a natural crest (a false horizon). A hollow on the eastern side of the mound is thought to be the result of an unrecorded antiquarian excavation. A source dated to 1923 states that a cinerary urn had been found there and was broken up. The line of existing A11 road to south cuts berm and ditch of tumulus. It is possible that remains of the ditch survive beneath the existing road. The berm of the mound has been damaged by ploughing where the mound has not been cut by the line of the existing road.	SSMR IKL001 NMR 379846 NMR Event 647099
9	Prehistoric or Roman flint axe was also found at this location in 1953. Other undated prehistoric flints have been found in the same field.	NMR 379859 SSML ERL033
10	Findspot of a Mesolithic large blade flint core.	SSMR IKL040 NMR 379869
11	Findspot of a Palaeolithic hand axe	SSMR IKL046

Site	Description	NMR / SMR No.
12	Findspot of a Neolithic polished stone axe	SSMR IKL007 NMR 379865
13	Bronze Age bowl barrow, 0.8m high by 31 m diameter, west of Gibson's slip. **Scheduled Monument**.	SSMR ERL027 NMR 379853
14	A Neolithic flint axe, Mesolithic worked flints and three Palaeolithic hand axes were found at this approximate location (the former before 1977, the later before 1996).	NMR 379870 NMR 379866 NMR 1268609 SSMR IKL008
15	Findspot of two Roman coins in southern angle of Weather Heath. One coin 2nd century AD, other coin 3rd or 4th century AD	SSMR ERL025 NMR 379852
16	Site visit noted several associated earthworks around the World War II pillbox.	SSMR ERL100
17	Former shelter belts of coniferous plantation, dated to 19th century.	---
18	Findspot of sherds of Bronze Age pottery on Horn Heath.	SSMR IKL048 NMR 379849
19	World War II concrete pillbox on Weather Heath.	SSMR ERL099
20	Findspot of Acheulian flint industry comprising ~ 80 handaxes, 600 cores and many flakes, found during quarrying in the late 19th and early 20th centuries. Now buried under bund on east side of holiday village.	SSMR ELV006 NMR 383134
21*	Site of 19th century brickworks, buried beneath a bund on the east side of Holiday Village. The brickworks were recorded in an excavation by the Suffolk Industrial Archaeological Society in 1988.	SSMR ELV008 NMR Event 647077
22	Findspot of 1st century Roman brooch and a 4th century coin.	SSMR ELV013
23	World War II concrete pillbox east of B1106.	---
24	Site of Iron Age cremation burial with three Aylesford type pots and wooden tankard with decorated bronze plates suggesting that the deceased was of high status.	SSMR ELV005
25	Neolithic flint axe found by chance within the last 20 years (SMR backlog).	---
26	Void no. not used.	---
27	Findspot of Roman material including pottery, querns and a 3rd century AD coin hoard.	SMR ELV004 NMR 383135
28	Icknield Way, prehistoric trackway, Roman road (Margary 333) and medieval drove. Route unknown north of this point.	SSMR ELV016 NMR 382757
29	Barrow Hill. Fieldwalking in 1993 revealed a number of sherds of pottery dating to the prehistoric, Iron Age, Roman, early and later medieval periods, and worked flint dating to the prehistoric (undated), Neolithic and Bronze Age periods.	NSMR 31525 NMR 383146
30*	Archaeological investigation during topsoil stripping for bypass in 1988 revealed 18 undated prehistoric flint flakes, a hammer stone, burnt flints and one fragment of animal bone.	NSMR 24844
31	Findspot of Neolithic axe and a flint flake.	NSMR 25733
32	Findspot of a 12th century AD horse shoe.	NSMR 28613
33*	Numerous metal objects and some pottery were recovered from metal detector survey prior to construction of bypass in 1988. These comprise: • A Roman coin • A Late Saxon ring, tweezers and pottery; • A Medieval ring, pottery, buckle, strap fitting and coin; • Post-medieval pottery; • An undated lead weight.	NSMR 24847
34*	Field observation prior to construction of bypass in 1988 recovered Roman pottery and medieval pottery and roof tile.	NSMR 24848
35	Findspot of socketed iron arrowhead (possibly medieval). Found in re-deposited material.	NSMR 28611
36*	Fieldwalking at this approximate location in 1996 revealed an undated prehistoric worked flint and a Neolithic worked flint.	NSMR 15906
37	Findspot of a 10th century AD Anglo-Saxon penny of Eadwig.	NSMR 24073
38	Medieval pottery was found at this location in 1954, and nearby, to the east, a Palaeolithic hand axe was found during digging operations in 1961.	NMR 380095 NMR 380109 SSMR MNL004 SSMR MNL109

Site	Description	NMR / SMR No.
39	Two Palaeolithic hand axes recorded at this location as part of The English Rivers Palaeolithic Project (Wessex Archaeology 1996).	NMR 1269309
40	A scatter of Mesolithic, Neolithic, Bronze Age worked flints, Roman pottery and a sherd of Saxon pottery were found during fieldwalking in 1976 prior to preparation of playing fields.	NMR 380147 SSMR MNL127
41	Site of Barton Hall staunch on River Lark navigation. Dated to the 19th century. Destroyed c. 1980.	SSMR BTM021
42	Circular cropmark of a possible ring-ditch, ~32 m in diameter, visible on air photographs taken in 1975. One of a group of three (see **OA 43** and **44**). Suffolk Archaeological Unit carried out a short rescue excavation prior to construction of A11 bypass. Probable Bronze Age ditch 4m wide by 1.1m deep was recorded. No burials were located, although may have been missed due to lack of time. Only artefact was a Roman coin.	NMR Event 647059 SSMR BTM006
43	Circular cropmark of a possible ring-ditch, ~32m in diameter, visible on air photographs taken in the 1950s, 1975 and 1986. One of a group of three (see OA 42 and 44).	SSMR BTM005
44	Circular cropmark of a possible ring-ditch, ~26m in diameter, visible on air photographs taken in 1975. One of a group of three (see OA 42 and 43).	SSMR BTM007
45	Site of windmill shown on OS 1st Edition map (1890).	---
46	Site of watermill dated to the 18th century. One of two watermills on leat south of River Lark (see also L5). Located beside former bridge across river. Both sites destroyed by A11 bypass construction in 1980s.	SSMR BTM20
47	Findspot of Roman pottery (base of mortaria) found before 1964. No further information on SMR.	NMR 380108 SSMR IKL053
48	Hoard of Roman pottery including plates of pottery and pewter and a coin, were found ~ 12ft below the surface at this location during disposal of a crashed bomber in 1960.	NMR 380107 SSMR IKL023
49	Roman coin and pottery found at this location in 1950. Two Neolithic arrowheads found by chance in 1976. In 1981 Plouviez carried out a survey of the area and found a scatter of Roman pottery at this location.	NMR 380089 SSMR IKL051
50	In 1980 John King found numerous prehistoric artefacts at this location in a 'large black patch' exposed by rabbit activity. These include Bronze Age beads, flints, a pot-boiler (heated stones used to heat water) and pottery. Also Iron Age pottery and daub.	SSMR IKL081
51	Several finds have been made at this location in the past: • In 1954 Grace Briscoe recorded 'Iron Age sherds and many struck flints'. • In 1976 John King found Neolithic flints and pottery. • In 1981 Plouviez carried out a survey of the area and found one sherd of Roman pottery. Immediately to the east, Grace Briscoe recorded a Roman pottery scatter in 1954. In 1969, Mr Moss found several Mesolithic worked flints, a scatter of Roman pottery and several early Saxon pottery sherds, during construction a North Sea gas pipeline. Site visit by Plouviez in 1980 recovered two further undated prehistoric flints, a thin scatter of Roman and Iron Age material and a single sherd of possible Saxon pottery. Some of the material was retrieved from molehills.	NMR 380092-5 NMR 380118 SSMR IKL052 SSMR IKL006
52	Lower Palaeolithic handaxe found by chance on the surface of the ground in 1990.	SSMR MNL319
53	In 1985-6 Mr Harrison recovered a Palaeolithic flint cleaver and a large flint knife and utilised flint flake dated to the Neolithic period in an area cleared for replanting.	SSMR MNL216 SSMR MNL215
54	In 1985-6 Mr Harrison recovered several archaeological finds in an area cleared for replanting. These comprise over 25 early Bronze Age worked flints, one sherd of early Bronze Age pottery, and two sherds of early Saxon pottery.	SSMR MNL214
55	One linear and one rectilinear feature marked on modern OS 1:10,000 map (earthwork banks/ditches?).	---
56	Earthwork bank or ditch marked on modern OS 1:10,000 map.	---
57	Mildenhall Warren established in 1323. Expanded at the end of the 14th century. Single earthwork bank ~ 4.5km in length, surrounds most of the warren. Documents of 1730s indicate that the bank was created to contain rabbits. Varying preservation and dimensions, from 5m wide by 1m high in the north-east, to 1m wide and 800mm high in the south-east. The boundary runs along the line of the ancient parish boundary.	SSMR MNL485

Site	Description	NMR / SMR No.
	Area now a coniferous plantation.	
58	Partridge Pit. Clay extraction revealed over 110 flint flakes (see **OA 60** and **62**).	SSMR MNL241
59	Two Neolithic arrowheads found on the surface of a ploughed field in 1970.	NMR 379919 SSMR MNL186
60	High Lodge Palaeolithic Site. Palaeolithic lakeside living site. Discovered in the 19th century during brick-earth extraction, Professor Marr excavated the site in 1920. Further five seasons of excavations ending in 1967. Excavators identified two; possibly three, separate flint-tool manufacturing industries dated to the Lower Palaeolithic period (see also **OA 58** and **62**).	NMR 379907 NMR Event 647157-9 NMR Event 660723 SSMR MNL002
61	OA site visit in 2000 noted a linear bank ~1m wide and 200mm high, aligned northwest to south-east. It is not clear whether this is an early/late phase in the boundary of Mildenhall Warren or whether it represents a subdivision within it.	SSMR MNL484
62	Small clay pit. Excavations undertaken by Professor Marr in 1920 and J Moir in 1928 revealed a number of Lower Palaeolithic worked flints (see also **OA 58** and **OA 60**).	NMR Event 647197-8 SSMR MNL242
63	Bronze Age vessel, pottery and pot boilers (heated stones used to heat water) found 2-5 feet deep in gravel deposit during road widening in 1950.	NMR 379908 SSMR MNL107
64	SMR notes small earthwork embankment 200m long by 800mm wide by 500mm high. Runs along the parish boundary. Possible one of the 'trapping banks' of Mildenhall Warren referred to in the 1812 Enclosure Award for Mildenhall. Site visit noted a double bank and ditch marking line of parish boundary. Bank has almost been ploughed flat in the past and is currently marked by a line of trees and scrub	SSMR ERL097
65	Suffolk County Council Archaeological Service carried out a watching brief during construction of a reservoir in 1998. A dense patch of burnt flint, charcoal and prehistoric flints were recorded.	NMR Event 1265870 SSMR IKL131
66	WWII anti-glider ditches on Horn Heath. Irregular grid of single ditches ~ 100-200m apart, with small mounds, ~ 10m apart on either side. To the south-east of the ditches is an open space with a brick wall used for military shooting practice target Cropmarks of World War II (WWII) anti-glider ditches were identified in the field immediately to the west and south-west of the area of ditches defined by the SMR. Photo reference 106G/UK/1557 Fr.1008, 07-JUN-46. OA site visit in 2000 noted that the anti-glider ditches extend right up to the north and south sides of the road (within Highways Agency land boundary on north side of road)	SSMR IKL115 SSMR ERL083 SSMR IKL123
67	Double bank earthworks along the line of Eriswell/Icklingham Parish boundary. This feature was previously identified by the SMR from Ordnance Survey (OS) maps of 1904 and 1983. The boundary continues further as a cropmark further west than recorded on the SMR, and connects with another similar earthwork boundary **OA 64.** Photo ref. CPE/UK/1801 Fr. 3180, 25-OCT-46.	SSMR IKL126
68	Suffolk SMR records this feature as a possible ring ditch identified from air photographs. The site visit noted a thin, regular circular cropmark on the site, although it was unclear whether the cropmark was archaeological in nature or represented the remains of a tree throw.	SSMR IKL116
69	Series of parallel banks shown on OS maps of 1904 and 1984, possibly marking parish boundary or plantation boundary. Named 'Icklingham Belt'. Not shown on Hodskinson's 1783 map. OS map of 1984 shows west end (across Shravedell Heath to road) possibly levelled, near where it connects with a similar demarcation **OA 67** and **74**.	SSMR IKL125
70	Heavy concentration of (worked?) flint noted in corner of cultivated field in/before 1994. Possibly part of flint mining complex (**OA 71**) to east. Mr. Bird recovered a Mesolithic axe head at this location before 1989. Field surface has been repeatedly mechanically stone picked.	SSMR ERL057
71	Large area of flint mining shafts in chalk. Subsequently filled in with rubble/natural slumping. Described as shafts with radiating galleries with 'rooms' or larger areas (i.e. probably prehistoric rather than post-medieval in date). In 1966 an individual described how his father and grandfather had been down the mines, before they were	SSMR ERL081

Site	Description	NMR / SMR No.
	filled and planted over in c.1928, and had seen drawings of animals on the walls. Heavy concentration of flint noted in cultivated field to west (**OA 70**).	
72	Findspot of Mesolithic tranchet axe head. No further details (SMR backlog).	SSMR ELV042
73	Neolithic flint adze found by chance on surface of a ploughed field before 1977. In 1994 scatter of medieval roof tile fragments identified on the surface of the field.	SSMR ERL043
74	Long linear cropmark along the line of Eriswell/Elveden Parish boundary. This feature was previously identified as double bank earthworks by the SMR from Ordnance Survey (OS) maps of 1904 and 1983. The boundary continues further north than recorded on the SMR. Photo reference 106G/UK/1557 Fr.1008, 07-JUN-46. OA site visit in 2000 noted earthwork remains of this bank noted ~ 25m north of existing road.	SSMR ERL102
75	Single earthwork bank along existing eastern part of Lakenheath Warren. Route follows parish boundary for most part. Vary dimensions noted in survey of 1995, generally less than ~1.5m wide and ~ 700mm high. Warren formerly held by Abbey of Ely. In use in early 20th century when banks were maintained. Full extent of warren shown on map of 1835.	SSMR LKH174
76	Large flint hand-axe dating to Lower Palaeolithic period and an Early Bronze Age adze found by chance in 1993/4 on the surface of a cultivated field. Located near a former clay pit known as Old Elveden Hole (possibly from workings?).	SSMR ELV025
77	Centre Parks Holiday Village. Originally contained a boundary (bank?) marked on modern OS 1:10,000 maps. Paterson and Fagg carried out an excavation in this area in 1938, which revealed a Palaeolithic flint implement. Subsequent excavations by Sieveking (1967) and Ashton/Lewis (1995-8) revealed further evidence of a Palaeolithic flint-working site. Suffolk Archaeological Service site visit located a concentration of undated prehistoric worked flints (possibly Late Bronze Age or Iron Age in date), and one prehistoric pottery sherd, in disturbed soil on edge of pit excavated for boating lake. Skeleton found by workmen during Centre Parks Holiday Village development in 1988.	NMR Event 647073 NMR Event 1065823 NMR Event 1065827 SSMR ELV010 SSMR ELV011
78	Findspot of Bronze Age arrowhead. No further details (SMR backlog).	SSMR ELV043
79	OS 1st Edition map shows Old Elveden Cottages at this location. No longer extant.	---
80	Undated mound noted on Suffolk SMR. Not known whether extant or not. No further details (SMR backlog).	SSMR ELV043
81	Approximate location of the discovery of two human skeletons found during construction of silo pits in 1950s.	SSMR ELV030
82	Findspot of a Neolithic arrowhead. No further information on SMR.	SSMR ELV001
83	Elveden Rabbit (Lower) Warren. Banks shown on OS map of 1836 and tithe maps.	SSMR ELV038 SSMR ELV039
84	Findspot of a Middle Bronze Age to Late Saxon torc. No further information on SMR.	SSMR ELV049
85	Site of lime kiln marked near Limepit Wood on Elveden Tithe Map of 1848.	SSMR ELV023
86	Chance find of Iron Age pot believed to be from the possible site of an Iron Age burial with tankard, found c. 1888.	NMR 382729 NMR 382730 SSMR ELV003
87	Pottery scatter marked on Suffolk SMR map. No further details - SMR backlog	---
88	'Stone Pit Plantation' and 'Stone Pit Wood' to south of proposed road and 'Stone Pit Breck' to the north of the proposed road, marked on Tithe Award of 1841: suggests site of former quarrying.	---
89	Possible medieval boundary bank running parallel to (southern side) county boundary. Probably part of bank demarcation the southern edge of Thetford Rabbit Warren (**OA 93**). Site visit as part of Brecks survey in 1995 recorded a flat-topped bank with steep inner face, consistent with a 1794 reference to bank construction method.	SSMR BNH049
90	Group of five circular banks. The nature of the banks is unclear - possible bomb craters.	SSMR BNH055
91	Two extant intersecting field boundary banks. Run along the line of field boundaries shown on Tithe Map of 1840.	SSMR BNH053
92	Possible barrow on Thetford Heath ~ 3m high by 25m wide, noted during Brecks survey in 1995. Distinct mound in otherwise level area.	SSMR BNH051
93	Thetford Warren. Rabbit warren dating to medieval period (see **OA 89**). Site inspection and trial trenching by RPS Clouston on site of proposed MoD firing range in 1996 within warren recovered one prehistoric struck flint. No features were identified. A site visit carried out by Suffolk Archaeological Unit in 2001 identified remains of banks and ditches on the southern edge of the warren at TL 8420 8165	NSMR 32328 NSMR 36806 NMR Event 1120252
94	Neolithic flint scraper found during fieldwalking in 1996.	NSMR 32342

Site	Description	NMR / SMR No.
95	Archaeological investigations carried out during the construction of Thetford Bypass in 1988 revealed several features (possible hearth and pit) containing burnt black soil and post-medieval material.	NSMR 24843
96	Archaeological evaluation in 1996 in advance of development (Caxton Way). Revealed mostly Post-medieval finds, and one undated prehistoric flint tool.	NSMR 31756 NMR Event 1326255
97	Fieldwalking survey prior to construction of bypass in 1988 retrieved a Saxon brooch and medieval coin and buckle.	NSMR 24862
98	Late Saxon brooch found by chance in a garden in c.1981.	NSMR 29443
99	Site of windmill south of Mill Farm marked on OS 1st Edition 1" (1836). Last worked by wind 1892.	NSMR 16862
100	Norfolk Archaeological Unit evaluation in September 1998 (Brandon Road Stages 1 and 2) revealed Bronze Age and Roman-British pits, ditches and post-holes, a medieval ditch and posthole, and a post-medieval bank. Finds include Mesolithic, Neolithic and Bronze Age flints and Bronze Age, Romano-British and Saxon sherds.	NMSR 33812 NMR 1304390
101	Faint long linear cropmark identified from air photographs	---
102	Elongated rectilinear earthwork identified on OA site visit in 2000. Probable internal warren/woodland boundary.	---
103	Regular curvilinear cropmark in area cleared of trees, identified from air photographs. Adjacent tree cover may obscure the western half of the feature.	---
104	Very large rectilinear cropmark. Possible enclosure with three sides visible.	---
105	Half of a regular curvilinear cropmark in area of geological background 'noise' identified from air photographs. Possible ploughed-out ring-ditch.	---
106	Long linear cropmark identified from air photographs.	---
107	Complete regular curvilinear cropmark with central 'pit' clearly visible, identified from air photographs. Probable ploughed-out ring-ditch with central burial.	---
108	Two near-parallel short linear cropmarks identified from air photographs. Nature uncertain but would appear to be of an archaeological nature.	---
109	Complete elongated rectilinear cropmark identified from air photographs. Set against the 'grain' of the field. Probable enclosure or large building.	---
110	Complete regular curvilinear cropmark identified from air photographs. Probable ploughed-out ring-ditch.	---
111	Faint rectilinear cropmark identified from air photographs. Probable enclosure with three sides visible.	---
112	Medieval ridge and furrow visible as faint earthworks on air photographs.	---
113	Medieval ridge and furrow visible as faint earthworks on air photographs.	---
114	Half of a regular curvilinear earthwork bank identified on OA site visit in 2000. Possible internal warren/woodland boundary.	---
115	Complete regular rectilinear cropmark, clearly visible against 'grain' of field, identified from air photographs. Uncertain if feature is of archaeological origin.	---
116	Long curvilinear cropmark identified from air photographs. Possible old field boundary.	---
117	Long linear cropmark identified from air photographs. Possible former warren boundary.	---
118	Long linear cropmark, visible as an earthwork before 1955 and overlain by WWII anti-glider ditches (**OA 66**). Identified from air photographs. Probable former warren boundary.	---
119	Long linear cropmark identified from air photographs. Possible boundary or track. Apparently cut by (i.e. later than) medieval/post-medieval warren boundary (**OA 69**).	---
120	Large regular curvilinear cropmark identified from air photographs. Incomplete and apparently cut by (i.e. later than) medieval/post-medieval warren boundary (**OA 69**). Possible enclosure.	---
121	L-shaped elongated rectilinear cropmark identified from air photographs. Uncertain if feature is of archaeological origin.	---
122	L-shaped elongated rectilinear cropmark identified from air photographs. Old field boundary or area of former woodland.	---
123	Rectangular walled enclosure and sunken rectangular earthwork (fishpond?) identified from air photographs. Features are not marked on SMR or NMR but are possibly of archaeological interest.	---
124	Area of possible medieval ridge and furrow earthworks identified from air photographs.	---
125	Linear cropmark, probably a former track, identified from air photographs. Swerves to	---

Site	Description	NMR / SMR No.
	avoid in-filled quarry and heads towards a large in-filled quarry further to the north-west.	
126	Conjoined elongated and regular cropmarks, and one large and two smaller circular cropmarks, identified from air photographs. Possible enclosures with entrances.	---
127	Large pit associated with site of former post-medieval brickworks, identified on a site visit by Suffolk Archaeological Unit in 2001.	NSMR 36830
128	Banks parallel to road noted on OA site visit in 2000. Probably created by the laying out of a plantation (last century?).	---
129	Group of woodland boundaries of uncertain date within deciduous woodland noted on OA site visit in 2000.	---
130	Boundary bank with trackway on the west side noted on OA site visit in 2000. Follows contour. Date of bank and track not known. The feature would appear to be a continuation of a linear bank to the north noted on the SMR **OA 61**.	---
131	Extensive spread of worked flint of prehistoric origin noted on OA site visit in 2000. The significance of the spread is uncertain but may indicate an area of flint manufacture or a possible settlement site.	---
132	Probable remains of medieval ridge and furrow earthworks noted on OA site visit in 2000.	---
133	Large earthwork bank ~ 15- 20m long by ~ 5 m wide by ~ 1.5m high, noted on OA site visit in 2000. Possible pillow mound (artificial rabbit warren) or the well-preserved remains of a substantial linear feature aligned north-south.	---
134	Cropmarks noted from ground level noted on OA site visit in 2000, possibly indicating subsoil features of possible archaeological interest.	---
135	Bank aligned north-west to south-east visible in growing crop noted on OA site visit in 2000.	---
136	Probable remains of medieval ridge and furrow earthworks noted on OA site visit in 2000.	---
137	Probable site of a second medieval rabbit warreners' lodge, shown on a map of 1812.	SSMR MNL510
138	Broad linear cropmark aligned north-west to south-east noted from ground level within growing carrot crop, noted on OA site visit in 2000.	---
139	Water tower with brick base (shown on modern OS maps).	---
140	Possible remains of prehistoric field system or former woodland boundaries visible as faint earthworks, noted on OA site visit in 2000.	---
141	Approximate location of findspot of over 1000 implements, mainly Palaeolithic handaxes and ovates with a few Neolithic and other implements. Found during quarrying at the Warren Hill Gravel pits, before 1911.	NMR 380137
142	Two Palaeolithic hand axes found by chance at Chalk Hall Farm before 1968. Exact location uncertain.	NMR 382751
143	Iron Age and Romano-British pottery and coins found by chance in a quarry pit at this location.	NMR 383147
144	Archaeological evaluation at Center Parcs Forest Resort in 2002 revealed one undated boundary ditch.	NMR Event 1367937
145	OA watching brief of geotechnical test pits carried out for non-archaeological purposes in July-September 2002 revealed an undated possible linear feature, orientated approximately north to south and measuring *c* 0.95m deep by in excess of 2.80m wide, cut through natural chalk (Trench 1: Feature 107). The primary fill was light brown sandy silt with gravel overlain by a mixed sandy loam with chalk fragments. This deposit was in turn overlain by the upper fill of the feature which comprised of a mixed sandy loam with re-deposited chalk.	---
146	OA watching brief of geotechnical test pits carried out for non-archaeological purposes in July-September 2002 revealed an undated possible linear feature, orientated approximately north to south measuring *c* 0.55m deep by *c* 0.30m wide, cut through natural sand (Trench 31: Feature 3107). The feature contained a single fill that comprised orange brown silty sand, similar in composition to the surrounding natural sand, suggesting feature may be geological in origin.	---
147	OA watching brief of geotechnical test pits carried out for non-archaeological purposes in July-September 2002 revealed an undated possible linear feature/pit, orientated approximately north west to south east measuring *c* 0.50m deep by *c* 0.70m wide, cut through natural chalk (Trench 46: Feature 4604). Feature contained a single fill that comprised light brown silty sand with flint fragments, similar in composition to the	---

Site	Description	NMR / SMR No.
	overlying subsoil.	
148	OA watching brief of geotechnical test pits carried out for non-archaeological purposes in July-September 2002 revealed an undated possible pit located in the south east section measuring *c* 0.40m deep by in excess of *c* 0.50m wide, cut through natural sand and gravel (Trench 47: Feature 4706). Contained a single fill that comprised light grey brown silty sand with flint fragments, exactly similar in composition to the overlying subsoil.	---
149	OA watching brief of geotechnical test pits carried out for non-archaeological purposes in July-September 2002 revealed two undated inter-cutting linear features, orientated north west to south east, measuring *c* 1.10m deep by *c* 3.60m wide, cut through natural chalk and sand (Trench 58: Feature 5806). The excavated fills of the feature were observed to be very clean and it is thought likely that the feature represents a geological anomaly.	---
150	OA watching brief of geotechnical test pits carried out for non-archaeological purposes in July-September 2002 revealed an undated possible linear feature/pit, orientated approximately north to south measuring *c* 1.1m deep by *c* 0.80m wide, cut through natural chalky sand (Trench 102: Feature 10204). Contained a single fill that comprised yellow brown sand, exactly similar in composition to the overlying subsoil.	---
151	OA watching brief of geotechnical test pits carried out for non-archaeological purposes in July-September 2002 revealed a small concentration of flintwork in Trench 23 (eight pieces). The general technological appearance of the assemblage suggests that it dates mainly to the Neolithic and Bronze Age period.	---
152	OA watching brief of geotechnical test pits carried out for non-archaeological purposes in July-September 2002 revealed a small concentration of flintwork in Trench 25 (23 pieces). The general technological appearance of the assemblage suggests that it dates mainly to the Neolithic and Bronze Age period.	---
153	OA watching brief of geotechnical test pits carried out for non-archaeological purposes in July-September 2002 revealed a small concentration of flintwork in Trench 58 (10 pieces). The general technological appearance of the assemblage suggests that it dates mainly to the Neolithic and Bronze Age period.	---
154	OA watching brief of geotechnical test pits carried out for non-archaeological purposes in July-September 2002 revealed a small concentration of flintwork in Trench 65 (eight pieces). The general technological appearance of the assemblage suggests that it dates mainly to the Neolithic and Bronze Age period.	---
155	OA watching brief of geotechnical test pits carried out for non-archaeological purposes in July-September 2002 revealed a small concentration of flintwork in Trench 51. The general technological appearance of the assemblage suggests that it dates mainly to the Neolithic and Bronze Age period.	---
200	NAU fiedlwalking carried out along proposed route corridor in April 2004 produced 258 worked flints, 46 fragments of burnt flint and a single sherd of prehistoric pottery in Field 334 (Deal).	---
201	NAU fiedlwalking carried out along proposed route corridor in April 2004 produced 344 worked flints, 28 fragments of burnt flint and solitary sherds of prehistoric and medieval pottery in Field 336 (Forty Acres).	---
202	NAU fiedlwalking carried out along proposed route corridor in April 2004 produced 285 worked flints and 37 fragments of burnt flint in Field 199 (Gibson's North)	---
203	NAU fieldwalking carried out along proposed route corridor in April 2004 produced 70 worked flints, 64 fragments of burnt flint, five sherds of abraded pottery (dated either as prehistoric, Roman or Medieval) and a worn George III halfpenny in Field 4 (Parsons Slip).	---
204	NAU detailed topographic walkover survey, carried out in July 2004, recorded a north west to south east section of earthen bank, ~ 0.20 to 0.30m high by 1.5m wide, likely associated with complex of woodland banks noted previously in this area as OA 55.	---
205	NAU detailed topographic walkover survey, carried out in July 2004, recorded a north to south aligned section of earthen bank, ~ 0.20 to 0.30m high by 1.5m wide, likely associated with complex of woodland banks noted previously in this area as OA 55.	---
206	NAU detailed topographic walkover survey, carried out in July 2004, recorded earthwork mound feature with possible associated ditch thought possibly to represent surviving remains of prehistoric barrow. Trenched evaluation revealed feature to represent only the remains of dumped sand and gravel material possibly associated with construction of a nearby woodland bank (OA130) or with the present A11	---

Site	Description	NMR / SMR No.
	carriageway.	
300	NA geophysical survey within study corridor undertaken in May 2004 recorded a single north east to south west orientated linear anomaly, length approximately 12m, at the western eastern extent of Field 200 (Mill Sail).	---
301	NA geophysical survey within study corridor undertaken in May 2004 recorded a large negative magnetic anomaly interpreted as the remains of a former quarry pit, diameter approximately 20 to 25m, at the eastern end of Field 324 (Crossroads). Trial trench evaluation did not corroborate the presence of this potential feature.	---
302	NA geophysical survey within study corridor undertaken in May 2004 recorded an east to west aligned linear anomaly, approximately 40 m long, at the western end of Weather Heath. This is thought to form part of a series of WWII glider defences previously recorded over the Heath.	---
303	NA geophysical survey within study corridor undertaken in May 2004 recorded a north to south aligned linear anomaly at the western end of Weather Heath. This is thought to form part of a series of WWII glider defences previously recorded over the Heath.	---
304	NA geophysical survey within study corridor undertaken in May 2004 recorded a curvilinear anomaly at the eastern end of Weather Heath, much of which still remains as an extant feature. This ditch is thought possibly to relate to a boundary that can be seen on the Ordnance Survey 1890-1891 1st edition map.	---
305	NA geophysical survey within study corridor undertaken in May 2004 recorded a series of weak curvilinear anomalies adjacent to a high-pressure gas pipeline. These may have the potential to be archaeological in origin although a false positive reading due to interference from the gas main cannot be discounted.	---
400	NAU trial trench evaluation conducted in September - November 2004. Excavation of 27 trenches in Landing Ground (Zone A2) and Brandon Road North (Zone Z2) produced significant evidence of Romano-British farmstead settlement. Characterised by remains of pits, linears and postholes, sample excavation indicated main focus of Roman occupation in 2nd to 3rd centuries AD, although origins likely to be in later prehistory. Assemblages of pottery, animal bone, coins and metalwork recovered.	---
401	NAU trial trench evaluation conducted in September - November 2004. Undated linear feature recorded in Trench 20. Milestone ELV 053 (Zone A1)	---
402	NAU trial trench evaluation conducted in September - November 2004. Undated pits and linear features, two prehistoric burnt pits and tree throws recorded in Trenches 30, 31, 34 and 36. Milestone ELV 054 (Zone Z1).	---
403	NAU trial trench evaluation conducted in September - November 2004. Undated features comprising linears, postholes, ditch termini and pits recorded in Trenches 122 to 125. Opposite Chalk Hall ELV 061 (Zone Z3)	---
404	NAU trial trench evaluation conducted in September - November 2004. Undated ditch termini and pit recorded in Trenches 128 and 128b. Sheep Run I ELV 062 (Zone Z3).	---
405	NAU trial trench evaluation conducted in September - November 2004. Probable prehistoric pit and undated pit and linear recorded in Trenches 130 to 132. Sheep Run II ELV 063 (Zone Z3)	---
406	NAU trial trench evaluation conducted in September - November 2004. Possible prehistoric burnt pit recorded in Trench 139. Weather Heath (Memorial Heath) ERL138 (Zone A3).	---
407	NAU trial trench evaluation conducted in September - November 2004. Post-medieval marl pit and probable modern pit/ditch recorded in Trenches 158 and 161. Gibsons South IKL 144 (Zone A4).	---
408	NAU trial trench evaluation conducted in September - November 2004. Neolithic ditch terminus/pit and ditch and burnt pit containing cremated bone recorded in Trenches 164, 164b and 172. Undated pits and large modern pit recorded in Trenches 165, 166, 174 and 175. 40 Acres (S) IKL 145 (Zone A4).	---
409	NAU trial trench evaluation conducted in September - November 2004. Possible undated posthole recorded in Trench 183. Deal (N) IKL 146 (Zone Z4).	---
410	NAU trial trench evaluation conducted in September - November 2004. Five possible undated postholes recorded in Trench 185. Deal (S) IKL 146 (Zone Z4).	---
411	NAU trial trench evaluation conducted in September - November 2004. Undated posthole recorded in Trench 186. No Name (N) IKL 147 (Zone Z4).	---
412	NAU trial trench evaluation conducted in September - November 2004. Undated curvilinear/gully recorded in Trench 187. No Name (S) IKL 147 (Zone Z4).	---
413	NAU trial trench evaluation conducted in September - November 2004. Neolithic pit	---

Site	Description	NMR / SMR No.
	recorded in Trench 196 and undated pit and three postholes recorded in Trenches 192 and 197. Natural feature recorded in Trench 198. King Carlos IKL 148 (Zone A5).	

Gazetteer of Listed Buildings

LB Reference	Description	SMR No.
L1	Barton Hall. Mid 18th-century with 19th and early 20th century alterations. Grade II Listed.	---
L2	Paradise Farmhouse (formerly listed as Street Farmhouse). Wealden-type house dating to c.1500 of unusually high quality. Grade II* Listed.	---
L3	No. 53 The Street (Lord Mayor's Cottage). House, 17th-century with late medieval core and early 19th-century alterations. Grade II Listed.	---
L4	Listed Building 4/9	---
L5	The Mill House. Offices formerly a house, 1668 on rear chimney, restored mid 20th century. Grade II Listed.	SSMR BTM019
L6	The Bull Inn (formerly Listed as Bull Hotel). Inn, late 17th century, with extensions of early 18th, 19th and 20th century. Grade II Listed.	---
L7	War Memorial. Monument of the Great War, c.1920. Grade II Listed.	---
L8	Terrace of almshouses c.1900. Grade II Listed.	---
L9	Church of St Andrew and St Patrick. Medieval church restored in 1869. Nave has 12th century core; additions in 14th and 15th centuries. Grade II* Listed.	---
L10	The Old Rectory. House formerly a rectory. Mid 18th century with 19th century alterations. Grade II Listed.	---
L11	Water-tower 1895 on plaque. Exceptionally elaborate and imposing example of a Victorian estate water-tower. Grade II* Listed.	---
L12	Elveden Hall. Large country mansion built in two major phases. The west wing dates to c.1879 although is believed to contain the core of an earlier hall of c.1760. The central hall and east wing were added in 1899-1903. Grade II* Listed. To the west of the hall is a large brick-built domed ice house (not Listed), which originally served the Hall. Good condition in 1992, despite being covered in earth and trees.	SSMR ELV021

APPENDIX B

Use of sources

Sources
The Cultural Heritage assessment entailed the examination of the information on the known archaeology within a 1km 'Study Corridor' centred on the line of the existing A11 road, as held by the Suffolk County Council Sites and Monuments Record (SMR), the Norfolk County Council SMR and the National Monuments Record (NMR), Swindon. The SMRs and the NMR are the primary repositories of archaeological data and comprise databases of information obtained from archaeological investigations, local knowledge, documentary and cartographic sources. These databases should be seen as a starting point for further investigations rather than representing a true record of all past activity.

The National Monuments Record
OA carried out an assessment of the records held by the NMR for the 1km development corridor Study Area. The record comprises a computer database of all known archaeological sites in England and an Index of all excavations in the area.

Vertical Aerial Photographs and Oblique Aerial Photography
A cover search of all aerial photographs taken of the development corridor Study Area was ordered from the Air Photo Library at the National Monument Record Centre, Swindon, and a further visit was undertaken to the Cambridge University Committee for Aerial Photography (CUCAP) archive. The aerial photographs were examined in order to ascertain features not identifiable on the historic mapping.

Listed Buildings Records
OA examined the Listed Building descriptions and Listed Building maps for the study area at English Heritage, London.

Scheduled Ancient Monuments
English Heritage was consulted regarding Scheduled Ancient Monuments (SAMs) within the study area.

Published Material
Published sources as held by the specialist archaeological library at the Sackler, Oxford and the copyright library at the Bodleian Library, Oxford, were consulted. A full bibliography can be found below.

Cartographic Sources
This assessment involved examination of all readily available historic maps up to the late twentieth century (including the OS 1st Edition 6" plans). These were consulted at the Suffolk and Norfolk Records Offices and the Bodleian Map Room. A full list can be found below.

Development and Geotechnical details
Plans of proposed development and geotechnical reports were supplied by David Huskisson Associates/PB and Structural Soils Ltd. A list of plans and reports consulted can be found below.

Field Inspection
A walkover survey was undertaken in June 2000 and July 2003 in order to provide further information on the archaeological potential of the proposed development corridor based on topography, the nature of existing buildings, current land use, and the extent of past ground disturbance within the study area. The results of the site visit are discussed in the main text.

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APPENDIX C

Archaeological background for Study Corridor – Palaeolithic to mid-nineteenth century

Palaeolithic period (500,000 - 10,000 BC)

The north western region of Suffolk, through which most of the study corridor runs, is rich in its abundance of sites where Palaeolithic artefacts (dating from the Lower Palaeolithic period 550,000 BP onwards) have been found, indicative of the earliest presence of human occupation and exploitation within Britain (Dymond and Martin 1989, 32). Evidence has been recovered to indicate activity prior to the major glaciation of the Anglian Stage (High Lodge, Mildenhall - see below) and throughout proceeding interglacial stages both within periods of warm and cold climate change. These earliest societies would have comprised nomadic hunter gatherers exploiting game such as mammoth, bear, woolly rhinoceros, horse, deer and bovids.

At High Lodge ~ 500m north of the Scheme archaeological excavations from 1920 recorded a nationally important Lower Palaeolithic lake-side living site (OA 60). This was first revealed during quarrying in the 19th century and was excavated by Professor Marr in 1920 and followed by five seasons of archaeological excavations up to 1967. The excavators identified two, possibly three, separate flint-tool manufacturing industries. A number of Lower Palaeolithic worked flints have been retrieved in the vicinity of High Lodge. Excavations by Professor Marr in 1920 and Mr Moir in 1928 at a small clay pit ~ 350 m north of the area of proposed route recovered a number of such flints (OA 62). A clay pit to the north of High Lodge, ~ 600m north of the proposed development, produced over 110 worked flints dating to the Lower Palaeolithic period (OA 58).

Within Mildenhall woods, ~ 1km south of the Scheme, gravel working at Three Hills from the 19th century to the 1950s (OA 4) produced more Palaeolithic handaxes than any other site in Britain, with over 2,000 implements (SMR entry). The nearby Warren Hills quarry pit produced over 1,000 implements (OA 141). At the site of the present Centre Parks Holiday Village, ~ 500m northwest of the central section of the Scheme, 19th century quarrying revealed a Palaeolithic flint industry with over 80 hand axes, 600 flint cores and many flakes (OA 20). Palaeolithic implements have been found by chance on the Chalk geology in the vicinity of the Scheme. It is not known whether these were *in situ*. At the south-western end of the route, these findspots are located ~ 600 m to the south of the route (OA 52 and 53). In the central section of the proposed route these are located ~ 500m (OA 11) and 1km (OA 14) to the south, and ~ 200m (OA 142), ~ 1km (OA 39) and ~ 1.5km to the north (OA 76 and 77).

Mesolithic period (10,000 - 4,000 BC)

The pattern of hunting and gathering seen in human communities from the Palaeolithic period continued into the late glacial and Mesolithic period. However, the flint tool assemblage exploited by these later hunters became more sophisticated, for example with the use of microliths and hafted axes, as an adaptation to the more forested environment that developed following the recession of the ice and the change in the game available for hunting (Dymond and Martin 1989, 34). Within the Suffolk region known find sites of this period appear to concentrate within the Breckland and along the major rivers (Dymond and Martin 1989, 34).

In the central section of the Study Corridor, ~ 1.1km north of the proposed route options lays the site of a possible early prehistoric flint mine. The flint shafts once covered a large area but have filled up with rubble and natural slumping. The Suffolk SMR records how in 1966 an individual described how his father and grandfather had entered a series of shafts and radiating galleries with larger areas, before they were in-filled and planted over in c. 1928. They also noted 'drawings of animals on the walls'. The description of the mine suggests a prehistoric rather than post-medieval date (Suffolk SMR). A heavy concentration of possible prehistoric worked flint was found in a nearby field (OA 71) and may have come from the mines. Two Mesolithic axes have been found by chance in the vicinity of the mines (OA 70 and 72). Other Mesolithic finds within the Study Corridor comprise a flint core, found by chance ~ 900m to the south (OA 10) and a scatter of flints found during fieldwalking ~ 500m to the west (OA 40) and ~ 1km to the south (OA 51). An evaluation ~ 1km to the east in 1998 revealed Mesolithic flints (OA 100).
Whilst some further limited evidence for Mesolithic activity has been identified by the staged programme of evaluation, this is only in the form of surface finds with no distinct clustering that could be suggestive for example of the presence of over wintering or hunting camps.

Neolithic period (4,000 - 2,200 BC)

In the early prehistoric period much of the region would have been covered with thick forest. During the Neolithic period, with the introduction of arable farming and stock rearing, areas of woodland were cleared for settlement. The Breckland soils were particularly suitable as they were easily tilled (Clarke 1960 *quoted in* Davies 1993, 441). Environmental evidence from the area suggests that, possibly because of the thin soils, the woodland did not regenerate once the trees were cleared (Godwin 1944 *quoted in* Davies 1993, 441). Evidence of Neolithic occupation was discovered during excavations at Thetford Castle (*ibid*. 459). The valuable flint resource found within the Breckland area was also further exploited, as demonstrated by the famous prehistoric flint mines at Grimes Graves, lying ~ 8km to the north of the eastern end of the Scheme.

The Study Corridor contains evidence of Neolithic activity in the form of a number of Neolithic flint implements found by chance and through fieldwalking at different times. At the western end of the Study Corridor these are located ~ 100m and ~ 1km to the south of the Scheme (OA 2 and 51 - the later was found with pottery), ~ 500m to the west (OA 40), and ~ 300m to the north (OA 59). In the central section of the Study Corridor these are located ~ 200m to the south (OA 12), and ~ 500m and 1.3km to the north (OA 82 and 25). At the eastern end of the Study Corridor these are located ~ 250 m to the north (OA 94), and ~ 650m and ~ 700m to the northeast (OA 31 and 36).

The staged programme of evaluation has identified evidence of Neolithic occupation activity within the proposed development corridor. This is represented both by the recovery of surface artefacts from the Phase 1 field walking survey and from the presence of surviving below ground archaeological remains (OA 408 and 413). Site OA 408 comprises a ditch terminus or pit and a further ditch that were shown to contain sherds of early Neolithic pottery, with the former feature also containing associated worked flint artefacts. These features lie in close proximity to a previously identified find spot of a Neolithic polished axe OA 2 to the south, and surface artefact scatter OA 131 to the east, and are further associated with a number of undated features comprising five pits, one of which showed evidence of burning and contained burnt/cremated animal bone, a post hole and ditch terminus. It is possible that these undated features may represent contemporary activity, although the precise nature and function of this activity remains unclear.

Site OA 413 comprises a Neolithic pit containing the possible remains of a former posthole and a further undated pit and postholes. Excavation of the pit feature produced 21 worked flints and 39 sherds of early Neolithic pottery. The precise function of this pit remains uncertain although a possible ritual function may be attributable (NAU 2004). The possible suggestion of a ritual function is of interest especially in consideration of its close proximity, ~ 150m to the south, of the later How Hill Tumulus (Scheduled Monument). The undated features recorded in association with the pit could again possibly be contemporary in origin, although this remains presently unclear. Further sites recorded by the Phase 3 works (OA 401, 403-405 and 409-412), from which only undated features were recorded, could also have the potential to be Neolithic in origin.

Further potential Neolithic/Iron Age activity was also suggested by the recovery of three sherds of pottery identified as OA 203 during Phase 1 field walking. The potential presence of Neolithic pottery was significant as its fragility means that it rarely survives in plough soil contexts and its presence was possibly associated with the recent disturbance of sub surface remains. Targeted Phase 3 trenching within OA 203 however recorded no evidence of any associated surviving below ground deposits.

Bronze Age (2,500 - 700 BC)

The process of deforestation accelerated rapidly in the late Bronze Age with expanding population and requirements for more land (NMS 1991, 30). Although physical evidence of settlement dated to the late Bronze Age is fairly elusive in the region (Lawson 1980 *quoted in* Davies 1993, 459) the Study Corridor does contain evidence of a number of burial monuments in the form of round barrows and ring ditches (the ploughed-out remains of round barrows where only the surrounding ditch survives). From west to east, the known burial monuments comprise:

- A group of three ring ditches identified from air photographs ~ 800m to the southwest of the Scheme (OA 42, 43 and 44)

- Several barrows within Mildenhall Woods, comprising a possible extant barrow, ~ 100m to the south of the Scheme (OA 1) and three non-extant barrows at 'Three Hills', located ~ 800m to the south (OA 4). The barrow was excavated in 1728 and in 1820 (SMR entry). The barrows were destroyed in 1866

- To the east of Mildenhall Woods, possible ring ditches are visible on air photographs ~ 350m and ~ 900m to the north of the Scheme (OA 5 and 107)

- How Hill Tumulus (a Scheduled Monument) located immediately north of the Scheme (OA 8). The 2.6m high by 35m diameter mound is located on a natural crest (a false horizon). A hollow on the eastern side of the mound is thought to be the result of an unrecorded antiquarian excavation. A source dated to 1923 states that a cinerary urn had been found there and was broken up. The line of existing A11 road to south cuts the berm and ditch of tumulus. It is possible that remains of the ditch survive beneath the existing road. The berm of the mound has been damaged by ploughing where the mound has not been cut by the line of the existing road. In 1953 an early Bronze Age burial was recorded ~ 100m to the south (OA 7), suggesting that there may once have been a small barrow cemetery here

- A bowl barrow (a Scheduled Monument) ~ 250m to the north of the Scheme (OA 13)

- A possible barrow noted on Thetford Heath, ~ 1km to the south of the Scheme, during the Brecks survey in 1995 (OA 92)

- A possible barrow cemetery identified through place name evidence ('Barrow Hill'), at the eastern end of the Study Corridor, ~ 300m to the north of the Scheme (OA 29)

Archaeological fieldwork at the western and eastern ends of the Corridor has revealed evidence of Bronze Age activity in the form settlement features ~ 800m north of the eastern section of the Scheme (OA 100). Several findspots of artefacts have been found suggesting possible occupation. These comprise flints and pottery ~ 1km to the south (OA 54), 'pot boilers' (burnt stones believed to have been used to heat water in the Bronze Age period) ~ 100m to the south and ~ 1km to the north (OA 63 and 50), pottery ~ 150m to the south (OA 18), an axe head ~ 50m to the north (OA 6), worked flint ~ 800m to the west (OA 40), an arrowhead ~ 800m to the north (OA 78) and a torc of possible Bronze Age date ~ 400m to the north (OA 84).

The results of the staged programme of evaluation have produced no further direct evidence of settlement or occupation activity/remains within the proposed development corridor dating to the Bronze Age period. Surface artefacts attributable to Bronze Age activity in the area, evidence for which is known and is as described above, were recovered during the Phase 1 field walking and part of the residual pottery assemblage recovered from the recorded Romano-British farmstead site (OA 400) may have the potential to be Bronze Age in origin. The potential also remains for some of the undated features recorded by the Phase 3 evaluation to date to this period (OA 401, 403-405 and 408-413). One site of possible interest is that recorded as OA 402, where Phase 2 geophysical results and Phase 3 evaluation results could suggest the presence of prehistoric settlement/occupation activity of either Bronze Age or Iron Age date.

The upstanding remains of what was thought to represent a surviving Bronze Age barrow was recorded within Mildenhall Woods during the Phase 1 topographic survey (OA 206). Due to the potential significance of this feature, and the known presence of such features in the wider landscape, a single hand dug trench was excavated across the mound. This revealed the earthwork to represent nothing more than a dump of sand and gravel material possibly associated with an adjacent woodland bank, or with the construction of the current A11 carriageway.

Iron Age (800 BC - 43 AD)

During the late Iron Age this region of Norfolk and Suffolk probably fell within the tribal territory of the Iceni. At this time an important crossing of the River Thet at Thetford was defended/controlled by a multi-vallate (multi-walled) hillfort on Castle Hill (Davies and Gregory 1991, 29). The hillfort would have acted as a central place for the surrounding communities (Miles 1998, 15). Martin (1993, 22) notes that a relatively small area around Thetford contains a cluster of fortified sites dating to this period, and suggests that the area must have been a nodal area of the Iceni tribe. During this period intensive agricultural landscapes were established in many parts of Norfolk (NMS 1991, 28) and it is likely that the light Breckland soils in the hinterland around the hillfort at Thetford was intensively farmed. The proximity to a source of water appears to have been a crucial factor in determining where people lived (Dymond and Martin 1989, 40).

The Icknield Way follows a north-south chalk ridge between fen and forest and lies ~500m south of the Scheme (OA 28). The road is believed to have been an important prehistoric (and later) trackway that crossed the River Thet at Thetford before continuing northwards (Davies and Gregory 1991, 1 and 29). Within the Study Corridor, known sites and finds dated to this period comprise a high status cremation burial (OA 24), pottery and daub (OA 50), and pottery (OA 51, 143 and 86). The exact significance of these known sites and finds is unclear, but they may indicate areas of settlement activity during this period.

The staged programme of evaluation has produced only limited evidence of Iron Age activity within the proposed development corridor and this is predominantly focused within the identified Romano-British settlement site recorded at OA 400. This evidence would suggest that the later Roman settlement is likely to have originated in this period, perhaps representing an agricultural settlement that had links to the hillfort on Castle Hill at Thetford. As discussed above, it is possible that some of the undated features recorded by the Phase 3 evaluation may also date to this period (OA 401-405 and 408-413), the recovery of single Iron Age pottery sherds during Phase 2 field walking in the areas of sites OA 408, and potentially OA 410 respectively, possibly reflecting this potential.

This assessment has identified a considerable number of prehistoric sites and finds along the whole length of the Study Corridor indicating a high archaeological potential of the area. It is possible that some of the undated cropmarks (see above) date to the prehistoric period.

The site visit undertaken in 2000 noted that the whole of the survey area contained abundant natural flint. Due to the rapid nature of the survey it was not possible to carry out a thorough investigation to ascertain whether any of the flint was worked flint, or to identify in a comprehensive manner any scatters or concentrations of worked flint along the route, although a particularly noticeable scatter of worked flint was noted to the west of Weather Heath (OA 131). Archaeological monitoring during geo-technical trial pitting along the proposed development corridor provided further confirmation of the scatter recorded west of Weather Heath (OA 151 -152), whilst also identifying two further potential worked flint scatters (OA 153 - 155). The scatter identified as OA 153 may have an association with a ditch feature recorded within the same trial trench (OA 149), and could also represent a possible extension to a previously recorded prehistoric and Roman surface scatter identified at OA 9. Evaluation trenching within the area of OA 153 has identified the presence of further undated below ground archaeological remains (OA 409-412) characterised by the presence of a number of postholes and a curvilinear gully feature that could be indicative of potential prehistoric occupation activity.

Non-invasive field walking carried out over approximately 18.1 hectares within the evaluation study corridor has produced further evidence of abundant worked and burnt flint surface artefact scatters (OA 200-203) indicative of the area being heavily exploited for both settlement and associated occupation activity in the Mesolithic, Neolithic and Early Bronze Age as discussed above. Detailed examination of the recorded scatters identified a number of distinct concentrations of material, but with the possible exception of those recovered within Field 40 Acres, none of the plotted surface concentrations of artefacts appear to correspond with the presence of surviving below ground archaeological remains as recorded by trenched evaluation.

Roman period (AD43 - 410)

Throughout the Roman period most of the population in the region would appear to have lived in villages or farmsteads, with an economy based on agriculture or animal husbandry and following patterns of land use and settlement adopted in the Iron Age (or earlier) (NMS 1991, 34). The closest known small town to the Scheme was located at Icklingham, ~ 3km to the south. The town was both a pagan religious centre and the site of a 4th century Christian church (Plouviez in Dymond and Martin 198, 42). The National Trail of Icknield Way (OA 28), ~ 500m south of the Scheme, is believed to follow the line of prehistoric trackway (see above), which later served as a Roman road (Margary Road No. 333). As a major line of communication it will have attracted activity in the vicinity.

The updated Stage 2 DMRB assessment had identified 13 known sites and finds dated to the Roman period within the 1km Study Corridor (OA 15, 22, 27-29, 33, 34, 40, 47-49, 51 and 100). These comprised almost entirely of findspots, with the exception of a Romano-British settlement site represented in the form of a number of pits, ditches and a posthole, discovered during an evaluation by Norfolk Archaeological Unit in 1988, ~ 800m north of the Scheme (OA 100). The recorded findspots are located along the entire length of the Study Corridor and comprise:

- Findspots of Roman coins immediately to the north of the Scheme (OA 15) and ~ 900m to the north-east (OA 33)
- Findspots of Roman pottery ~ 350m and ~ 900m to the north-east (OA 29 and 34), ~ 800m to the west (OA 40), and ~ 500m and 1km to the south (OA 47 and 51)
- Findspots of Roman pottery and coins ~ 800m to the south (OA 48 and 49), a brooch and coin immediately to the south (OA 22) and pottery, quern stones and coin hoard ~ 1km to the south (OA 27)

Although little further evidence of Romano-British activity within the proposed development corridor was revealed by the Phase 1 and 2 field evaluation works, a significant Romano-British farmstead settlement has been identified by the Phase 3 trenching undertaken within the area of the offline route of the proposed Elveden bypass (OA 400). The high density of features recorded would suggest that the nucleus of the settlement has been identified. This was characterised by the presence of numerous ditches, pits and postholes, the sample excavation of which indicates that the main focus of Roman occupation dated to the 2nd to 3rd centuries AD. Although artefact evidence would indicate that settlement in this location is likely to have had its origin in the later prehistoric (Iron Age) period. The linear cropmark (OA 138) identified within the area of the recorded settlement is believed likely to be contemporary in date with the recorded settlement.

The Phase 3 trenching from within the area of the presently investigated proposal corridor has recorded no further clearly identified Romano-British settlement or occupation activity. The possibility that some of the currently undated features recorded may have the potential to be Romano-British in origin cannot be fully discounted. However, if any of these are shown to be Romano-British in origin they are likely only to relate to peripheral activity perhaps reflecting associated field systems.

Early medieval period (AD410-1066)

Roman rule in Britain came to a formal end in AD410 when the province was told to defend itself against raiding barbarians. The next two centuries saw migration of Angles, Saxons and other small tribes from the coastal lands of northwest Europe and Scandinavia to eastern England. The early Saxon settlement pattern was probably similar to the prehistoric and Roman one, with generally sparse settlement on the poor soils of the boulder clay. While only a handful of early Saxon settlements have been found, well-drained soils and manageable landscapes within the river valleys appear to have been the most attractive areas for settlement (NMS 1991, 36 and Dymond and Martin 1989, 44). Excavations by OA in the 1990s (OA 1994) revealed a small early Saxon village on the west bank of the Little Ouse south of Thetford, whilst a contemporary cemetery stood on the opposite bank. Place names ending in *-ham* (meaning settlement), i.e. Icklingham, are thought to indicate early settlement dated to this period, possibly fairly important 'central places' and not mere hamlets (NMS 1991, 36). While the uplands do not appear to have been settled, there is evidence to suggest that ancient field systems located on the higher ground in parts Breckland appear to have been reused and maintained (*ibid*. 36).

The Mid Saxon period was a period of great change with consolidation of the kingdom of East Anglia and the advent of Christianity (NMS 1991, 38 and Dymond and Martin 1989, 44). There was a widespread shift in settlement as areas previously occupied were abandoned. Settlement also appears to have expanded into the uplands (NMS 1991, 38).

By the late Anglo-Saxon period, Thetford, located ~ 1.5km to the northeast of the Study Corridor had become a town of major importance and possessed a mint and defences. *Theodford*, meaning 'chief ford' or 'the people's ford' (Ekwall *quoted in* Davies and Gregory 1991, 1) grew up at the confluence of the Rivers Ouse and Thet, at an important junction of communication routes and at a crossing point of the two rivers. References in the Anglo-Saxon Chronicle provide clear evidence of Viking activity at Thetford (Margeson 1997, 27). The Vikings wintered here in 869 and may have later contributed to the economic growth of the town, which was flourishing by the 10th century (*ibid*. 27). In 1004 the Vikings returned to Thetford and ravaged and burnt the town. At the time of the Domesday survey Thetford held a substantial community, being the sixth largest town in England (NMR entry), located in a landscape that was sparsely populated heathland (Darby 1971, 141 and 150). It is clear that agriculture must have played an important part in the lives of its inhabitants (*ibid*. 141).

Within Suffolk, the Scheme crosses the ancient parishes of (from west to east) Mildenhall, Eriswell, Icklingham and Elveden. The Domesday Book (AD1087) lists these as manors (estates) and it is probable that the parishes formed out of the early medieval manors. Generally, this part of Suffolk appears to have been fairly sparsely settled compared with the rest of the county (Darby 1971, Figure 44), although the densities of sheep were high (*ibid*. 206). The exact location of settlement within each manor is uncertain but it is probable that the settlement was in the centre of each manor, probably on or in the vicinity of the villages which give their name to each parish. With the exception of Elveden, much of the line of the Scheme runs along the edges of the parishes some distance from these settlement centres.

The Study Corridor contains 10 known early medieval sites and finds (OA 4, 29, 33, 37, 40, 51, 54, 84, 97 and 98). None of these sites will be affected by any of the Scheme. Eight of the sites are chance finds. One is the site of an Anglo-Saxon cemetery located ~ 800m southeast of the Scheme (OA 4). The cemetery was first discovered during quarrying in 1866. Fenton and Prigg carried out several excavations from 1875 and recorded ~ 18 inhumation graves with grave goods.

Two sites located in the western part of the Study Corridor are findspots of Saxon pottery, found during fieldwalking ~ 600m to the west of the Scheme (OA 40), and by local enthusiasts ~ 600 and 800m to the south-east of the Scheme (OA 51 and 54). The significance of these finds is uncertain. Early medieval pottery was generally poorly made and does not survive well in ploughsoil; its presence therefore can often indicate settlement activity in the vicinity.

In the centre of the Study Corridor a torc was found by chance ~ 200m north of the proposed route options (OA 84). The date of the torc is uncertain but it may date to the Early medieval period (Suffolk SMR). Three sites at the western end of the Study Corridor are metal objects dating to this period found during investigations carried out prior to construction ~ 1km to the north (OA 97), and a chance find of a brooch ~ 900m to the east (OA 98). At the eastern end of the Study Corridor, a Saxon ring, tweezers and pottery were found during a metal detector survey prior to road construction ~ 900m to the east of the Scheme in 1988 (OA 33), while pottery was recovered during field walking ~ 300m to the north (OA 29).

The staged programme of evaluation undertaken has produced no direct or dateable evidence of early medieval settlement or occupation activity within the proposed development corridor to date. The potential for some of the undated sites recorded by the Phase 3 evaluation to be early medieval in origin cannot, as yet be fully dismissed, although it is considered unlikely. One potential area where early medieval activity may have existed could relate to the settlement recorded at OA 400. Currently no specific dateable early medieval features have been recorded here, although the recovery of a torc (OA 84) in close proximity to the site could be suggestive of continued occupation and activity following the decline of Roman settlement in the 4th/5th century AD.

Later medieval period (AD 1066-1550)

Throughout the later medieval period, the town of Thetford to the northeast of the Study Corridor would have continued to dominate the area, serving as a market and trading centre for the surrounding communities. The historic settlements of Mildenhall, Eriswell, Icklingham and Elveden would also have served as foci of settlement throughout this period, although it is likely that there was some secondary settlement, such as isolated farmsteads, in the more peripheral parts of the parishes. As discussed previously, the Scheme is located some distance from these primary settlements. The exception to this is Elveden, where the Schemewill take the road ~ 500m to the north of the village. The existing A11 road currently passes through the village.

During this period, much of the Study Corridor would have been open heathland and common land used for rough pasture and as such it would have been undeveloped. Some areas were used for arable cultivation and remnants of ridge and furrow (corrugated earthworks created by ploughing in the medieval period) were noted from air photographs in the vicinity of Elveden (OA 124 and 136) and Weather Heath (OA 112, 113 and 132).

The heathland lay between two medieval warrens located at each end of the Scheme. These are Mildenhall Warren (OA 57) and Thetford Warren (OA 93). Two other warrens lay ~ 1.3km to the north of the central section of the Scheme (OA 75 and 83). Rabbit warrens provided a valuable economic resource in the medieval period (the rabbits being a source of both meat and skins) and their management was highly organised. The largest concentration of heathland warrens was in the Breckland, where a dozen or so adjoined each other for mile after mile (Rackham 1987, 292). Rabbit warrens were often surrounded by a substantial earthwork bank with a number of 'funnels', in addition to banks that may have been constructed to encourage burrowing.

Mildenhall Warren was established in 1323 and had expanded by the end of the 14th century. The limits of the warren were marked in the 1730s by a boundary bank that was created to contain the rabbits. The bank is largely extant and survives up to ~5m in some places (Suffolk SMR) that was created to contain the rabbits. Thetford Warren is also medieval in date. The proposed route options cross both warrens, both of which are currently under coniferous plantation.

The OA assessment identified eight boundary banks of uncertain date, but which are probably medieval or post-medieval boundary banks associated with Mildenhall and Thetford Warrens (OA 55, 56, 61, 67, 69/304, 74, 75 and 89). Some of the banks survive as extant earthworks. The possible impact of the road construction upon any earthwork boundary banks is discussed in the Impact Assessment section below. Other than the aforementioned features the Study Corridor contains seven later medieval findspots (OA 29, 33, 34, 38, 57, 73 and 93). The significance of these finds is uncertain.

The staged programme of evaluation has produced no additional evidence of later medieval settlement or occupation activity within the proposed development corridor to date except for:

- The recording of known woodland banks and two previously unrecorded woodland banks (OA 204 and 205)
- A section of parish boundary (OA 69/304) at the eastern extent of Weather Heath
- The recovery of three single sherds of medieval pottery during fieldwalking from OA 201 and 203, the likely products of agricultural manuring practices

Post-medieval period (AD 1550 to present)

The examination of historic maps, including an enclosure map of Eriswell (1817), Tithe maps (1839-58) and the Ordnance Survey (OS) maps including the 1" (1836) and 1st edition maps of 1882-1898 up to the present day, indicate that the landscape of the Study Corridor has remained largely unchanged in at least the last 150 years (Figures 2.2 and 2.3.1 – 2.3.2). Existing field boundaries and the network of roads are shown on the tithe maps and OS 1st edition maps, with the pattern of settlements appearing very similar. It is likely that this post-medieval settlement pattern reflects an earlier, medieval pattern of settlement distribution. The poor, arid soils of the Breckland probably continued to support irregular cropping on the heathland alongside a system of 'every year' lands. This was a system where crops were harvested each season due to the use of fertilisers and marl and which were utilised for pasture for sheep (NMS 1991, 102). Between 1793-1815 much of the heathland was enclosed by Act of Parliament (NMS 1991, 124). In 1768 the existing A11 was 'turnpiked' i.e. straightened and maintained (Dymond and Martin 1989, 127). This probably occurred simultaneously with the enclosure of the open heathland. The medieval warrens may have continued in used during this period but eventually reverted to woodland.

During World War II a number of defensive measures were put in place. These included a series of anti-glider ditches across on Weather Heath and Horn Heath (OA 66), constructed on the flat and open heathland in order to prevent enemy landings. Four of the ditches extend up to the existing A11 road on its north side, further identification of which was established by the Phase 2 geophysical survey (OA 302 and 303). Other defences include pillboxes, such as that on Weather Heath, immediately north of the Scheme (OA 19). The main stop line, the 'Eastern Command Line' was located to the west of the western end of the Study Corridor.

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APPENDIX D

Archaeological Watching Brief

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A11 Fiveways to Thetford Road Improvements Scheme

ARCHAEOLOGICAL WATCHING BRIEF REPORT

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SUMMARY

Oxford Archaeology (OA) carried out an archaeological monitoring and recording exercise during geo-technical investigations along the preferred route option of proposed road improvements to the existing A11 highway running from Fiveways in Suffolk to Thetford in Norfolk on behalf of David Huskisson Associates. The archaeological monitoring and recording action was maintained during geo-technical works carried out along the complete 14 km extent of the preferred route. A small number of undated features possibly representing the remains of pits/linear features were recorded, as were three significant flint scatters, indicative of potential prehistoric occupation activity along the proposed route.

1 INTRODUCTION

1.1 Location and scope of work

1.1.1 During July to September 2002 OA carried out an archaeological monitoring and recording action during the period of geo-technical trial pitting along the preferred route of the A11 Fiveways to Thetford Road Improvement Scheme on behalf of David Huskisson Associates. The Highways Agency are considering proposals for undertaking a scheme of road improvements along an approximate 14 km stretch of the existing A11 that runs from the Fiveways Roundabout at Barton Mills to the roundabout at the southern end of the existing Thetford bypass (NGR Centred TL 800 783) (Fig. 1). The scheme route has been the subject of two previous Environmental Statements, from which the presently preferred route option has been determined. These reports, *A11 Fiveways Roundabout to Thetford Improvement. Environmental Assessment Stage 2. Cultural Heritage (John Samuels Archaeological Consultants 1994)* and *A11 Fiveways to Thetford Improvement: DMRB Volume II Environmental Assessment Stage 2 Report. Part 2 Cultural Heritage (Oxford Archaeological Unit 2000)*, outline the nature and significance of the archaeology along the route.

1.1.2 The archaeological monitoring and recording works described in this report were undertaken to provide additional detailed information regarding the potential for archaeological features/deposits to be present that may be impacted by the proposed scheme. It is intended that the results should be used to inform subsequent stages of archaeological investigation that may be required to be undertaken prior to development.

1.2 Geology and topography

1.2.1 The proposed road improvements scheme development corridor lies in a predominantly rural landscape comprising a combination of agricultural fields and woodland. This includes a number of woodland belts utilised as field boundaries and roadside verges. The proposal area lies at a height of approximately 10 m OD at its south western end rising to approximately 40 m OD at its north eastern extent.

1.2.2 The proposal area comprises a mixed geology along its length. The Geological Survey Ten Mile Map (South Sheet, solid and drift editions, 1:625,000 scale) shows the site to be underlain by Cretaceous Chalk with a cover of Boulder Clay in the central section, with River Terrace deposits at its north east and south west extents.

1.3 Archaeological and historical background

1.3.1 Detailed appraisal of the archaeological background of the area within, and directly affected by the proposed route, is provided in the amalgamated Stage 2 DMRB Environmental Assessment: Cultural Heritage report produced by OA in November 2000 (OAU 2000), of which only a brief summary is presented below.

1.3.2 The assessment identified a number of different sites that lie immediately adjacent to, or that are likely to be directly impacted by, the proposed improvement works along the preferred route. The identified sites comprise known findspots and extant earthworks and cropmark sites (identified through aerial survey) that are indicative of occupation/settlement activity dating from the prehistoric through to the post-medieval period. These include the site of How Hill Tumulus, a Scheduled Ancient Monument, and the 1920's war memorial, a Grade II Listed structure.

2 PROJECT AIMS AND METHODOLOGY

2.1.1 To identify and record, as far as possible, the presence/absence, extent, condition, quality, date and significance of archaeological remains exposed during works.

2.1.2 To determine as far as possible areas of archaeological potential within the proposal area in order to inform subsequent phases of archaeological work.

2.1.3 To make available the results of the investigation.

2.2 Methodology

2.2.1 Structural Soils Limited, contracted geo-technical consultants to the Highways Agency, carried out the ground investigation works using a combination of cable percussion drilling, rotary coring and machine dug trial pitting. A total of 145 machine dug trial pits, 37 cable percussion boreholes and five rotary cored boreholes were completed (Structural Soils Ltd 2003) (Figs. 2 to 10). OA recorded section profiles as exposed during the course of the trial pitting works. No observation or records were made on the drilling/coring.

2.2.2 All archaeological features were recorded in section and photographed using colour slide and black and white print film, following procedures detailed in the *OAU Fieldwork Manuel* (Ed D. Wilkinson, 1992).

3 RESULTS

3.1 Description of deposits

3.1.1 A total of 145 trial pits were observed and recorded (see Appendix 1), of which, only six (Trenches 1, 31, 46, 47, 58 and 102) were shown to contain features/deposits of potential archaeological significance. A total of four further trial pits (Trenches 6, 7, 10 and 64) were also noted to contain the remnants of potential buried soil horizons also of potential archaeological significance. A small assemblage of lithic artefacts were recovered from residual (i.e. disturbed) contexts (Topsoil and Subsoil) during the course of the investigations, from which, three potentially significant scatters have been identified.

3.1.2 The identified features comprise a series of potential pits/linear features (eg ditches) [107, 3107, 4604, 4706, 5806 and 10204], all of which remain undated, and some of which are of dubious archaeological origin. A brief description of each feature is outlined below accompanied by section illustrations on Fig. 11:

3.1.3 ***Feature 107*** - possible linear orientated approximately north to south measuring *c* 0.95 m deep by in excess of 2.80 m wide, cut through natural chalk within Trench 1. The primary fill (105) was a light brown sandy silt with gravel overlain by a mixed sandy loam with chalk fragments (104). This deposit was in turn overlain by the upper fill of the feature (103) which comprised of a mixed sandy loam with redeposited chalk.

3.1.4 ***Feature 3107*** - possible linear orientated approximately north to south measuring *c* 0.55 m deep by *c* 0.30 m wide, cut through natural sand (3103) within Trench 31. Linear 3107 contained a single fill (3104) that comprised an orange brown silty sand, similar in composition to the surrounding natural sand (3103), suggesting feature may be geological in origin.

3.1.5 ***Feature 4604*** - possible linear/pit orientated approximately north west to south east measuring *c* 0.50 m deep by *c* 0.70 m wide, cut through natural chalk (4603) within Trench 46. Feature 4604 contained a single fill (4605) that comprised a light brown silty sand with flint fragments, similar in composition to the overlying subsoil (4602).

3.1.6 ***Feature 4706*** - possible pit located in the south east section of Trench 47 measuring *c* 0.40 m deep by in excess of *c* 0.50 m wide, cut through natural sand and gravel. Feature 4706 contained a single fill (4707) that comprised a light grey brown silty sand with flint fragments, exactly similar in composition to the overlying subsoil (4702).

3.1.7 ***Feature 5806*** - possibly comprises two linear features orientated north west to south east, measuring *c* 1.10 m deep by *c* 3.60 m wide, cut through natural chalk and sand (5808) within Trench 58. Feature 5806 contained a series of fills comprising basal fills of mixed sand and chalk (5807) and brown silt clay (5805) overlain by a reddish brown silty sand (5804), in turn covered by a light brown chalky sand (5803). The excavated fills of the feature were observed to be very clean and it is thought likely that 5806 represents a geological anomaly.

3.1.8 ***Feature 10204*** - possible linear/pit orientated approximately north to south measuring *c* 1.1 m deep by *c* 0.80 m wide, cut through natural chalky sand (10205) within Trench 102. Feature 10204 contained a single fill (10203) that comprised a yellow brown sand, exactly similar in composition to the overlying subsoil (10202).

3.2 Finds

Lithics *by Kate Cramp* (Table 1; Appendix 2)

3.2.1 A total of 65 struck flints were recovered from 17 contexts, mainly topsoil (Table 1). Although most contexts produced only small quantities of flintwork, concentrations of material were noted in trench 23 (eight pieces), trench 25 (23 pieces), trench 58 (ten pieces) and trench 65 (eight pieces). A slight concentration was also noted in trench 51 (four pieces).

3.2.2 The general technological appearance of the assemblage suggests that it dates mainly to the Neolithic and Bronze Age period. The presence of a laurel leaf point indicates that an early Neolithic element is present, and it is possible that some of the cores and debitage also date to this period.

Category:	Context:																		Total:
	401	501	701	1001	1201	1901	2301	2501	4001	4501	5101	5102	5401	5601	5801	5802	6101	6501	
Flake	1	1	1	1			5	15	1		2			1	4	2		7	41
Blade-like flake							1	3				1							5
Blade							1	1											2
Flake from a hammerstone					1														1
Chip								1							1	1			3
Multi-platform flake core						1	1	1			1		1		1				6
Retouched flake								1								1		1	3
Side scraper								1											1
End scraper											1								1
Scraper on a non-flake blank										1									1
Laurel leaf																	1		1
Total:	1	1	1	1	1	1	8	23	1	1	4	1	1	1	6	4	1	8	65

Table 1: Flint by type and by context from the A11 study corridor.

3.2.3 All the struck flints within the assemblage were individually examined and catalogued according to broad debitage or tool type. Further information, including details of the condition, degree of cortication and type of raw material, was recorded consistently throughout the analysis. Technological attributes were also commented on where appropriate, particularly where such data contributed to the dating and characterisation of the assemblage. Cores/core fragments were classified according to the organisation and types of removals exhibited, and were individually weighed.

3.2.4 The flintwork is in variable, but generally poor, condition. Only eight flints were recorded as fresh, whilst 57 flints exhibit a slight or moderate degree of post-depositional damage. A slightly rolled and glossed appearance was noted on several pieces. The less-than-pristine condition of the assemblage implies that much of the flint work has been redeposited, confirmed by their location within topsoil/subsoil. A total of 36 flints (55.4% of the assemblage) are uncorticated. A light or moderate degree of cortication is present on 22 pieces (33.8%) and a further seven pieces (10.8%) are heavily corticated.

3.2.5 Given its abundance, locally available flint probably provided the main source of raw material for the debitage and tools within the assemblage. It is likely that mined flint also made a significant contribution to the raw material base. Possible sources of mined flint include Grimes Graves at a distance of some 8km from the site, and the early prehistoric flint mines located just over 1 km to the north of the study area. Several flakes of a light grey, fine-grained flint were noted that might represent the exploitation of these mined deposits.

3.2.6 The assemblage is mainly composed of unretouched flakes, represented by 41 pieces (Table 1). Most pieces are hard-hammer struck, and a limited number exhibit platform edge abrasion. Blades and blade-like flakes are less numerous than flakes, perhaps reflecting the later prehistoric derivation of much of the material (e.g. Pitts and Jacobi 1979; Ford 1987). Context 1201 contained a flake struck from a hammerstone, consisting of a large secondary flake with heavy battering to the proximal end.

3.2.7 Six flake cores, all possessing multiple platforms, were present in the assemblage. These provide an average complete weight of 106.2kg. Most are probably Neolithic or Bronze Age in date. The example from context 2301, which has been reduced in an almost levallois fashion, may date to the later Neolithic.

3.2.8 The retouched component consists of seven pieces: three retouched flakes, three scrapers and one laurel leaf point. The broken retouched flake from context 5802 consists of a broad tertiary flake with very neat, invasive retouch to the left-hand edge In its complete form, it may have been a knife or scraper. The small, neatly retouched end scraper from context 5101 approaches thumbnail dimensions, and can tentatively be dated to the Neolithic or earlier Bronze Age. The laurel leaf point from context 6101 has been bifacially and invasively retouched on a thin thermal blank. Between 10-25% cortex remains on each face. This piece can be attributed to the earlier Neolithic. The remaining tools are less chronologically distinctive and, as such, can only be dated broadly to the Neolithic or Bronze Age on technological grounds.

Discussion

3.2.9 Although very few datable types were present, the technological appearance of the flintwork suggests activity of mainly Neolithic and Bronze Age date. The condition of the material, its topsoil/subsoil provenance and the lack of sizeable assemblages from which statistically viable results might be obtained limit the potential for further

analysis. The significance of the flint assemblage from the watching brief lies primarily in its contribution to the broader picture of prehistoric activity in the area. It is anticipated that further excavation will supply further flint evidence to expand this picture and perhaps provide large assemblages with potential for detailed analysis.

4 DISCUSSION AND INTERPRETATION

4.1 Reliability of field investigation

4.1.1 The results of the field investigations must be viewed in direct correlation to their limited nature, only allowing a very small sample area to be examined. For this reason, only limited consideration can be made of the routes archaeological potential.

4.2 Overall interpretation

4.2.1 It is difficult to provide a precise interpretation regarding the character, date and significance of the features recorded during the investigations due to the small sample area examined and the lack of dating evidence derived from recorded deposits. A lack of material evidence found within features and the general similarity of their fills to the surrounding subsoil or natural geology may suggest that the recorded features may represent no more than geological anomalies, or the former remains of field boundaries or disturbances caused by previous road construction. The distribution of the recorded features along the proposed route when examined in relation to the known presence of archaeological sites, as defined in the Stage 2 DMRB Environmental Assessment (OA 2000), does however, provide some scope for further discussion regarding their potential significance.

4.2.2 When plotted, a distinct clustering of features (107, 3107, 4604 and 5806) is shown to be present both immediately to the east and west of the site of How Hill Tumulus (SAM 125, Site No. 8), in an area known to contain further significant evidence of prehistoric and Roman activity represented by the presence of a cropmark ring ditch (Site No. 5) and prehistoric flint and Roman pottery scatter (Site No. 9) to the north, and an early Bronze Age burial ground (Site No. 7) to the south, most likely associated to How Hill Tumulus (Fig 3). The features recorded in this area may therefore have the potential to be contemporary with activity dating to these periods, although on current evidence this cannot be proven.

4.2.3 The possible linear feature (10204), recorded in Trench 102, lies in close proximity to the location of a known cropmark (OA 125) thought to represent the former remains of a post-medieval trackway associated with the site of a now disused quarry (Fig. 8, illustrated cropmark schematic only). Although, the location of this feature does not correspond directly with this cropmark, as plotted in the Stage 2 DMRB Environmental Assessment (OA 2000), it is possible that it may be associated with such contemporary activity.

4.2.4 The lithic assemblage recovered from trenches during the course of the investigations, albeit small, does show marked clustering that is indicative of the presence of three

discrete and potentially significant scatters (Figs. 3, 4 and 6). Two of the three scatters identified appear to correspond with previously identified sites. The scatter recorded in Trench 58 may represent a southerly extension to the artefact scatter identified to the north at Site No. 9, and the scatter represented by finds recorded in Trenches 23, 25 and noted around Trench 61, corresponds to a scatter observed and recorded during Field Inspection Survey (OA 131) carried out in 2000 (OAU 2000). A further separate, and previously unknown scatter, has also been recorded in the location of Trenches 51 and 65. The presence of these residual artefact scatters is significant as they may all be indicative of potential prehistoric activity, the recovered surface artefactual material possibly derived from potential surviving below ground archaeological deposits.

Significance

4.2.5 Although these initial archaeological investigations have been limited, they have produced results, albeit somewhat ambiguous, which demonstrate that the proposed development corridor does have the capacity to contain hitherto unknown surviving below ground archaeological remains, potentially dating from the prehistoric period onwards, that would be impacted by development.

APPENDICES

APPENDIX 1 ARCHAEOLOGICAL CONTEXT INVENTORY

Trench	Trial pit (TP)	Ctxt No	Type	Thick. (m)	Comment	Finds	No./ wt	*Full Depth of TP (m)*
1	3/3	101	Layer	0.30	Topsoil			
	3/3	102	Layer	0.15	Subsoil			
	3/3	103	Fill		Fill of 107			
	3/3	104	Fill		Fill of 107			
	3/3	105	Fill		Fill of 107			
	3/3	106	Deposit	0.40	Chalk deposit			
	3/3	107	Cut	0.95	Boundary ditch			*2.0*
2	3/4	201	Layer	0.33	Topsoil			
	3/4	202	Layer	0.13	Subsoil			
	3/4	203	Layer	0.90	Natural chalk			
	3/4	204	Layer	0.48	Natural sand			
	3/4	205	Layer	0.32	Natural chalk			*2.2*
3	3/1	301	Layer	0.26	Topsoil			
	3/1	302	Layer	0.30	Subsoil			
	3/1	303	Layer	1.20	Natural chalk			
	3/1	304	Layer	0.24	Natural chalk			*2.0*
4	3/2	401	Layer	0.24	Topsoil	Flint	1/40g	
	3/2	402	Layer	0.28	Subsoil			
	3/2	403	Layer	0.50	Natural Chalk			
	3/2	404	Layer	1.0	Sand and Chalk			
	3/2	405	Layer	1.0	Natural chalk			*3.0*
5	2/7	501	Layer	0.25	Topsoil	Flint	1/25g	
	2/7	502	Layer	0.70	Mixed with 503 silty sand natural			
	2/7	503	Layer	0.70	Natural chalk with sand and flint			
	2/7	504	Layer	0.74	Sand, flint and chalk			
	2/7	505	Layer	0.50	Natural chalk			*2.3*
6	2/6	601	Layer	0.26	Topsoil			

Trench	Trial pit (TP)	Ctxt No	Type	Thick. (m)	Comment	Finds	No./ wt	*Full Depth of TP (m)*
	2/6	602	Layer	0.30	Subsoil			
	2/6	603	Layer	0.20	possible buried soil horizon			

Trench	Trial pit (TP)	Ctxt No	Type	Thick. (m)	Comment	Finds	No./ wt	*Full Depth of TP (m)*
6 (cont)	2/6	604	Layer	0.55	Natural sand with flints			
	2/6	605	Layer	0.90	Natural chalk			
	2/6	606	Layer	0.70	Sandy chalk with flints			
	2/6	607	Layer	0.20	Natural chalk			*2.7*
7	2/5	701	Layer	0.20	Topsoil	Flint	1/6g	
	2/5	702	Layer	0.28	Subsoil			
	2/5	703	Layer	0.30	possible buried soil horizon			
	2/5	704	Layer	0.95	Natural sand			
	2/5	705	Layer	0.90	Natural sand and chalk			*2.4*
8	2/4	801	Layer	0.30	Topsoil			
	2/4	802	Layer	0.30	Subsoil			
	2/4	803	Layer	0.80	Natural sand			
	2/4	804	Layer	0.80	Natural sand and chalk			*2.2*
9	2/3	901	Layer	0.40	Topsoil			
	2/3	902	Layer	0.28	Subsoil			
	2/3	903	Layer	0.60	Natural flinty sand			
	2/3	904	Layer	1.5	Natural sand and chalk, some flints			
	2/3	905	Layer	0.30	Natural chalk			*2.8*
10	2/2	1001	Layer	0.30	Topsoil	Flint	1/6g	
	2/2	1002	Layer	0.16	Subsoil			
	2/2	1003	Layer	0.26	possible buried soil horizon			
	2/2	1004	Layer	0.80	Natural sand			

	2/2	1005	Layer	0.80	Natural chalk			*2.3*
11	3/6	1101	Layer	0.28	Topsoil			
	3/6	1102	Layer	0.15	Subsoil			
	3/6	1103	Layer	0.20	Natural silty sand			
	3/6	1104	Layer	1.4	Natural sand and chalk			
	3/6	1105	Layer	0.20	Natural chalk			*2.2*
12	3/8	1201	Layer	0.30	Topsoil	Flint	1/23g	
	3/8	1202	Layer	0.10	Subsoil			
Trench	Trial pit (TP)	Ctxt No	Type	Thick. (m)	Comment	Finds	No./ wt	*Full Depth of TP (m)*
12 (cont)	3/8	1203	Layer	0.90	Natural sand			
	3/8	1204	Layer	0.80	Natural sand and chalk			
	3/8	1205	Layer	0.20	Natural chalk with flint			*2.2*
13	4/1	1301	Layer	0.36	Topsoil			
	4/1	1302	Layer	0.30	Subsoil			
	4/1	1303	Layer	0.90	Natural sand and chalk			
	4/1	1304	Layer	0.40	Natural chalk with flint			
	4/1	1305	Layer	1.2	Natural chalk with flint			*3.0*
14	4/2	1401	Layer	0.36	Topsoil			
	4/2	1402	Layer	0.16	Subsoil			
	4/2	1403	Layer	1.0	Natural sand and chalk			
	4/2	1404	Layer	1.2	Natural chalk			*2.5*
15	4/4	1501	Layer	0.36	Topsoil			
	4/4	1502	Layer	0.16	Subsoil			
	4/4	1503	Layer	0.20	Natural silty sand			
	4/4	1504	Layer	1.3	Natural sand and chalk			
	4/4	1505	Layer	0.20	Natural chalk with flint			*2.5*
16	4/6	1601	Layer	0.40	Topsoil			

	4/6	1602	Layer	0.20	Subsoil			
	4/6	1603	Layer	1.1	Natural sand and chalk			
	4/6	1604	Layer	0.20	Natural chalk			*2.0*
17	2/10	1701	Layer	0.35	Topsoil			
	2/10	1702	Layer	0.30	Subsoil			
	2/10	1703	Layer	0.45	Natural sand			
	2/10	1704	Layer	1.0	Natural chalk			
	2/10	1705	Layer	2.2	Natural chalk with flint			*4.3*
18	4/8	1801	Layer	0.40	Topsoil			
	4/8	1802	Layer	0.20	Subsoil			
	4/8	1803	Layer	1.2	Natural sand/chalk			
Trench	Trial pit (TP)	Ctxt No	Type	Thick. (m)	Comment	Finds	No./ wt	*Full Depth of TP (m)*
18 (cont)	4/8	1804	Layer	0.20	Natural chalk with flint			*2.0*
19	5/1	1901	Layer	0.40	Topsoil	Flint	1/80g	
	5/1	1902	Layer	0.40	Subsoil + tree root/geological feature			
	5/1	1903	Layer	1.5	Natural sand and chalk			
	5/1	1904	Layer	1.0	Natural chalk			*3.0*
20	5/2	2001	Layer	0.36	Topsoil			
	5/2	2002	Layer	0.16	Subsoil			
	5/2	2003	Layer	1.5	Natural sand and chalk			
	5/2	2004	Layer	0.50	Natural chalk			*2.5*
21	5/3	2101	Layer	0.36	Topsoil			
	5/3	2102	Layer	0.20	Subsoil			
	5/3	2103	Layer	0.90	Natural sand and chalk			
	5/3	2104	Layer	0.70	Natural chalk with flint			*2.5*
22	5/4	2201	Layer	0.40	Topsoil			
	5/4	2202	Layer	0.14	Subsoil			

	5/4	2203	Layer	0.90	Natural sand and chalk			
	5/4	2204	Layer	1.2	Natural chalk with flint			*2.7*
23	5/5	2301	Layer	0.40	Topsoil	Flint	8/167g	
	5/5	2302	Layer	1.40	Natural silty sand			
	5/5	2303	Layer	0.50	Natural chalk with flint			*2.1*
24	5/7	2401	Layer	0.36	Topsoil			
	5/7	2402	Layer	1.0	Natural silty sand			
	5/7	2403	Layer	1.6	Natural chalk with flint			*3.0*
25	5/16	2501	Layer	0.40	Topsoil	Flint	23/319g	
	5/16	2502	Layer	0.48	Subsoil			
	5/16	2503	Layer	1.15	Natural sand and chalk			
	5/16	2504	Layer	0.30	Natural chalk			*2.2*
26	5/17	2601	Layer	0.36	Topsoil			

Trench	Trial pit (TP)	Ctxt No	Type	Thick. (m)	Comment	Finds	No./ wt	*Full Depth of TP (m)*
26 (cont)	5/17	2602	Layer	0.20	Subsoil			
	5/17	2603	Layer	1.3	Natural silty sand			
	5/17	2604	Layer	0.24	Natural chalk			*2.1*
27	5/18	2701	Layer	0.30	Topsoil			
	5/18	2702	Layer	0.35	Subsoil			
	5/18	2703	Layer	1.3	Natural sand			
	5/18	2704	Layer	0.10	Natural sand and chalk			*2.1*
28	6/1	2801	Layer	0.50	Topsoil			
	6/1	2802	Layer	2.5	Natural sand with flint			*3.0*
29	2/11	2901	Layer	0.30	Topsoil			
	2/11	2902	Layer	0.12	Subsoil			
	2/11	2903	Layer	0.88	Natural chalk with flint			*1.3*
30	2/9	3001	Layer	0.20	Topsoil			

	2/9	3002	Layer	0.10	Subsoil			
	2/9	3003	Layer	0.80	Natural chalk with flint			
	2/9	3004	Layer	0.70	Natural sand and chalk			
	2/9	3005	Layer	3.0	Natural chalk and flint			*4.8*
31	2/13	3101	Layer	0.30	Topsoil			
	2/13	3102	Layer	0.35	Subsoil			
	2/13	3103	Layer	0.55	Natural sand and chalk			
	2/13	3104	Layer	0.55	Fill of 3107			
	2/13	3105	Layer	0.80	Natural chalk with flint			
	2/13	3106	Layer	2.5	Natural chalk with flint			
	2/13	3107	Cut	0.55	possible N-S aligned linear feature?			*4.5*
32	7/1	3201	Layer	0.36	Topsoil			
	7/1	3202	Layer	0.34	Subsoil			
	7/1	3203	Layer	1.5	Natural sand with gravel			*2.2*
33	7/7	3301	Layer	0.70	Topsoil - quarry area			
Trench	Trial pit (TP)	Ctxt No	Type	Thick. (m)	Comment	Finds	No./ wt	*Full Depth of TP (m)*
33 (cont)	7/7	3302	Layer	1.0	Natural? silty sand			
	7/7	3303	Layer	1.3	Natural sand			*3.0*
34	7/8	3401	Layer	0.40	Topsoil			
	7/8	3402	Layer	1.5	Natural sand with flint			
	7/8	3404	Layer	0.40	Natural chalk			*2.3*
35	7/9	3501	Layer	0.42	Topsoil			
	7/9	3502	Layer	0.30	?root disturbed subsoil			
	7/9	3503	Layer	1.35	Natural sand			
	7/9	3504	Layer	0.03	Natural chalk			*2.1*
36	7/10	3601	Layer	0.43	Topsoil			
	7/10	3602	Layer	0.60	?Natural sand			

	7/10	3603	Layer	1.27	Natural sand			
	7/10	3604	Layer	0.80	Natural chalk			*3.1*
37	7/11	3701	Layer	0.44	Topsoil			
	7/11	3702	Layer	0.38	?Natural sand and gravel			
	7/11	3703	Layer	0.82	Natural sand			
	7/11	3704	Layer	0.36	Natural chalk			*2.0*
38	8/1	3801	Layer	0.43	Topsoil			
	8/1	3802	Layer	0.57	?Natural sand			
	8/1	3803	Layer	0.70	Natural sand with gravel			
	8/1	3804	Layer	0.30	Natural chalk			*2.0*
39	8/2	3901	Layer	0.50	Topsoil			
	8/2	3902	Layer	0.20	Subsoil			
	8/2	3903	Layer	1.1	Natural sand			
	8/2	3904	Layer	0.30	Natural chalk			*2.1*
40	8/3	4001	Layer	0.50	Topsoil	Flint	1/9g	
	8/3	4002	Layer	0.45	Subsoil			
	8/3	4003	Layer	1.2	Natural sand with gravel			
	8/3	4004	Layer	0.85	Natural chalk			*3.0*
41	8/4	4101	Layer	0.10	Dump on topsoil			
	8/4	4102	Layer	0.30	Topsoil			
	8/4	4103	Layer	0.60	Subsoil			
Trench	Trial pit (TP)	Ctxt No	Type	Thick. (m)	Comment	Finds	No./ wt	*Full Depth of TP (m)*
41 (cont)	8/4	4104	Layer	0.95	Natural sand			
	8/4	4105	Layer	0.05	Natural chalk with flint			*2.0*
42	8/5	4201	Layer	0.40	Topsoil			
	8/5	4202	Layer	0.40	Subsoil			
	8/5	4203	Layer	1.3	Natural sand			*2.1*
43	8/6	4301	Layer	0.40	Topsoil			
	8/6	4302	Layer	0.20	Subsoil			
	8/6	4303	Layer	1.2	Natural sand			

	8/6	4304	Layer	1.2	Natural chalk			*3.0*
44	8/7	4401	Layer	0.40	Topsoil			
	8/7	4402	Layer	0.25	Subsoil			
	8/7	4403	Layer	1.15	Natural sand with gravel			
	8/7	4404	Layer	0.25	Natural chalk			*2.0*
45	S2	4501	Layer	0.45	Topsoil	Flint	1/56g	
	S2	4502	Layer	0.10	Subsoil			
	S2	4503	Layer	2.45	Natural chalk			*3.0*
46	S3	4601	Layer	0.40	Topsoil			
	S3	4602	Layer	0.40	Subsoil			
	S3	4603	Layer	2.2	Natural chalk			
	S3	4604	Cut	0.50	possible pit			
	S3	4605	Fill	0.50	Fill of 4604			*3.0*
47	9/1	4701	Layer	0.25	Topsoil			
	9/1	4702	Layer	0.30	Subsoil			
	9/1	4703	Layer	1.0	Natural silty sand			
	9/1	4704	Layer	0.60	Natural sand with gravel			
	9/1	4705	Layer	1.35	Natural chalk			
	9/1	4706	Cut	-	possible pit?			
	9/1	4707	Fill	0.40	Fill of 4706			*3.0*
48	8/9	4801	Layer	0.37	Topsoil			
	8/9	4802	Layer	0.20	Subsoil			
	8/9	4803	Layer	-	natural sand lense			
	8/9	4804	Layer	1.5	Natural sand with gravel			
Trench	Trial pit (TP)	Ctxt No	Type	Thick. (m)	Comment	Finds	No./ wt	*Full Depth of TP (m)*
48 (cont)	8/9	4805	Layer	1.93	Natural chalk			*4.0*
49	9/3	4901	Layer	0.20	Topsoil			
	9/3	4902	Layer	0.40	Subsoil			
	9/3	4903	Layer	1.3	Natural sand with gravel			
	9/3	4904	Layer	1.1	Natural chalk			*3.0*

50	9/4	5001	Layer	0.40	Topsoil			
	9/4	5002	Layer	0.30	Subsoil			
	9/4	5003	Layer	1.0	Natural sand with gravel			
	9/4	5004	Layer	0.30	Natural chalk			*2.0*
51	10/20	5101	Layer	0.30	Topsoil	Flint	4/208g	
	10/20	5102	Layer	0.50	Subsoil	Flint	1/8g	
	10/20	5103	Layer	0.60	Natural sand with gravel			
	10/20	5104	Layer	0.70	Natural sand			
	10/20	5105	Layer	0.90	Natural chalk			*3.0*
52	8/10	5201	Layer	0.40	Topsoil			
	8/10	5202	Layer	0.50	Subsoil			
	8/10	5203	Layer	0.80	Natural sand with gravel			
	8/10	5204	Layer	0.30	Natural chalk			*2.0*
53	9/2	5301	Layer	0.30	Topsoil			
	9/2	5302	Layer	0.20	Subsoil			
	9/2	5303	Layer	0.20	Natural sand with gravel			
	9/2	5304	Layer	0.70	Natural sand with gravel			
	9/2	5305	Layer	0.60	Natural chalk			*2.0*
54	10/7	5401	Layer	0.40	Topsoil	Flint	1/156g	
	10/7	5402	Layer	0.70	Subsoil			
	10/7	5403	Layer	1.3	Natural silty clay			
	10/7	5404	Layer	0.60	Natural clay			*3.0*
55	10/8	5501	Layer	0.30	Topsoil			
	10/8	5502	Layer	0.50	Subsoil			
	10/8	5503	Layer	1.0	Natural sand with gravel			
Trench	Trial pit (TP)	Ctxt No	Type	Thick. (m)	Comment	Finds	No./ wt	*Full Depth of TP (m)*
55 (cont)	10/8	5504	Layer	1.2	Natural chalk			*3.0*
56	3/7	5601	Layer	0.25	Topsoil	Flint	1/2g	
	3/7	5602	Layer	0.10	Subsoil			

	3/7	5603	Layer	0.95	Natural chalk			
	3/7	5604	Layer	0.90	Natural chalk			
	3/7	5605	Layer	1.8	Natural chalk			*4.0*
57	Void							
58	4/3	5801	Layer	0.40	Topsoil	Flint	6/113g	
	4/3	5802	Layer	0.20	Subsoil	Flint	4/83g	
	4/3	5803	Layer/ Fill	0.40	Sand and chalk, possible fill of 5806			
	4/3	5804	Layer/ Fill	1.0	Silty sand, possible fill of 5806			
	4/3	5805	Layer/ Fill	0.20	Silty clay, possible fill of 5806			
	4/3	5806	Cut?	1.1	Possible linear of field boundary, although more likely to be geological			
	4/3	5807	Layer/ Fill	0.10	Mixed sand and chalk			
	4/3	5808	Layer	1.1	Natural sand and chalk			
	4/3	5809	Layer	1.8	Natural chalk			*3.5*
59	5/6	5901	Layer	0.35	Topsoil			
	5/6	5902	Layer	0.15	Subsoil			
	5/6	5903	Layer	0.80	Natural clay			
	5/6	5904	Layer	1.6	Natural silty clay			
	5/6	5905	Layer	0.30	Natural silty clay			
	5/6	5906	Layer	0.30	Natural chalk			*3.5*
60	5/11	6001	Layer	0.40	Topsoil			
	5/11	6002	Layer	0.05	Subsoil			
	5/11	6003	Layer	1.2	Natural sand with gravel			
	5/11	6004	Layer	2.85	Natural chalk			*4.5*
61	5/21	6101	Layer	0.30	Topsoil	Flint	1/47g	
	5/21	6102	Layer	0.40	Subsoil			
	5/21	6103	Layer	1.2	Natural silty sand			
Trench	Trial pit (TP)	Ctxt No	Type	Thick. (m)	Comment	Finds	No./ wt	*Full Depth of TP (m)*

61 (cont)	5/21	6104	Layer	1.1	Natural silty sand with clay			
	5/21	6105	Layer	0.40	Natural chalk			*3.4*
62	5/24	6201	Layer	0.10	Leaf litter			
	5/24	6202	Layer	0.15	Topsoil			
	5/24	6203	Layer	0.25	Subsoil			
	5/24	6204	Layer	0.40	Natural sand			
	5/24	6205	Layer	1.4	Natural sand and chalk			
	5/24	6206	Layer	1.2	Natural chalk			*4.5*
63	10/17	6301	Layer	0.30	Topsoil			
	10/17	6302	Layer	0.20	Subsoil			
	10/17	6303	Layer	0.40	Natural sand			
	10/17	6304	Layer	1.1	Natural sand with gravel			
	10/17	6305	Layer	1.0	Natural chalk			*3.0*
64	10/18	6401	Layer	0.35	Topsoil			
	10/18	6402	Layer	0.10	Subsoil			
	10/18	6403	Layer	0.15	possible buried soil horizon			
	10/18	6404	Layer	0.35	Natural sand with gravel			
	10/18	6405	Layer	1.15	Natural sandy clay			
	10/18	6406	Layer	2.4	Natural chalk			*4.5*
65	10/19	6501	Layer	0.30	Topsoil	Flint	8/103g	
	10/19	6502	Layer	0.30	Subsoil			
	10/19	6503	Layer	1.0	Natural sand in 6505			
	10/19	6504	Layer	0.60	Natural silty clay in 6505			
	10/19	6505	Hollow	4.4	Solution hollow			
	10/19	6506	Layer	1.0	Natural silty sand			
	10/19	6507	Layer	2.9	Natural chalk			
	10/19	6508	Layer	1.7	Natural silty sand in 6505			
	10/19	6509	Layer	1.0	Natural sandy clay in 6505			*4.5*
66	10/12	6601	Layer	0.30	Topsoil			

	10/12	6602	Layer	0.25	Subsoil			
Trench	Trial pit (TP)	Ctxt No	Type	Thick. (m)	Comment	Finds	No./ wt	*Full Depth of TP (m)*
66 (cont)	10/12	6603	Layer	0.65	Natural sand			
	10/12	6604	Layer	1.0	Natural sand and chalk			
	10/12	6605	Layer	0.70	Natural chalk			*2.9*
67	12/1	6701	Layer	0.30	Topsoil			
	12/1	6702	Layer	0.30	Subsoil			
	12/1	6703	Layer	0.15	Natural silty sand			
	12/1	6704	Layer	1.35	Natural sand and gravel			
	12/1	6705	Layer	0.60	Natural chalk and sand			
	12/1	6706	Layer	0.30	Natural chalk			*3.0*
68	12/11	6801	Layer	0.30	Topsoil			
	12/11	6802	Layer	0.40	Subsoil			
	12/11	6803	Layer	1.6	Natural silty sand			
	12/11	6804	Layer	1.4	Natural chalk			*3.7*
69	6/2	6901	Layer	0.40	Topsoil - heath			
	6/2	6902	Layer	0.10	Sand (subsoil?)			
	6/2	6903	Layer	1.0	Natural sand			
	6/2	6904	Layer	0.20	Natural clayey sand			
	6/2	6905	Layer	0.30	Natural silty sand			*2.0*
70	6/3	7001	Layer	0.30	Topsoil - heath			
	6/3	7002	Layer	0.50	Natural silty sand			
	6/3	7003	Layer	0.60	Natural silty sand with gravel			
	6/3	7004	Layer	0.20	Natural silty sand			
	6/3	7005	Layer	0.40	Natural clayey sand			*2.0*
71	6/4	7101	Layer	0.30	Topsoil - heath			
	6/4	7102	Layer	0.10	Sand (subsoil?)			
	6/4	7103	Layer	0.80	Natural sand			
	6/4	7104	Layer	0.20	Natural silty sand			
	6/4	7105	Layer	0.60	Natural silty sand			*2.0*

72	6/5	7201	Layer	0.30	Topsoil - heath			
	6/5	7202	Layer	0.20	Sand (subsoil?)			
	6/5	7203	Layer	1.4	Natural chalky silt			
	6/5	7204	Layer	0.20	Natural chalk			*2.1*
Trench	Trial pit (TP)	Ctxt No	Type	Thick. (m)	Comment	Finds	No./ wt	*Full Depth of TP (m)*
73	7/3	7301	Layer	0.10	Topsoil			
	7/3	7302	Layer	0.20	Silty sand (subsoil?)			
	7/3	7303	Layer	0.30	Natural sand			
	7/3	7304	Layer	0.50	Natural sand			
	7/3	7305	Layer	1.4	Natural sand with clay			*2.5*
74	7/5	7401	Layer	0.20	Topsoil - woodland			
	7/5	7402	Layer	0.30	Silty sand (subsoil?)			
	7/5	7403	Layer	1.1	Natural sand and gravel			
	7/5	7404	Layer	0.40	Natural silty sand			*2.0*
75	7/4	7501	Layer	0.10	Topsoil - woodland			
	7/4	7502	Layer	0.60	Natural? sand			
	7/4	7503	Layer	0.30	Natural sand with flint			
	7/4	7504	Layer	1.0	Natural chalk			*2.0*
76	7/2	7601	Layer	0.20	Topsoil/humic layer			
	7/2	7602	Layer	0.50	Natural? silty sand			
	7/2	7603	Layer	0.30	Natural sand			
	7/2	7604	Layer	1.1	Natural silty sand			*2.1*
77	Void							
78	11/5	7801	Layer	0.20	Topsoil - woodland			
	11/5	7802	Layer	0.50	Natural? sand			
	11/5	7803	Layer	1.5	Natural sand with chalk			
	11/5	7804	Layer	0.80	Natural chalk			*3.0*
79	11/6	7901	Layer	0.20	Topsoil - woodland			
	11/6	7902	Layer	0.45	Natural? sand			
	11/6	7903	Layer	1.55	Natural sand and chalk			

	11/6	7904	Layer	0.80	Natural chalk			*3.0*
80	S5	8001	Layer	0.30	Topsoil			
	S5	8002	Layer	0.25	Subsoil			
	S5	8003	Layer	1.25	Natural sand and chalk			
	S5	8004	Layer	1.2	Natural chalk			*3.0*
81	S6	8101	Layer	0.40	Topsoil			
Trench	Trial pit (TP)	Ctxt No	Type	Thick. (m)	Comment	Finds	No./ wt	*Full Depth of TP (m)*
81 (cont)	S6	8102	Layer	2.6	Natural silty sand			*3.0*
82	11/2	8201	Layer	0.35	Topsoil			
	11/2	8202	Layer	0.35	Natural? sand			
	11/2	8203	Layer	1.3	Natural sand and chalk			
	11/2	8204	Layer	1.0	Natural chalk			*3.0*
83	11/8	8301	Layer	0.30	Topsoil			
	11/8	8302	Layer	0.20	Subsoil			
	11/8	8303	Layer	1.3	Natural sand			
	11/8	8304	Layer	0.20	Natural chalk			*2.0*
84	11/9	8401	Layer	0.30	Topsoil			
	11/9	8402	Layer	0.10	Subsoil			
	11/9	8403	Layer	1.4	Natural sand			
	11/9	8404	Layer	0.20	Natural chalk			*2.0*
85	12/10	8501	Layer	0.30	Topsoil			
	12/10	8502	Layer	0.90	Subsoil			
	12/10	8503	Layer	1.0	Natural sandy clay			
	12/10	8504	Layer	0.80	Natural sandy clay			*3.0*
86	12/13	8601	Layer	0.30	Topsoil			
	12/13	8602	Layer	0.20	Subsoil			
	12/13	8603	Layer	1.4	Natural sand			
	12/13	8604	Layer	1.1	Natural chalk			*3.0*
87	11/4	8701	Layer	0.20	Topsoil			
	11/4	8702	Layer	0.50	Subsoil			
	11/4	8703	Layer	1.4	Natural sand			

	11/4	8704	Layer	0.90	Natural chalk			*3.0*
88	11/7	8801	Layer	0.20	Topsoil			
	11/7	8802	Layer	0.40	Subsoil			
	11/7	8803	Layer	1.6	Natural sand			
	11/7	8804	Layer	0.80	Natural chalk			*3.0*
89	S7	8901	Layer	0.25	Topsoil - plantation			
	S7	8902	Layer	1.35	Natural sand			
	S7	8903	Layer	1.4	Natural chalk			*3.0*
90	12/3	9001	Layer	0.30	Topsoil - plantation			
	12/3	9002	Layer	1.7	Natural sand			*2.0*
Trench	Trial pit (TP)	Ctxt No	Type	Thick. (m)	Comment	Finds	No./ wt	*Full Depth of TP (m)*
91	12/2	9101	Layer	0.30	Topsoil - plantation			
	12/2	9102	Layer	0.80	Natural sand			
	12/2	9103	Layer	1.9	natural silty sand with gravel			
	12/2	9104	Layer	0.30	Natural chalk			*3.3*
92	10/10	9201	Layer	0.30	Topsoil			
	10/10	9202	Layer	1.5	Made ground/natural sand (road verge)			
	10/10	9203	Layer	1.2	Natural chalk			*3.0*
93	4/5	9301	Layer	0.40	Topsoil			
	4/5	9302	layer	0.30	Subsoil			
	4/5	9303	Layer	1.0	Natural sand			
	4/5	9304	Layer	0.30	Natural chalk			*2.0*
94	5/15	9401	Layer	0.30	Topsoil			
	5/15	9402	Layer	1.5	Natural sand			
	5/15	9403	Layer	2.7	Natural chalk			*4.5*
95	5/9	9501	Layer	0.30	Topsoil			
	5/9	9502	Layer	1.1	Natural sand			
	5/9	9503	Layer	2.6	Natural chalk			*4.0*
96	5/8	9601	Layer	0.40	Topsoil			
	5/8	9602	Layer	0.30	Subsoil			
	5/8	9603	Layer	1.2	Natural sand with gravel			

	5/8	9604	Layer	1.1	Natural chalk			*3.0*
97	9/5	9701	Layer	0.30	Topsoil			
	9/5	9702	Layer	0.30	Subsoil			
	9/5	9703	Layer	1.3	Natural sand			
	9/5	9704	Layer	2.6	Natural chalk			*4.5*
98	12/4	9801	Layer	0.30	Topsoil			
	12/4	9802	Layer	0.30	Subsoil			
	12/4	9803	Layer	1.7	Natural sand			
	12/4	9804	Layer	0.20	Natural chalk			*2.5*
99	12/5	9901	Layer	0.40	Topsoil			
	12/5	9902	Layer	1.8	Natural silty sand			
	12/5	9903	Layer	0.80	Natural chalk			*3.0*
Trench	Trial pit (TP)	Ctxt No	Type	Thick. (m)	Comment	Finds	No./ wt	*Full Depth of TP (m)*
100	12/6	10001	Layer	0.30	Topsoil			
	12/6	10002	Layer	1.6	Natural sand			
	12/6	10003	Layer	0.20	Natural chalk			*2.1*
101	12/8	10101	Layer	0.30	Topsoil			
	12/8	10102	Layer	2.0	Natural sand			
	12/8	10103	Layer	0.20	Natural chalk			*2.5*
102	13/1	10201	Layer	0.30	Topsoil			
	13/1	10202	Layer	0.20	Subsoil			
	13/1	10203	Fill	1.1	Fill of 10204			
	13/1	10204	Cut	1.1	possible pit/linear			
	13/1	10205	Layer	1.3	Natural sand			
	13/1	10206	Layer	0.90	Natural chalk			*2.7*
103	13/2	10301	Layer	0.30	Topsoil			
	13/2	10302	Layer	1.5	Natural sand			
	13/2	10303	Layer	0.70	Natural chalk			*2.5*
104	S8	10401	Layer	0.30	Topsoil			
	S8	10402	Layer	1.3	Natural sand			*1.6*
105	14/2	10501	Layer	0.30	Topsoil			
	14/2	10502	Layer	1.7	Natural sand with chalk			*2.0*

106	14/1	10601	Layer	0.30	Topsoil			
	14/1	10602	Layer	0.30	Subsoil			
	14/1	10603	Layer	1.2	Natural sand with gravel			
	14/1	10604	Layer	0.20	Natural chalk			*2.0*
107	14/3	10701	Layer	0.20	Topsoil			
	14/3	10702	Layer	1.3	Natural sand with gravel			
	14/3	10703	Layer	0.50	Natural chalk			*2.0*
108	14/4	10801	Layer	0.20	Topsoil			
	14/4	10802	Layer	1.8	Natural sand with gravel			*2.0*
109	13/7	10901	Layer	0.30	Topsoil			
	13/7	10902	Layer	0.30	Subsoil			
	13/7	10903	Layer	1.3	Natural sand			
	13/7	10904	Layer	0.10	Natural chalk			*2.0*
Trench	Trial pit (TP)	Ctxt No	Type	Thick. (m)	Comment	Finds	No./ wt	*Full Depth of TP (m)*
110	14/5	11001	Layer	0.30	Topsoil			
	14/5	11002	Layer	0.20	Subsoil			
	14/5	11003	Layer	0.70	Natural sand			
	14/5	11004	Layer	0.70	Natural chalky sand			
	14/5	11005	Layer	1.1	Natural chalk			*3.0*
111	13/6	11101	Layer	0.30	Topsoil			
	13/6	11102	Layer	0.20	Subsoil			
	13/6	11103	Layer	1.5	Natural sand and gravel			*2.0*
112	13/4	11201	Layer	0.30	Topsoil			
	13/4	11202	Layer	0.45	Natural sand			
	13/4	11203	Layer	0.95	Natural chalky sand			
	13/4	11204	Layer	0.30	Natural chalk			*2.0*
113	13/5	11301	Layer	0.30	Topsoil			
	13/5	11302	Layer	1.0	Natural sand			
	13/5	11303	Layer	0.60	Natural clay and chalk			
	13/5	11304	Layer	0.10	Natural chalk			*2.0*

114	13/3	11401	Layer	0.30	Topsoil			
	13/3	11402	Layer	0.80	Natural chalky sand			
	13/3	11403	Layer	1.9	Natural sand			*3.0*
115	S1	11501	Layer	0.40	Topsoil			
	S1	11502	Layer	1.2	Natural sand			*1.6*
116	0/10	11601	Layer	0.30	Topsoil			
	0/10	11602	Layer	1.7	Natural sand			
	0/10	11603	Layer	1.0	Natural chalk			*3.0*
117	1/5	11701	Layer	0.40	Topsoil			
	1/5	11702	Layer	0.30	Subsoil			
	1/5	11703	Layer	1.5	Natural chalky sand			
	1/5	11704	Layer	0.70	Natural chalky gravel			
	1/5	11705	Layer	3.1	Natural chalk			*6.5*
118	1/4	11801	Layer	0.40	Topsoil			
	1/4	11802	Layer	0.30	Subsoil			
	1/4	11803	Layer	1.5	Natural chalky sand			
	1/4	11804	Layer	2.5	Natural chalky boulder clay			*4.7*
Trench	Trial pit (TP)	Ctxt No	Type	Thick. (m)	Comment	Finds	No./ wt	*Full Depth of TP (m)*
119	1/2	11901	Layer	0.40	Topsoil			
	1/2	11902	Layer	1.6	Natural sand			*2.0*
120	1/3	12001	Layer	0.30	Topsoil			
	1/3	12002	Layer	3.7	Natural sand			*4.0*
121	1/1	12101	Layer	0.30	Topsoil			
	1/1	12102	Layer	0.80	Natural sand			
	1/1	12103	Layer	1.9	Natural chalk			*3.0*
122	0/9	12201	Layer	0.30	Topsoil			
	0/9	12202	Layer	1.7	Natural sand			*2.0*
123	0/8	12301	Layer	0.30	Topsoil			
	0/8	12302	Layer	3.4	Natural sand			*3.7*
124	0/7	12401	Layer	0.30	Topsoil			
	0/7	12402	Layer	1.7	Natural sand			*2.0*
125	0/6	12501	Layer	0.10	Topsoil			

	0/6	12502	Layer	1.9	Natural sand			*2.0*
126	0/5	12601	Layer	0.10	Topsoil			
	0/5	12602	Layer	0.45	Made ground			
	0/5	12603	Layer	0.05	Asphalt			
	0/5	12604	Layer	0.20	Made ground			
	0/5	12605	Layer	1.8	Natural sand			*2.6*
127	0/2	12701	Layer	0.10	Topsoil			
	0/2	12702	Layer	1.9	Natural sand with gravel			
	0/2	12703	Layer	1.5	Natural clay sand			*3.5*
128	0/3	12801	Layer	0.20	Topsoil			
	0/3	12802	Layer	0.40	Subsoil			
	0/3	12803	Layer	3.2	Natural sand with gravel			
	0/3	12804	Layer	0.20	Natural clay sand			*4.0*
129	10/4	12901	Layer	0.35	Topsoil			
	10/4	12902	Layer	0.80	Natural sand			
	10/4	12903	Layer	1.1	Natural sand			
	10/4	12904	Layer	1.9	Natural chalk			*4.1*
130	9/9	13001	Layer	0.40	Topsoil			
	9/9	13002	Layer	0.85	Natural sand			
	9/9	13003	Layer	0.75	Natural sand			

Trench	Trial pit (TP)	Ctxt No	Type	Thick. (m)	Comment	Finds	No./ wt	*Full Depth of TP (m)*
130 (cont)	9/9	13004	Layer	2.1	Natural chalk			*4.1*
131	9/10	13101	Layer	0.40	Topsoil			
	9/10	13102	Layer	0.85	Natural sand			
	9/10	13103	Layer	0.70	Natural sand			
	9/10	13104	Layer	2.05	Natural chalk and clay			*4.0*
132	9/11	13201	Layer	0.40	Topsoil			
	9/11	13202	Layer	0.50	Natural sand			
	9/11	13203	Layer	0.45	Natural sand			
	9/11	13204	Layer	0.75	Natural sand			

	9/11	13205	Layer	1.9	Natural chalky silt/clay ?glacial channel			*4.0*
133	9/12	13301	Layer	0.30	Topsoil			
	9/12	13302	Layer	0.25	Subsoil			
	9/12	13303	Layer	0.78	Natural sand with gravel			
	9/12	13304	Layer	2.37	Natural silty clay			*3.7*
134	9/13	13401	Layer	0.40	Topsoil			
	9/13	13402	Layer	0.50	Natural sand			
	9/13	13403	Layer	1.10	Natural sandy clay			
	9/13	13404	Layer	1.25	Natural sandy clay			*3.25*
135	10/1	13501	Layer	0.35	Topsoil			
	10/1	13502	Layer	0.30	Subsoil			
	10/1	13503	Layer	0.85	Natural sand and gravel			
	10/1	13504	Layer	0.60	Natural sand and gravel			
	10/1	13505	Layer	1.2	Natural chalk			*3.3*
136	10/26	13601	Layer	0.60	Topsoil			
	10/26	13602	Layer	0.20	Subsoil			
	10/26	13603	Layer	0.80	Natural sand			
	10/26	13604	Layer	2.9	Natural chalk			*4.5*
137	10/11	13701	Layer	0.40	Topsoil			
	10/11	13702	Layer	0.25	Subsoil			

Trench	Trial pit (TP)	Ctxt No	Type	Thick. (m)	Comment	Finds	No./ wt	*Full Depth of TP (m)*
137 (cont)	10/11	13703	Layer	1.45	Natural sand with gravel			
	10/11	13704	Layer	1.4	Natural chalk			*3.5*
138	10/14	13801	Layer	0.40	Topsoil			
	10/14	13802	Layer	0.25	Subsoil			
	10/14	13803	Layer	1.4	Natural sand with gravel			
	10/14	13804	Layer	0.95	Natural chalk			*3.0*
139	10/15	13901	Layer	0.40	Topsoil			

	10/15	13902	Layer	0.20	Subsoil			
	10/15	13903	Layer	0.20	Natural sand with gravel			
	10/15	13904	Layer	1.1	Natural sand with chalk			
	10/15	13905	Layer	1.1	Natural chalk			*3.0*
140	10/16	14001	Layer	0.30	Topsoil			
	10/16	14002	Layer	0.20	Subsoil			
	10/16	14003	Layer	0.60	Natural sand with gravel			
	10/16	14004	Layer	1.3	Natural sand with gravel			
	10/16	14005	Layer	0.60	Natural chalk			*3.0*
141	11/1	14101	Layer	0.40	Topsoil			
	11/1	14102	Layer	0.25	Subsoil			
	11/1	14103	Layer	0.25	Natural sand with gravel			
	11/1	14104	Layer	0.90	Natural sand with chalk			
	11/1	14105	Layer	1.0	Natural chalk			*2.8*
142	10/3	14201	Layer	0.40	Topsoil			
	10/3	14202	Layer	0.30	Subsoil			
	10/3	14203	Layer	1.4	Natural sand with gravel			
	10/3	14204	Layer	1.9	Natural chalk			*4.0*
143	10/5	14301	Layer	0.60	Topsoil			
	10/5	14302	Layer	0.20	Subsoil			
	10/5	14303	Layer	1.1	Natural sand with gravel			
	10/5	14304	Layer	2.1	Natural chalk			*4.0*
Trench	Trial pit (TP)	Ctxt No	Type	Thick. (m)	Comment	Finds	No./ wt	*Full Depth of TP (m)*
144	10/6	14401	Layer	0.40	Topsoil			
	10/6	14402	Layer	0.10	Subsoil			
	10/6	14403	Layer	1.6	Natural sand with gravel			
	10/6	14404	Layer	2.0	Natural chalk			*4.1*

145	Next to 9/4	14501	Layer	0.30	Topsoil			
	Next to 9/4	14502	Layer	0.40	Subsoil			
	Next to 9/4	14503	Layer	1.3	Natural sand with gravel			*2.0*
146	5/12	14601	Layer	0.30	Topsoil			
	5/12	14602	Layer	0.50	Natural sand? with gravel			
	5/12	14603	Layer	1.6	Natural sand with gravel			
	5/12	14604	Layer	0.60	Natural chalk			*3.0*
147	5/13	14701	Layer	0.40	Topsoil			
	5/13	14702	Layer	1.6	Natural sand with gravel			
	5/13	*14703*	*Layer*	*1.0*	*Natural sand with gravel*			*3.0*

APPENDIX 2 CATALOGUE OF FLINT BY CONTEXT

Context:	Category:	Burnt:	Broken:	Total:	Weight: (g)	Description:
401	Flake			1		Large distal-trimming flake with plunging termination.
501	Flake			1		Large secondary flake.
701	Flake			1		Squat, hard-hammer, tertiary flake.
1001	Flake			1		Hard-hammer tertiary flake.
1201	Flake from a hammerstone			1		Relatively large secondary flake with heavy bashing/crushing to proximal end. Probably struck from hammerstone.
1901	Multi-platform flake core			1	79	Glossed condition. A few ?hard-hammer flake removals taken from 2-3 unprepared, cortical platforms. Neolithic/Bronze Age.
2301	Flake			1		Regularly-shaped tertiary flake of a light grey ?chalk flint.
2301	Flake			1		Large secondary flake. Gravel flint.
2301	Flake			1		Distal-trimming flake.
2301	Flake			1		Broad secondary flake.
2301	Flake			1		Tertiary flake with plunging termination.
2301	Blade		1	1		Broad tertiary blade with modern proximal break. Mesolithic or Neolithic.
2301	Blade-like			1		Large, broad, tertiary blade-like flake. Not particularly chronologically distinctive - perhaps Mesolithic or Neolithic, although not unreasonably Bronze Age.
2301	Multi-platform flake core			1	61	Removals taken from two main platforms. Almost Levallois in appearance. Some removals slightly blade-like in dimensions. Probably Neolithic, perhaps mid-late Neolithic.
2501	Flake			1		Broad tertiary flake with fine dorsal flake scars.
2501	Flake			1		Convex secondary flake in a lightly rolled and glossed condition. Gravel flint.
2501	Flake		1	1		Small tertiary flake with proximal break.
2501	Flake			1		Small secondary flake.
2501	Flake			1		Tertiary flake with cortical striking platform.
2501	Flake			1		Large side-trimming flake. Probably hard-hammer struck.
2501	Flake			1		Secondary flake.
2501	Flake			1		Tertiary flake with platform edge abrasion.
2501	Flake		1	1		Regularly shaped tertiary flake with recent distal break. Platform edge abrasion. Perhaps broadly Neolithic?
2501	Flake		1	1		Heavy recent damage to edges.
2501	Flake			1		Secondary flake with hinge termination.
2501	Flake			1		Tertiary flake, cortical striking platform.
2501	Flake		1	1		Tertiary flake with recent distal break.
2501	Flake			1		Thick, angular, distal-trimming flake. Modern damage to edges.

Context:	Category:	Burnt:	Broken:	Total:	Weight: (g)	Description:
2501	Flake			1		Distal-trimming flake, possibly with some retouch although difficult to distinguish from later damage.
2501	Blade			1		Tertiary blade with abraded cortical striking platform. Mesolithic/Neolithic?
2501	Blade-like			1		Secondary blade-like flake. Gravel flint. Undiagnostic.
2501	Blade-like			1		Large secondary blade-like flake with relatively heavy modern damage to edges. Technologically undiagnostic.
2501	Blade-like	1	1	1		Tertiary blade-like flake with distal break.
2501	Chip			1		Small chip with abraded platform edge.
2501	Multi-platform flake core			1	89	Neatly worked flake core in lightly rolled condition. Several of the removals blade-like in form. Limited areas of platform edge abrasion.
2501	Side scraper			1		Minimally retouched side scraper manufactured on secondary flake that has been partially struck down a thermal fracture. Abrupt retouch right-hand side. Slightly rolled and glossed appearance. Gravel flint. Probably Neolithic or Bronze Age.
2501	Retouched flake			1		Distal-trimming flake with plunging termination. Short length of retouch to distal edge; use-wear to both lateral margins. Gravel flint. Probably Neolithic/Bronze Age.
4001	Flake			1		Tertiary flake.
4501	Scraper on a non-flake blank			1		Relatively large thermal fragment or possible flake struck down a frost-shatter. Abrupt retouch to one edge. Probably Neolithic or Bronze Age.
5101	Flake			1		Side-trimming flake. Rolled and glossed condition.
5101	Flake			1		Broad tertiary flake with modern damage to left-hand edge.
5101	Multi-platform flake core			1	176	Frost-shattered. No platform preparation.
5101	End scraper			1		Small, neatly retouched scraper, almost of thumbnail dimensions. Probably Neolithic or earlier Bronze Age.
5102	Blade-like			1		Blade-like tertiary flake with rough platform edge abrasion.
5401	Multi-platform flake core			1	154	Frost-shattered, light grey flint. Well reduced flake core, with battering to some parts of surface - possibly used briefly as hammerstone?
5601	Flake			1		Small tertiary flake.
5801	Flake			1		Thick secondary flake, probably hard-hammer struck.
5801	Flake		1	1		
5801	Flake			1		Secondary flake of light grey flint.
5801	Flake			1		Small tertiary flake.

5801	Chip			1		
5801	Multi-platform flake core			1	78	Piece of gravel flint exhibiting a limited number of large flake removals. Neolithic / Bronze Age.

Context:	Category:	Burnt:	Broken:	Total:	Weight: (g)	Description:
5802	Flake			1		Very large preparatory flake with thick, stained cortex. Possibly from a surface chalk flint deposit. Lightly rolled condition.
5802	Flake			1		Tertiary flake with cortical striking platform.
5802	Chip			1		
5802	Retouched flake		1	1		Broad tertiary flake with very neat, invasive retouch to left-hand edge - truncated by recent distal break. Possible knife or scraper fragment. Neolithic?
6101	Laurel leaf			1		Located N of BH 5/25. Well worked laurel leaf made on thin thermal blank. Invasive bifacial retouch, between 10-25% cortex left on each side. Early Neolithic.
6501	Flake			1		Distal-trimming flake with rough platform edge abrasion.
6501	Flake			1		Thick, angular, tertiary flake. Probably hard-hammer struck. Glossed condition.
6501	Flake			1		Thick, angular tertiary flake.
6501	Flake		1	1		Tertiary flake with distal break.
6501	Flake		1	1		Tertiary flake. Rather battered condition.
6501	Flake			1		Angular tertiary flake of light grey flint.
6501	Flake			1		Broad distal-trimming flake. Gravel flint. Neolithic / Bronze Age.
6501	Retouched flake	1		1		Probable platform edge rejuvenation flake, with limited length of retouch to left-hand side forming convex edge. Glossed - lightly burnt.

APPENDIX 3 BIBLIOGRAPHY AND REFERENCES

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Pitts, M W, and Jacobi, R M, 1979 Some aspects of change in flaked stone industries of the Mesolithic and Neolithic in southern Britain, *J. Archaeol. Sci.* **6 (2)**, 163-177

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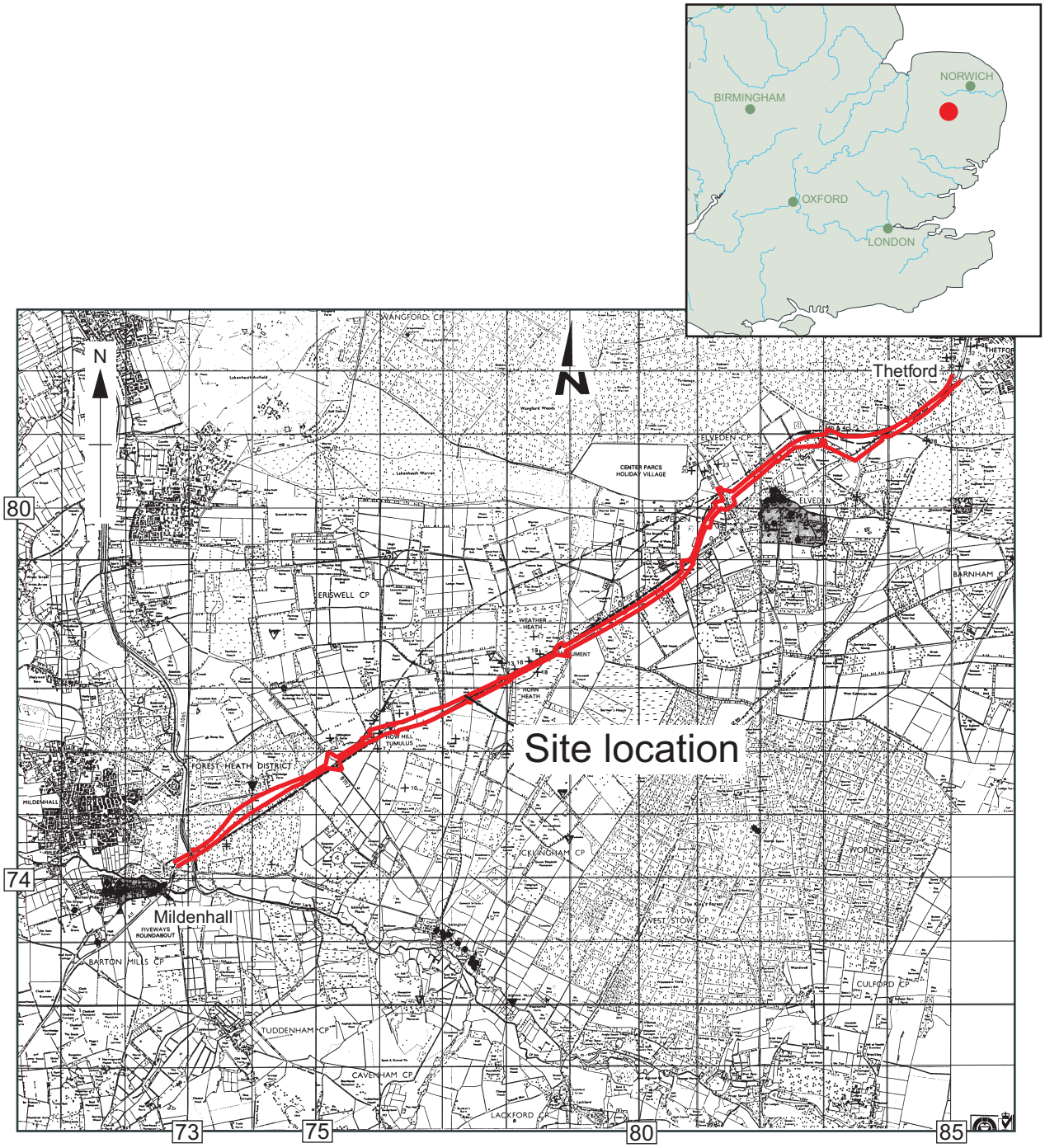
APPENDIX 4 SUMMARY OF SITE DETAILS

Site name: A11 Fiveways to Thetford Road Improvements Scheme
Site code: A1102
Grid reference: Fiveways NGR TL 727 741 to Thetford NGR TL 850 818
Type of evaluation: Archaeological monitoring and recording action during geotechnical trial pitting.
Date and duration of project: 9th July to 6th August 2002 and 17th to 19th September 2002
Area of site: approximately 14 km
Summary of results: Oxford Archaeology (OA) carried out an archaeological monitoring and recording exercise during geo-technical investigations along the preferred route option of proposed road improvements of the existing A11 highway running from Fiveways in Suffolk to Thetford in Norfolk on behalf of David Huskisson Associates. The archaeological monitoring and recording action was maintained during geo-technical works carried out along the complete 14 km extent of the preferred route. A small number of undated features possibly representing the remains of linears/pits were recorded, as were three significant flint scatters, indicative of potential prehistoric occupation activity along the proposed route.
Location of archive: The archive is currently held at OA, Janus House, Osney Mead, Oxford, OX2 0ES, and will be deposited with the Suffolk Archaeological Unit in due course.



Scale 1:100,000

Figure 1: Site location

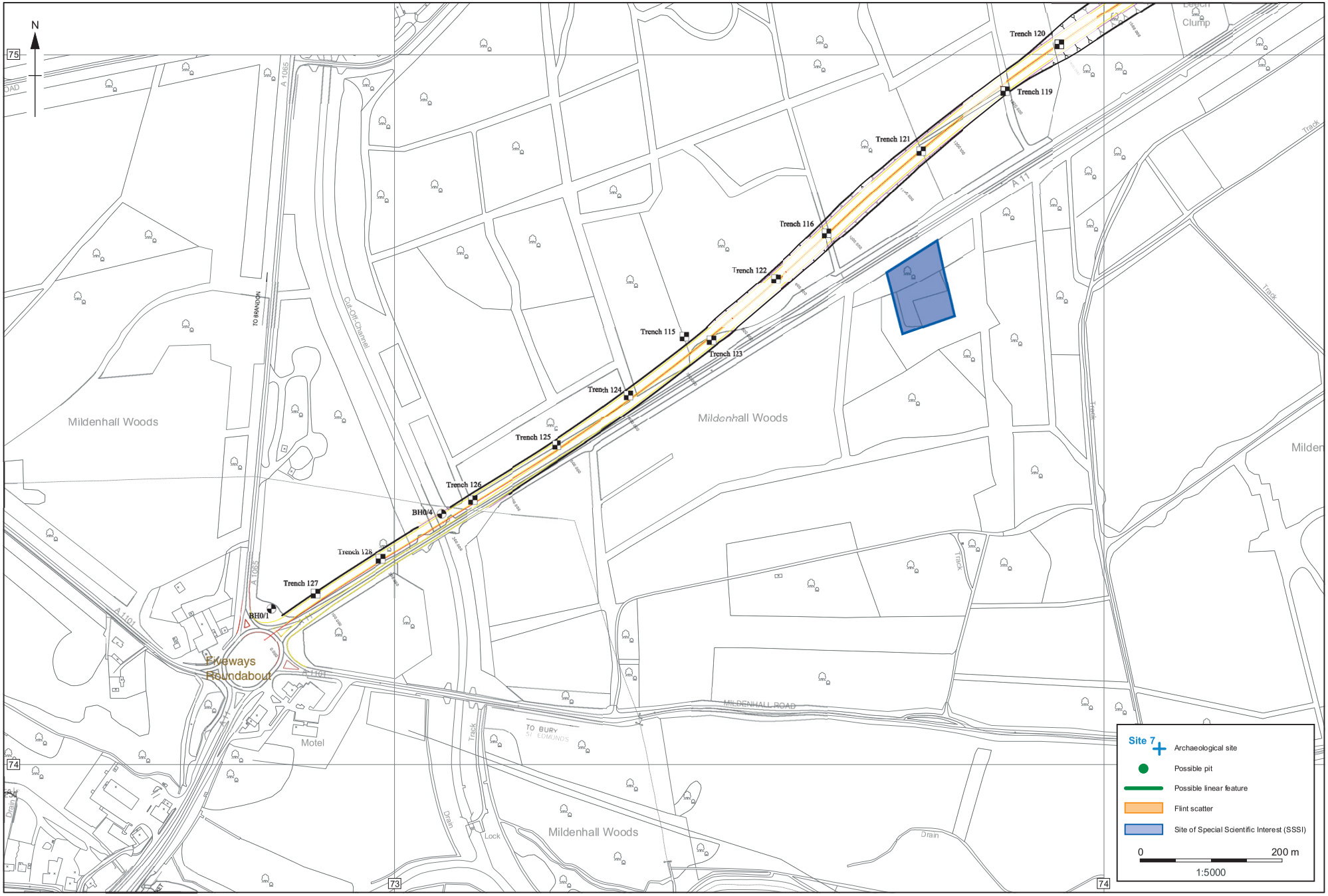


Figure 2: Location of trenches / trial pits showing recorded features and flint scatters

Figure 3: Location of trenches / trial pits showing recorded features and flint scatters

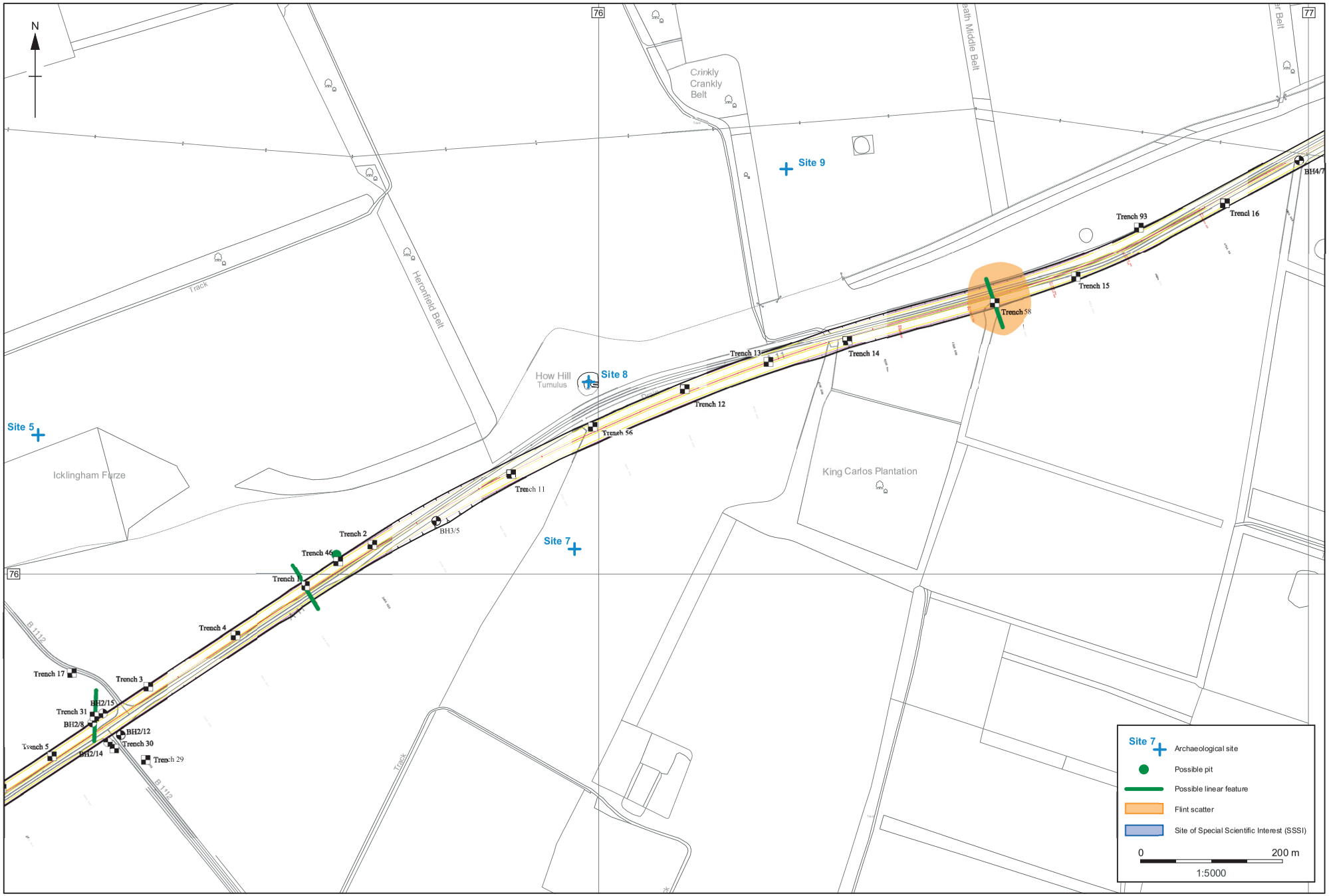


Figure 4: Location of trenches / trial pits showing recorded features and flint scatters

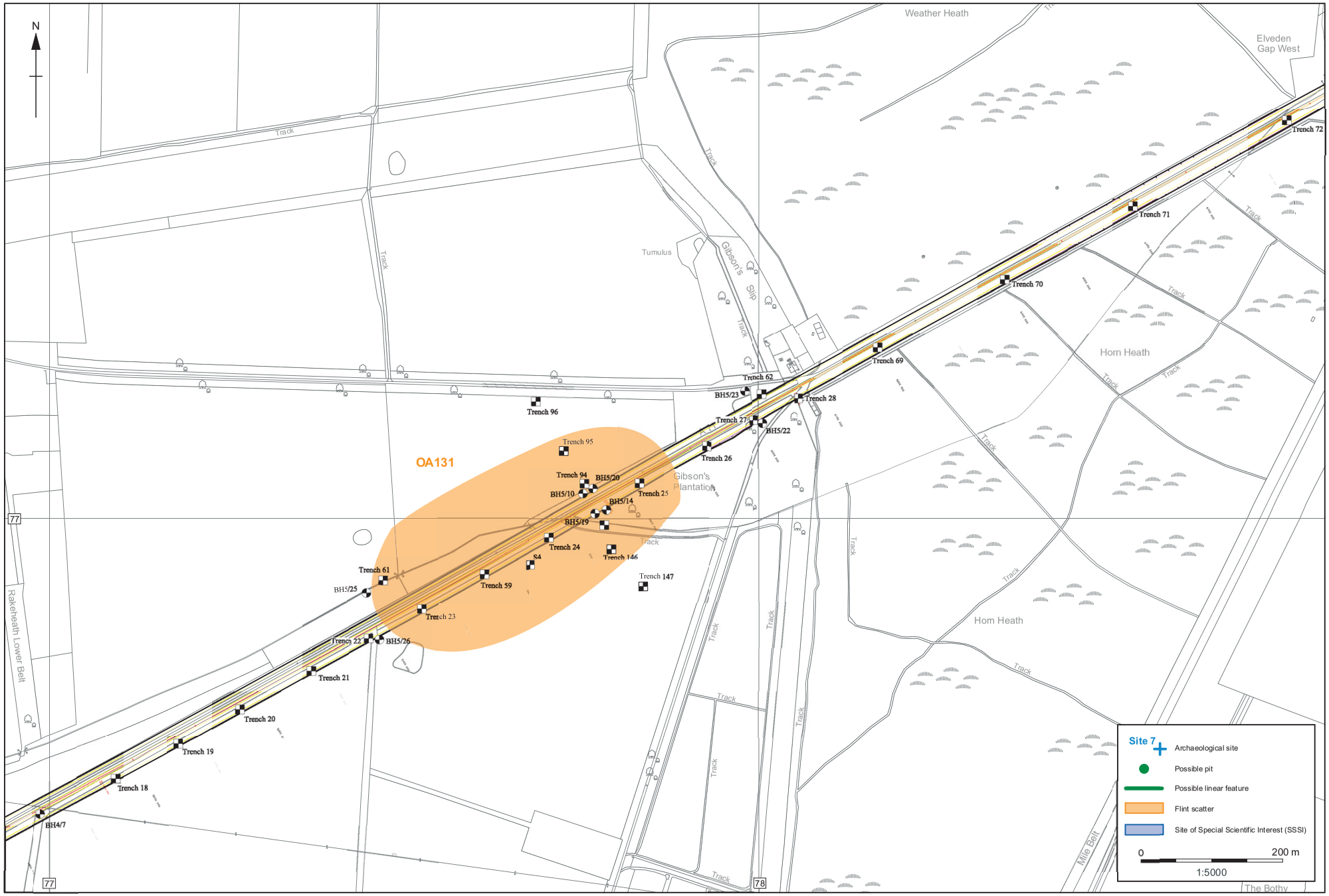


Figure 5: Location of trenches / trial pits showing recorded features and flint scatters

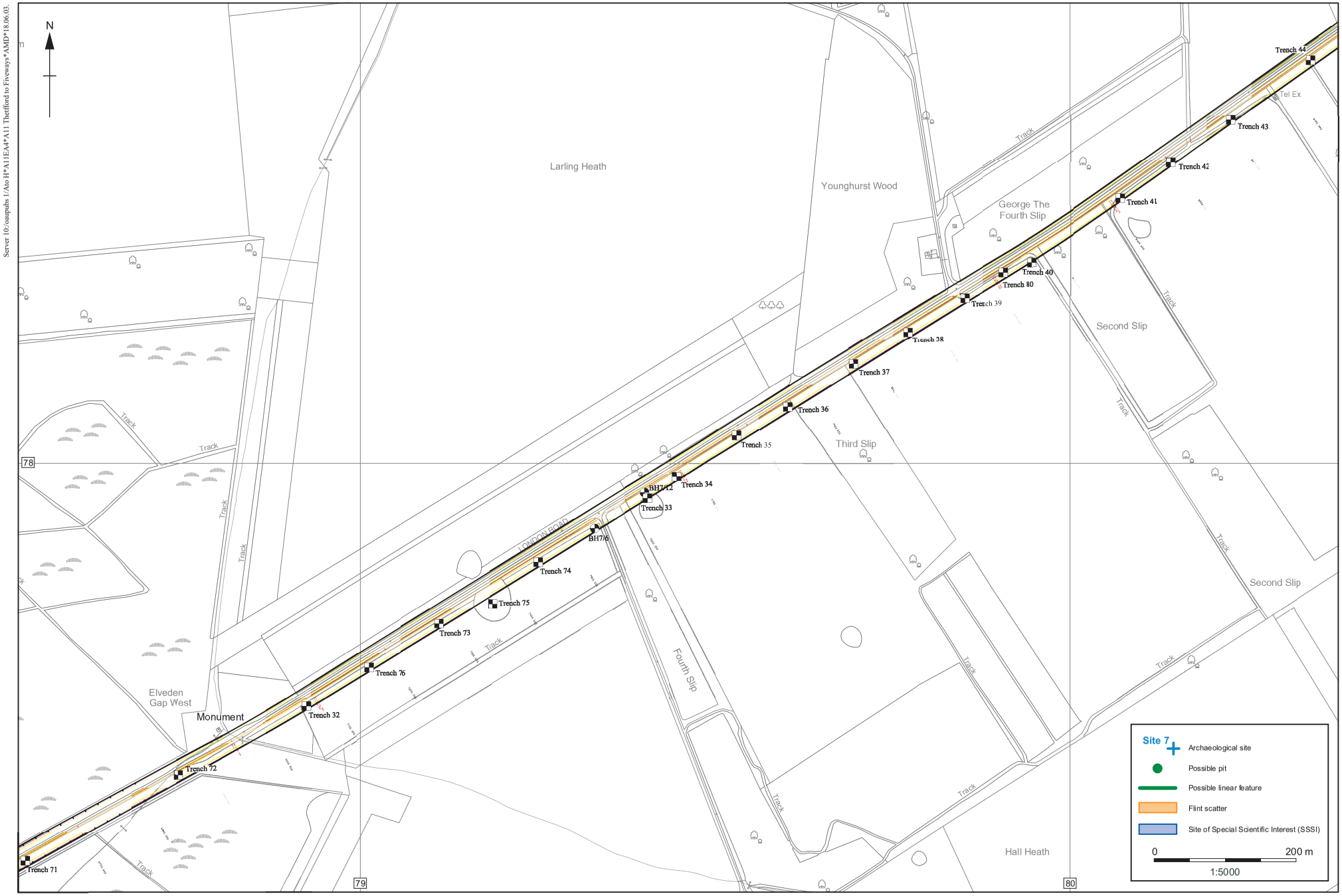


Figure 6: Location of trenches / trial pits showing recorded features and flint scatters

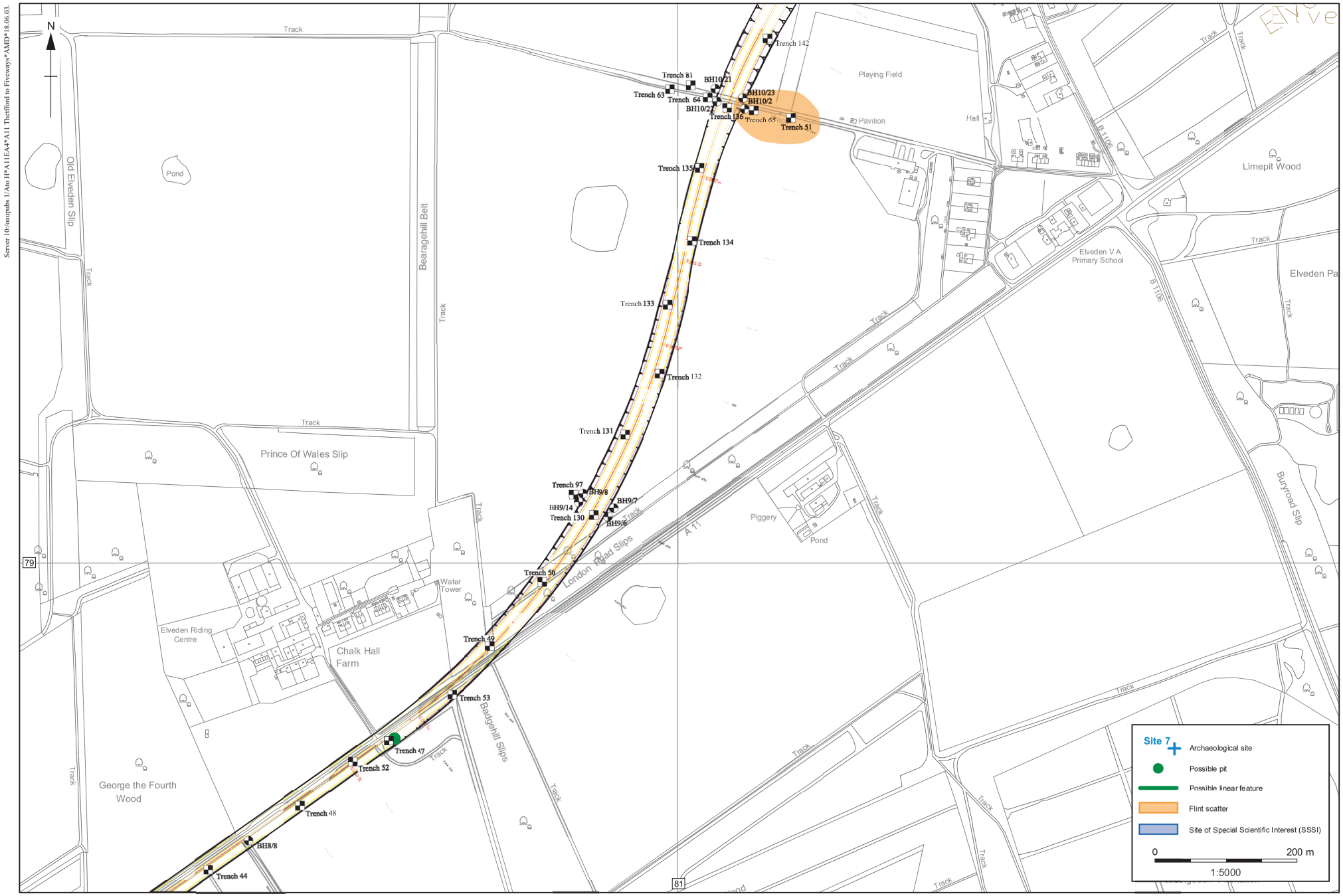


Figure 7: Location of trenches / trial pits showing recorded features and flint scatters

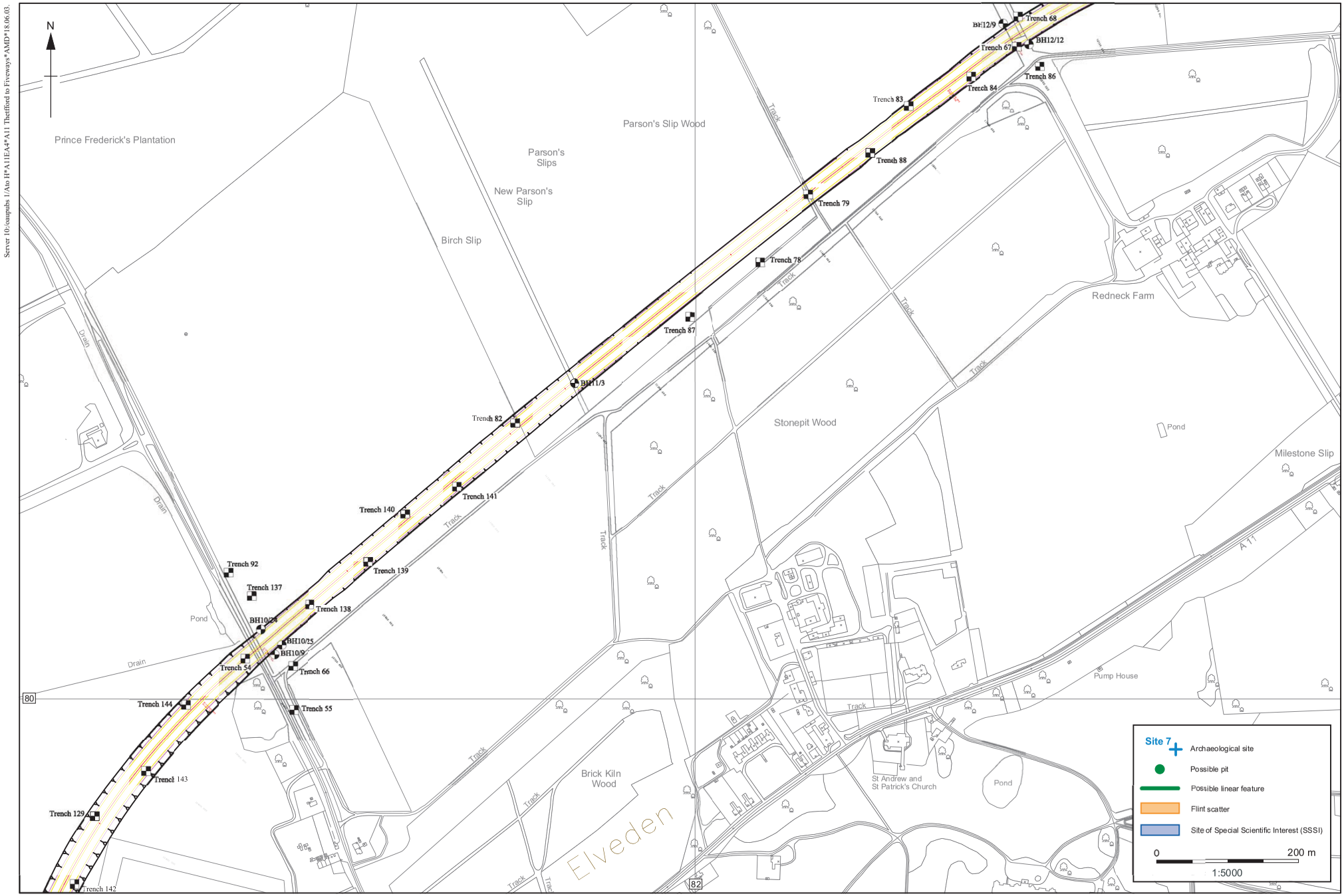


Figure 8: Location of trenches / trial pits showing recorded features and flint scatters

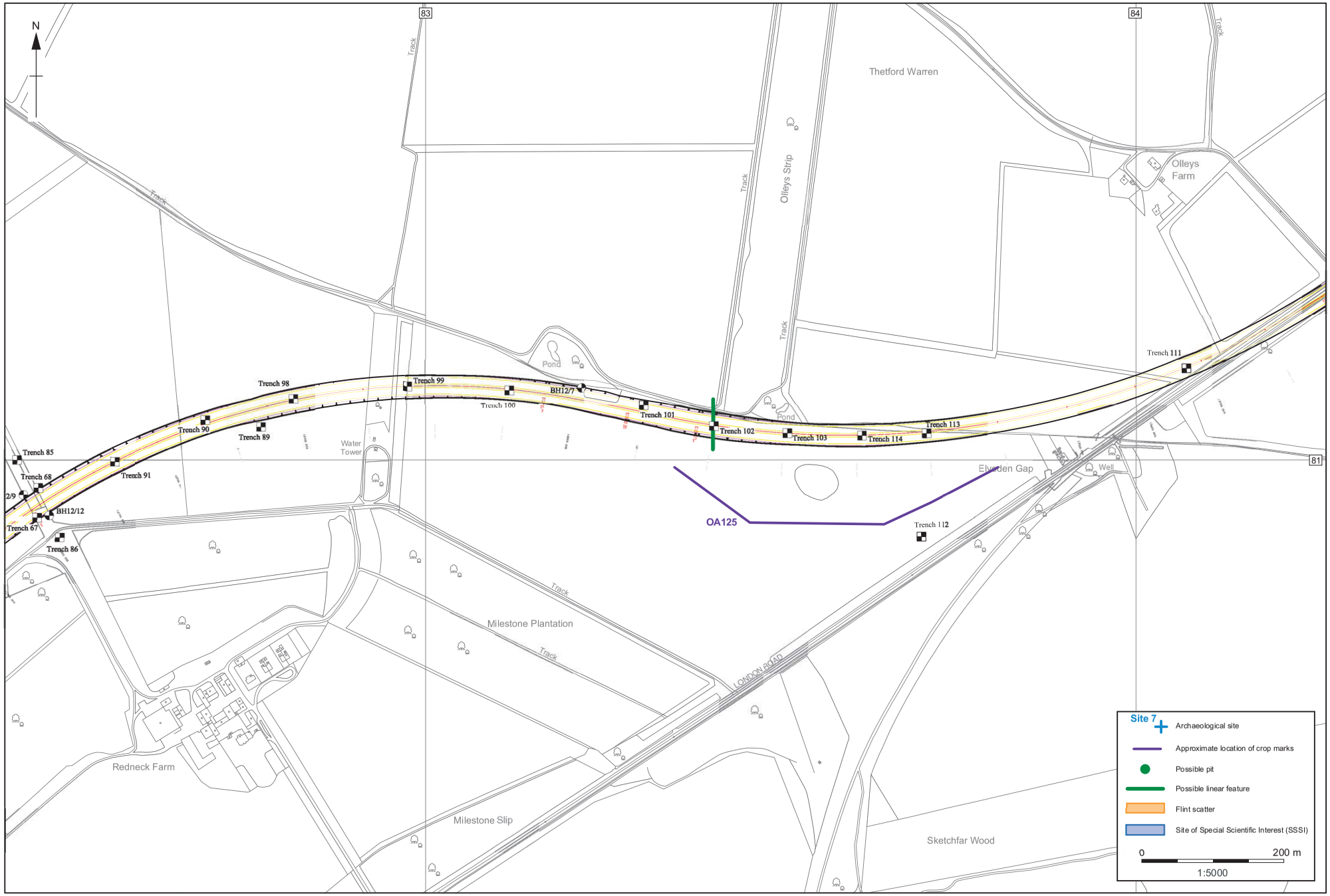


Figure 9: Location of trenches / trial pits showing recorded features and flint scatters

Figure 10: Location of trenches / trial pits showing recorded features and flint scatters

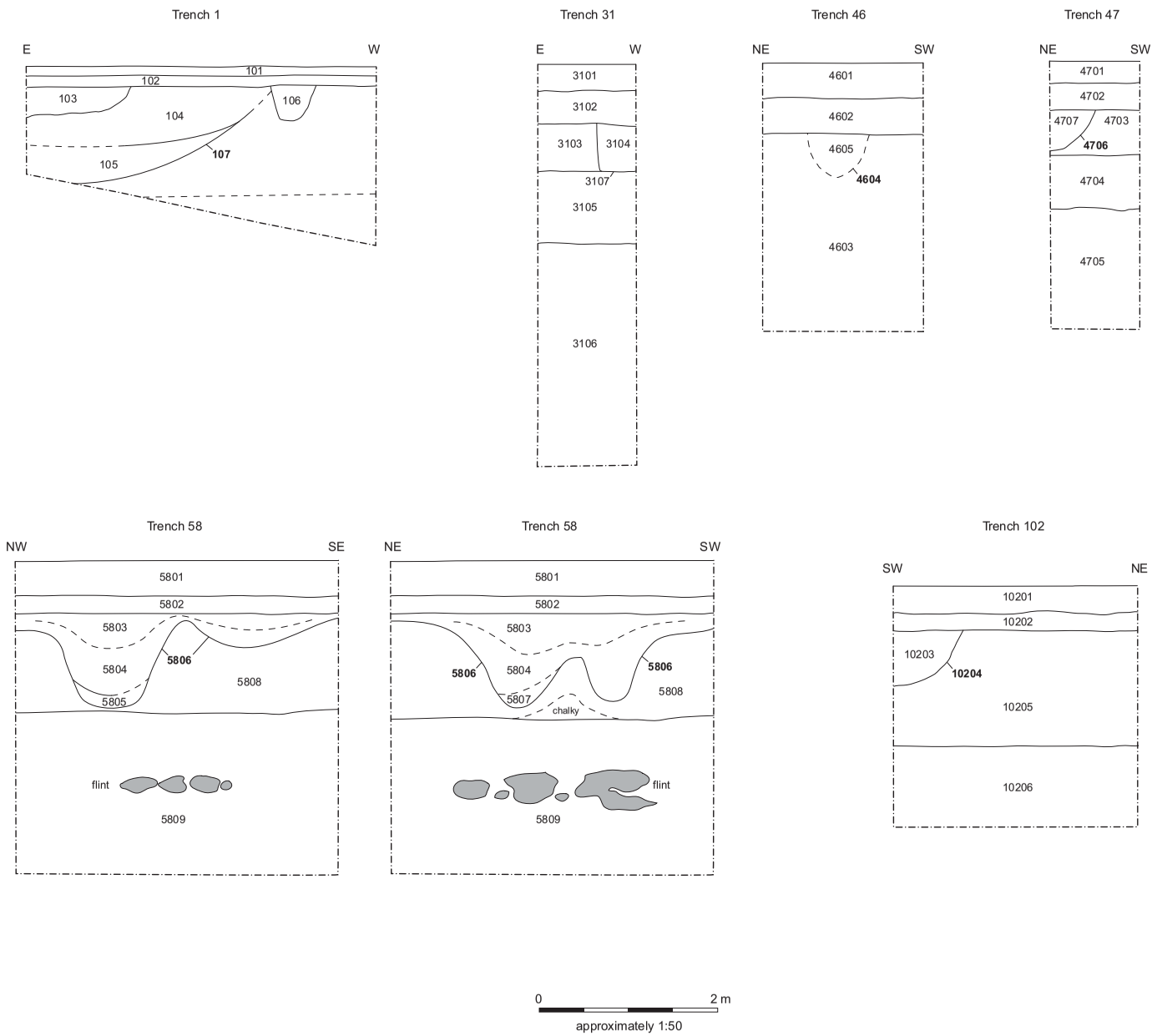


Figure 11: Trench sections

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APPENDIX E

Archaeological Field Walking

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NORFOLK ARCHAEOLOGICAL UNIT

Report No. 940

A11 Fiveways to Thetford Road Improvements Scheme, Phase 1: Fieldwalking and Topographic Survey

Draft

Mavis Whitmore

July 2004

Contents

Figures

Location:	A11 Fiveways to Thetford Road Improvements Scheme
Grid Ref:	TL 728 742 to TL 851 819
Date of Fieldwork:	31st March to 13th July 2004

Summary

Norfolk Archaeological Unit undertook a programme of fieldwalking and topographic survey along the line of the A11 Fiveways to Thetford Road Improvements Scheme, in accordance with a Specification of Works prepared by Oxford Archaeology.

Due to the potential of damage to root crops and the height of some of the cereal crops, only 1.8km of the 6km route specified for fieldwalking was available for investigation. In total four fields, in Suffolk, were fieldwalked between the 31st March and the 2nd April 2004.

Nine hundred and fifty-seven worked flints, along with quantities of burnt flint, nine sherds of pottery (prehistoric, Romano-British and medieval) and a George III halfpenny were recovered from across the four fields. The quantities of flint are indicative of Mesolithic, Neolithic and Early Bronze Age settlement and industrial activity. Distribution plots detailing the spread and density of the worked flint appear to show a number of distinct concentrations. However these concentrations are thought to represent tillage-induced patterning rather than specific locations of prehistoric activity.

The topographic survey involved a detailed walkover of a 100m wide, 1.3km long corridor, centred on the existing carriageway of the A11 where it passed through Mildenhall Woods. This work was started on the 5th July and completed on the 13th July 2004.

The survey revealed a number of intersecting woodland banks probably dating from the 19th century. A more substantial woodland bank was noted following the crest of the former Warren Hill. A south-westwards change in the alignment of this bank corresponded with the position of a partially infilled curvilinear ditch surrounding a mound approximately 8m wide and 1.5m high. The ditch and mound have been tentatively interpreted as a barrow. A detailed survey of these earthworks was not possible due to the density of the understory vegetation.

Along some parts of the survey corridor the understory vegetation was so dense that similar topographic features may have been missed. In areas of pine plantation the use of forestry ploughs to create the ridges on which the trees were planted had probably removed any evidence of topographic features.

1.0 Introduction

In December 2003 the Norfolk Archaeological Unit was invited by the Highways Agency to tender for a programme of archaeological field evaluation in connection with the proposed A11 Fiveways to Thetford Road Improvements Scheme. The Scheme's Environmental Co-ordinators, David Huskisson Associates, appointed Oxford Archaeology to act as archaeological consultants on behalf of the Highways Agency.

The proposed scheme of road improvements, junction works and associated landscaping involves the dualling of the existing A11, with a slight off-line divergence in Mildenhall Woods and north of Elveden. Oxford Archaeology prepared a Specification of Works for a phased programme of archaeological field evaluation

designed to characterise the nature of the archaeological resource that will be affected by the Scheme. The results of the archaeological evaluation work will provide information that can advise future decisions regarding appropriate mitigation strategies (Oxford Archaeology 2003c).

The Specification detailed the requirement for three phases of archaeological evaluation work that need to be undertaken. Phase 1 involved the fieldwalking of a 200m by *c*. 6km corridor centred on on-line and off-line routes and a cultural topographic survey of a 70m by 1.3km off-line corridor through Mildenhall Woods. Phase 2 required the geophysical survey of five known archaeological sites and/or areas of high archaeological potential. Phase 3 will involve the trial trenching of areas of archaeological potential, the identification of which are to be partially influenced by the results of the work carried out in Phases 1 and 2.

A Project Design (NAU Ref: E1695) was prepared, in line with the Specification of Works produced by Oxford Archaeology, detailing the manner in which Norfolk Archaeological Unit proposed to undertake the fieldwork, post-excavation analysis, reporting, and the preparation and deposition of the project archive, including the material archive. Specific Project Designs were produced detailing the methodology to be employed for each phase of the work with amendments submitted where changes in the circumstances of each phase were identified.

This report sets out the results of the Phase 1 fieldwalking and cultural topographic survey work.

2.0 Geology and Topography

The proposed road improvements scheme is centred on the 14km long single carriageway section of the A11 located between the Fiveways roundabout junction east of Barton Mills, Suffolk (NGR TL 728 742), and the roundabout junction at the southern end of the Thetford Bypass immediately to the west of Thetford, Norfolk (NGR TL 851 819). From its southern end the scheme corridor follows the line of the current road from south-west to north-east, swinging north-east around the village of Elveden, Suffolk, before resuming its alignment along the existing carriageway to join with the Thetford Bypass.

The solid geology for the corridor is predominately Middle Chalk of Cretaceous age with a small area of Lower Chalk at its south-western end. This is overlain by a series of deposits of chalky till (boulder clay), chalky, glaciofluvial and aeolian drift, and terrace gravel of Pleistocene age. Soils for the route corridor comprise typical brown calcareous and argillic sands, brown calcareous earths and sandy brown rendzinas of the Methwold, Worlington, Swaffham Prior, Newmarket 1 and Newport 4 associations (Hodge *et al* 1983).

The topography is characterised by gentle or moderate slopes and flat or slightly undulating landscapes. Surface elevations rise from *c*.10m AOD at the south-western end of the corridor to *c*.40m AOD at its north-eastern end.

Landuse along the length of the Scheme consists of a mixture of arable, woodland and heathland. The corridor also runs through the Weather and Horn Heaths and Breckland Farmland Sites of Special Scientific Interest.

3.0 Archaeological and Historical Background

A Stage 2 DMRB Environmental Assessment report on the cultural heritage was produced by Oxford Archaeology. This Assessment reviewed all available data on archaeological sites and finds within a 1km corridor centred on the line of the existing A11 (Oxford Archaeology 2003a). The findings of three desk-based assessments (John Samuels Archaeological Consultants 1994, Oxford Archaeological Unit 2000a, 2000b) were incorporated into the Assessment. The results of a walkover survey (Oxford Archaeological Unit 2000c) and an archaeological watching brief carried out during geotechnical test pitting (Oxford Archaeology 2002, 2003b) were also included. This produced a comprehensive synthesis of the archaeological resource to be found within the study corridor and the likely impact of the Road Improvements Scheme upon them.

The Assessment found that a total of 155 archaeological sites and/or findspots and twelve listed buildings were located within the study area. These included the scheduled How Hill Tumulus and a Grade II Listed war memorial adjacent to the existing A11 carriageway. An impact assessment carried out as part of the review identified that the Scheme would have a direct impact on twenty-five known sites. These sites include six concentrations of Neolithic/Bronze Age worked flint, possible medieval ridge and furrow remains, cropmarks, numerous earthworks and boundary features and Second World anti-glider ditches. The remaining six sites comprise four linear features or pits and two features of periglacial origin recorded during geo-technical test pitting by the watching brief. Nine of these sites were identified by the assessment to be of local or district importance with the importance of the remaining sixteen sites categorised as uncertain and in need of further clarification.

4.0 Fieldwalking

The programme of fieldwalking concerned the collection of a representative sample of artefactual material from the surface of the ploughsoil in order to identify any non-upstanding archaeological remains threatened by the proposed road to the A11. The work was undertaken following the guidelines set out in the documents *Standard and Guidance for Archaeological Field Evaluations* (Institute of Field Archaeologists 1994) and *Standards for Field Archaeology in the East of England* (Gurney 2003).

The Specification of Works required that fieldwalking was to be carried out within a 200m by *c*.6km corridor through arable land in Suffolk and centred on on-line and off-line routes and areas of junction . Cropping regimes within this corridor comprised a mixture of cereal and vegetable crops at various stages of growth.

Due to the unavoidable late commencement date of the field walking, it was impossible to balance the disruption and potential damage to crops, optimal surface conditions for artefact collection and the projected time-scale required for the completion of the work. Therefore only fields with minimal growth of cereal crops were field walked, equating to *c*.1.8km of the specified 6km corridor.

4.1 Methodology

The field walking survey was based on the National Grid, with each field surveyed divided into hectare-sized units (100m by 100m). Each individual hectare unit was further subdivided with a 20m grid to allow detailed surface collection. A single transect within each 20m by 20m grid square was fieldwalked in straight line running parallel to the alignment (or projected alignment) of the A11 carriageway.

Each grid square was assigned an alphanumeric identifier. This was created out of a combination of the initials of the field name, combined with a sequential context number. The designated field names and field numbers were those used by Elveden Farm Estates.

All categories of archaeological material visible on the surface were collected and bagged by collection unit. Modern material and post-medieval brick and tile were not retained and there presence only noted. A photographic record comprising both black and white and colour photographs was created to show field and surface conditions at the time of collection.

Pattern recognition involved the plotting of different artefact categories by density per collection unit at a scale of 1:2,500 for the fields investigated.

4.2 Results

Field 4, Parsons Slip (PS)

TL 8330 8080 centred

Fig.2, 3

This field lay to the north-east of Elveden, on the proposed off-line route. Parsons Slip was rectangular in shape, measuring 430m in length and 360m wide. Topographically this field sloped gently upwards from north-east to south-west.

The field walking conditions were excellent with a well-weathered and settled ground surface and with dry, sunny weather. A crop of spring wheat, grown to a height of 50mm, did not hinder artefact visibility. The field walking was carried out on the 31st March 2004.

The light orangey brown colouration of the topsoil and the presence of significant patches of degraded chalk suggested that ploughing of this field had significantly disturbed the underlying natural.

A total of seventy pieces of worked flint and sixty-four fragments of burnt flint were recovered from Parsons Slip. Five sherds of highly abraded pottery (prehistoric, Romano-British and medieval), were also collected as well as a very worn George III half penny with a date of 1806. Occasional fragments of modern brick and tile were also noted but not retained.

Field 199, Gibsons North (GN)

TL 7444 7692 centred

Fig.4, 5

This field lay immediately to the west of Weather Heath adjacent to the northern edge of the A11 carriageway. The field was triangular in shape, with a maximum length of 480m and width of 290m. Topographically the field sloped gently upwards from east-to-west but with a slightly lower depression running north-to-south across the centre of the field. A stand of trees in the south-western corner of the field marginally restricted the area available for fieldwalking.

The condition of the field for walking was excellent. The surface was well weathered and settled and with crop growth (maize) of 50-100mm. The weather conditions were dry and overcast, becoming sunny later. The field was walked on the 1st April 2004.

Patches of orange sand were noted in the topsoil at the eastern end of the field and patches of orange clay and chalk towards the western end of the field indicated that recent ploughing had disturbed the underlying natural soils. A line of flints along the northern field boundary suggested that the field had been de-stoned in the recent past, although ploughing had merged some of the stones back into the topsoil on this side.

A total of 285 worked flints and thirty-seven burnt flint fragments were recovered from Gibson North.

Field 334, Deal (D)

TL 7676 7642 centred

Fig.6, 7

This field lay immediately to the south of the A11 carriageway. A 470m long, slightly curving, strip was fieldwalked. The field had been recently ploughed and the ground surface was soft under foot and had not weathered. The field walking was started on the 1st April 2004 in dry and sunny weather conditions and completed on the 2nd April 2004 in heavy rain. Although the field walking conditions were generally poor, a significant number of artefacts were recovered, suggesting that in ideal conditions the number of artefacts that could have been recovered would probably have been much greater.

The topsoil showed no evidence for the disturbance of the underlying natural during ploughing. The field appeared to be relatively free of stones with the exception of the northernmost 10m wide strip, in which a noticeable increase in the number of larger flints was noted. This suggests that the field had been de-stoned in the recent past, but that the stone line had been ploughed back into the topsoil along this edge.

Two hundred and fifty-eight struck flints, forty-six burnt flints and a solitary sherd of prehistoric pottery were recovered from Deal.

Field 336, 40 Acres (FA)

TL 7724 7668 centred

Fig.8, 9

This field lay to the south of the present A11 carriageway, adjacent to and east of Field 334 (Deal). A strip with a maximum length of 520m was field walked on the 2nd of April in dry and sunny weather conditions.

Surface conditions were well weathered and settled with growth of 50-100mm of spring wheat visible. Recent ploughing had clearly not disturbed the underlying natural or subsoil deposits. No obvious evidence for de-stoning was noted.

A total of 344 worked flints, twenty-eight burnt flints and solitary sherds of prehistoric and medieval pottery were recovered.

5.0 Topographic Survey

The Specification of Works required a cultural topographic survey to be undertaken within a 70m by 1.3km on-line corridor through Mildenhall Woods. This work was designed to investigate and characterise a series of known earthworks (OA 61, 103, 128, 129, 130) and to identify any previously unknown features. Guidelines for undertaking topographic survey, set out in *Standards and Guidance for Archaeological Field Evaluations* (Institute of Field Archaeologists 1994) and *Standards for Field Archaeology in the East of England* (Gurney 2003), were followed.

After an examination of the ground conditions within Mildenhall woods it was decided to expand the survey corridor to a width of 100m, centred on the existing carriageway of the A11. Where topographic features were noted the survey area was expanded beyond the limits of the corridor to allow the earthworks to be better understood.

It quickly became apparent after an initial walkover of the survey corridor that the undergrowth within the woods was heavily infested with deer ticks. This had an important influence on the way the survey was carried out. It was deemed that the potentially hazardous implications of tick bites precluded detailed recording of identified earthworks due to the necessity of prolonged contact with the understory vegetation that such work would entail.

This work was started on the 5th July 2004 and completed on the 13th July 2004.

5.1 Methodology

It was decided that the work would be undertaken as a walkover survey with the corridor on each side of the existing carriageway walked in three transects, located at 10m, 30m and 50m respectively from the edge of the road.

Where topographic features were noted they were located within the Ordnance Survey grid utilising GPS and sketch plans produced outlining key features of the earthworks. Due to the density of the tree canopy overhead, an accuracy of 10m was the closest that could be obtained for any GPS reading and in some instances no reading could be obtained at all.

5.2 Results

Fig.10

Seven distinct zones of vegetation could be identified during the walkover survey. The type of vegetation present had an important bearing on both the visibility and survival of landscape features within each zone. The results of the survey of each zone are presented separately. In some areas the vegetation was so dense it made identification of earthworks impossible.

Zone 1

A 715m long area of pine plantation composed of pines no more than 20 years old planted in evenly spaced rows on east-to-west aligned, man-made ridges. No understory vegetation was present and thus the potential visibility of any topographic features was excellent.

No earthworks were observed and it is likely that the creation of the distinct ridges (and attendant furrows) by forestry plough probably have removed any traces of earlier topographic features.

Zone 2

This zone comprised mixed deciduous trees and with a variable density of understory vegetation, mainly nettles, long grasses and ferns. The visibility conditions for the observation of possible topographic features was equally variable. This zone ran for 300m.

At the eastern end of Zone 2 many of the larger trees (predominantly beech) had been coppiced and the area was well established. This view is reinforced by the presence of a rectangular block of woodland (called Beech Clump) at this point on both the 1882-1898 and the 1836 OS maps. No woodland boundaries related to this block were noted.

The south-western end of Zone 2 was delineated by a relatively substantial woodland bank (OA130). This bank was situated on the crest of a ridge, referred to as Warren Hill on the 1836 OS map, before sloping down towards the cut-off channel. This bank measured approximately 1.2m in height and had a steep south-western scarp and a gentle north-eastern slope. The ground surface to the east of the bank was probably 1m higher than the ground level west to the west of it. At the base of the south-western slope traces of a heavily overgrown trackway were evident. This bank probably represents a woodland boundary and is visible on the 1836 OS map.

At the junction of this bank with the modern A11 the bank curved slightly south-westwards. A partially surviving ring ditch, enclosing a mound 8-9m in diameter and approximately 1.5m high at its centre, lay directly to the east of the woodland bank. The ditch surrounding this mound was only extant on its western, northern and eastern sides. At its widest point the ditch measured 1.50m wide and 030m deep. This feature has been tentatively interpreted as a barrow of probable Bronze Age date. The bank and barrow are represented schematically in Fig. 11.

Zone 3

This zone comprised mature Scots Pine plantation, with the trees set out in rows with dense fern undergrowth. The undergrowth made the observation of any extant topographic features very difficult and no features were noted, even the characteristic plantation ridges were not immediately apparent. This zone extended south-westwards for 340m.

Zone 4

Zone 4 ran for 225m and was composed of mixed deciduous trees with nettles and grasses forming the understory vegetation. Visibility was reasonably good and no obvious topograhic features were noted.

Zone 5

This zone extended for 300m and comprised well-spaced mature Scots Pines with understory vegetation of predominantly long grasses with occasional clumps of nettles and ferns. The trees had been clearly set out in rows and situated on the artificial ridges characteristic of pine plantations.

It is probable that the creation of these artificial ridges had removed any potential topographic features.

Zone 6

This zone was composed of mixed deciduous trees with variably light to dense understory vegetation composed of nettles, long grasses and ferns. Visibility was very poor in areas of dense ferns but was otherwise reasonably good. The zone extended for 535m up to the line of the woodland bank (OA130) seen in Zone 2 on the north side of the A11 carriageway. On this side of the road the bank was much less pronounced and its attendant trackway not visible at all.

Towards the western end of this zone a number of shallow woodland banks were noted. These banks formed a complex pattern and seemed to converge at a point approximately 20m to the south of the walkover survey corridor. They are likely to represent part of the same series of earthworks as those noted further to the east as OA55.

The majority of these banks measured approximately 1.5m wide and only rose to a height of 0.20-0.30m above the woodland ground surface. The exception to this was the pair of banks curving away to the south-east. These survived to a height of 1m and formed the boundary to a probable trackway. Some of these banks are present on the modern OS map, on the OS map of 1882-1898 and on the 1836 OS map. Although outside the study corridor, a basic survey of the intersection of these banks was undertaken with locational points taken using GPS. The schematic results of this are shown in Fig.11.

Zone 7

Zone 7 extended for 300m down from the crest of the ridge towards the cut-off channel. The vegetation comprised mixed deciduous trees with dense understory ferns and long grasses. The potential for the observation of any topographic features was very poor and none were noted. The east edge of the survey corridor ran alongside the Rex Graham Reserve, a substantial borrow pit established as to protect a colony of the extremely rare Military Orchid.

6.0 The Finds

The finds and environmental material from the fieldwalking is presented in tabular form with basic quantitative information in Appendices 1-3. In addition to this summary, more detailed information on specific finds is included in separate reports below.

6.1 Pottery

Five sherds of prehistoric pottery weighing 20g were recovered from five contexts. The assemblage was comprised solely of undecorated body sherds and was not closely datable. Three of the sherds, from contexts (PS40), (D46) and (PS83), contained coarse flint tempering suggesting an Earlier Iron Age or perhaps earlier Neolithic date. Two further sherds of probable Iron Age date were recovered from contexts (PS86) and (FA87).

A solitary sherd of Romano-British Grey Ware was found in context (PS84) and two sherds of abraded medieval coarse ware came from contexts (PS77) and (FA88).

6.2 Coin

A very worn copper-alloy George III half penny, with a date of 1806, was found in context (PS40).

6.3 Worked Flint

A multi-period assemblage of 957 pieces of Mesolithic, Neolithic and Bronze Age worked flint was recovered by fieldwalking. Table 1 presents the major artefact class groups for the assemblage. A breakdown of artefacts recovered by collection unit is presented in Appendix 3.

Manufacturing debitage class groups make up 98% (n=934) and show assemblage composition to be dominated by various 'waste' types generated by core preparation and reduction activities in blank production and the manufacture of retouched tools. Retouched and utilised tools make up 2% (n=23) of the assemblage. One gun flint was also recovered.

	Complete	Fragment	Burnt	Total
Unretouched Flake	765	73	10	848
Unretouched Blade	39	26		65
Flake Core	13			13
Blade Core	1			1
Core Shatter/Trimming Debris	6			6
Tool manufacturing/Rejuvenation Debris	1			1
Retouched Tool	20	1		21
Utilised Piece	2			2
Total	**847**	**100**	**10**	**957**

Table 1: Worked flint assemblage

Condition

Patination ranges from a light film to a mottled blue-grey or pale white and was simply recorded as being either present or absent on individual artefacts. In total, 511 (53.40%) exhibit some degree of patination with 446 (46.60%) unpatinated.

Some 518 artefacts (54.13%) in the assemblage exhibit edge-damage characteristic of plough-damage with the remainder (n=439) undamaged. There is no clear indication of any systematic intentional breakage.

Raw material

The assemblage is composed exclusively of flint. Cortical condition indicates that the raw material was obtained predominately from derived glacial outwash sources situated within the immediate vicinity. Nodules available from these sources vary in size and shape, ranging from irregular to round. Core and debitage characteristics indicate that a variety of nodules were selected for tool production and included small to medium sized pebbles and nodules. No recognisable Brandon Series flint was found in the assemblage collected.

Cores

Fourteen cores were recovered from surface contexts. Six of the cores are prepared single platform flake cores. Five are prepared multi-platform flake cores and one is a prepared single platform blade core. The remaining cores comprise two single

platform flake cores exhibiting one or more narrow flake or blade scars indicating that they were also utilised for blade and/or narrow flake production. Core size and the presence of step fractures on worked faces indicate that they were abandoned when they became too small and/or after repeated failures to detach reasonable sized blanks. One single platform flake core also exhibits traces of battering on one of its surfaces indicating secondary utilisation as a hammerstone.

Core shatter/trimming debris

Six pieces occur in the assemblage that are identifiable as shatter or trimming debris produced by core shaping and initial reduction. The majority of the pieces are partially cortical and possess prominent bulbs of percussion indicating that they were detached from the nodule or core by direct percussion with a hard hammer.

Flakes and blades

Unretouched flakes comprise 87.56% (n=838) of the assemblage and consist of 838 complete artefacts, seventy-three fragments and ten burnt. Complete unretouched flakes were divided into primary (dorsal surface, wholly cortical), secondary (dorsal surface, partially cortical) and tertiary (dorsal surface, noncortical) class groups to determine the relative occurrence of flakes produced at different stages during the process of core reduction. Out of the total number of complete flakes, primary flakes account for 7.71% of the total (n=59), secondary 44.71% (n=342) and tertiary 47.58% (n=364). The primary flakes are characterised by cortical platforms with generally more pronounced bulbs of percussion indicating that they were largely removed by direct percussion using both hard and soft hammers. Platform and bulbar characteristics for secondary and tertiary flakes are more variable and reflect their detachment from the core by both direct and indirect percussion techniques. They can be described as possessing either relatively narrow platforms and less pronounced bulbs of percussion, or thick, often cortical, platforms with pronounced bulbs of percussion.

Unretouched blades comprise 6.79% (n=65) of the assemblage and consist of thirty-nine complete artefacts and twenty-six fragments. Sixteen pieces are partially cortical secondary blades and twenty-three are noncortical tertiary pieces. Platform and bulbar characteristics are dominated by narrow platforms and more diffuse and/or smaller bulbs of percussion, indicating that they were largely removed by soft hammer/indirect percussion techniques.

Tool manufacturing debris

One ground stone axe flake was recovered by fieldwalking. The piece is partially patinated and exhibits traces of grinding on its dorsal surface.

Tools

Recognisable tools comprise 2% (n=23) of the assemblage and consist of twenty complete and one broken retouched artefacts and two utilised pieces.

Scrapers

Scrapers make up 60.87% (n=14) of the retouched component recovered by fieldwalking and comprise thirteen complete artefacts and one fragment. Eight

complete and one fragment are endscrapers, two are side scrapers, one a side/end scraper and one nosed scraper. Thirteen are manufactured on flakes and one on a blade. All generally exhibit steep overhanging retouch.

Borers

Three spurred pieces were recovered by fieldwalking. Two were manufactured on secondary flakes and one on a tertiary flake.

Marginal retouched pieces

Three marginally retouched pieces occur in the assemblage. All three were manufactured on flakes with two exhibiting retouch on their right laterals and one on its left lateral.

Awl / Piercer

One awl / piecer was recovered. The piece is a secondary blade retouched to a point at its distal end.

Utilised

Two utilised flakes were identified in the assemblage. One is a tertiary flake with small utilisation scars along it right lateral. The other is also a tertiary flake with small denticulation-like use damage along its right lateral.

Distribution

Worked flint was distributed across all the fields fieldwalked with a number of high density concentrations (Figs 3, 5, 7, 9). However, these concentrations are unlikely to represent locations of prehistoric activity as the fields investigated have been subjected to repeated episodes of destoning with stones and artefacts redeposited in parallel rows across the field and along field margins as part of seedbed preparation operations for vegetable root crops. Repeated ploughing out of these rows is likely to have produced spurious tillage-induced patterning in the distribution of artefacts across the surface.

Discussion

Technologically, the majority of the artefacts conform to the general characteristics of Mesolithic, Neolithic and Early Bronze Age industries (Pitts 1978; Jacobi and Pitts 1979; Ford *et al* 1984). Unretouched flakes are dominated by relatively narrow platforms with small bulbs of percussion with thick, often cortical platforms and pronounced bulbs of percussion and hinge terminations occurring in lower frequencies. The blades recovered are characterised by narrow platforms and more diffuse and/or smaller bulbs of percussion. Technological characteristics of a subset of the assemblage composed of the heavily patinated artefacts suggest a likely Mesolithic date for these pieces. For the remainder of the assemblage technological characteristics indicate an Earlier Neolithic date for the remaining blades while those

for the flakes indicate a broader date range extending from the Early Neolithic to the Early Bronze Age.

Artefacts typologically datable consist of the three spurred pieces recovered. These artefacts are characteristic tools of the late Neolithic-Early Bronze Age (*c*. 3500-2400/2300 BC).

The composition of the assemblage recovered by fieldwalking suggests that a range of domestic and industrial activities were carried out across the area investigated and the potential for the survival of some subsurface features associated with settlement sites of this time range. Domestic activities are indicated by the recovery of scrapers, spurred pieces, and marginally retouched and utilised pieces. Activities utilising these tools include skin, wood and bone/antler working and the butchering of domestic and wild animals. Industrial activities are reflected by the recovery of a number of cores, flakes, blades and other debitage with the number of primary flakes in the assemblage suggesting that initial core reduction and shaping was a major activity.

6.4 Burnt Flint

A total of 174 pieces of burnt flint was recovered from various surface contexts. Burnt flint is not intrinsically datable, although it can be assumed that the majority recovered is probably of a similar date as that of the worked flint. The distribution of the burnt flint (Figs. 4, 6, 8, 10) probably reflects the same tillage-induced patterning as the worked flint.

7.0 Conclusions

A spread of worked flints found to the north of the road in Gibsons North field by Oxford Archaeology in 2000 (site OA131) was fieldwalked and the results reaffirmed the presence of a possible settlement and/or flint manufacturing site. The two fields south of the road and south-west of Gibsons North (Deal and Forty Acres), also revealed quantities of worked flints indicative of Mesolithic, Neolithic and Early Bronze Age settlement and industrial activity. The proximity of the three fields to each other suggests that this spread may have been quite extensive and that similar results may have been obtained from the other fields in this area. The unsuitability of the remainder of these fields for fieldwalking limited the possibility for defining the extent of this flint scatter. A slightly lower number of flints were recovered from Parsons Slip.

Although distinct concentrations of worked flint were noted in all of the fields investigated they are unlikely to represent the specific locations of prehistoric activity. Modern agricultural practices, most notably the repeated destoning and the subsequent ploughing out of the resultant stone lines is likely to have produced spurious tillage-induced patterning in artefact distributions more related to agricultural cropping regimes than to prehistoric activity. The reliability of the identified distributions of worked flint as an indicator of settlement location is therefore relatively low.

Overall the quantities of flint recovered from all four fields indicates that the Breckland, with its soils particularly suitable for prehistoric agriculture (Clarke 1960), was likely to have seen intensive woodland clearance and settlement to support a ‘dense and even an industrial Neolithic population’ (Rackham 1986, 72). The probability of the survival of sub-surface features associated with the occupation

represented by these flint scatters is relatively good, although ploughing and destoning of the fields may have severely truncated or removed much of the more ephemeral evidence.

Only nine sherds of pottery were recovered, six from Parsons Slip, two from Forty Acres and a single sherd from Deal. The scarcity of pottery probably reflects the damage to such potentially fragile material caused by modern agricultural techniques.

The surface conditions for fieldwalking were good to excellent on all four of the fields that were walked. The unsuitability of the remainder of the specified 6km fieldwalking corridor for investigation was due to the presence of high cereal crops or root crops susceptible to damage. These restrictions would have been avoided if the work had been undertaken during the winter months, before any crops had been planted.

The topographic survey was undertaken in less than ideal conditions. The density of undergrowth precluded comprehensive observation of topographic features within the survey corridor and the prevalence of deer ticks made detailed recording of any identified earthworks extremely difficult.

The 20th century plantations forming Zones 1, 3 and 5 have been laid out on areas that appear as farm or heathland on the 1882-1898 Ordnance Survey map. It is likely that the creation of the ridges and furrows that define the lines of pine trees destroyed any upstanding topographic features.

The majority of the earthwork banks, observed to the south of the existing carriageway in Zone 6, are visible on the modern, 1882-1898 and 1836 Ordnance Survey maps. They probably represent woodland boundaries of the 19th century, indicated by their insubstantial heights and straight alignments (Rackham 1986, 100).

The more substantial bank seen at the western end of Zone 2 (OA130), following the line of the crest of the Warren Hill ridge, is also present on the Ordnance Survey maps. On the 1836 and 1882-1898 maps it appears to mark the boundary between a belt of established woodland and heathland to the west (now covered by the Zone 3 pine plantation). The size of this bank (OA130) may suggest that it was earlier than the banks seen in Zone 6.

The south-westwards kink in the alignment of the bank appears to correspond with and respect the position of a circular ring-ditch and related mound. The southern section of the ditch surrounding the mound was almost certainly filled in when the earthen bank separating the road from the woodland was constructed. The size of the mound and its prominent position at the top of a slope is highly suggestive of a barrow, although alternative interpretations cannot be ruled out. It is surprising that this possible barrow has not been previously noted, especially as this feature was immediately adjacent to the A11 carriageway. This may reflect the density of understory vegetation at this point.

Overall, the results of the topographic walkover survey can be viewed with a mixed degree of confidence. In areas of moderate to dense undergrowth (Zones 2, 4, 6 and 7) it is possible that shallower earthworks, such as the ephemeral banks seen in Zone 6, could be completely missed and that even substantial features, such as a barrow, would also be difficult to spot. It can be stated with a high degree of confidence that no earthworks remain in the areas of 20th century pine plantation (Zones 1, 3 and 5).

In hindsight many of the problems encountered whilst undertaking the topographic survey would have been reduced if the work had been carried out during the winter months.

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Appendix 1: Pottery

Context	Fabric	Form	Quantity	Weight (kg)	Date
D 46	PPOT	BODY	1	0.001	E.Neo/E. Iron Age
FA 87	PPOT	BODY	1	0.004	E. Iron Age
FA 88	MCW	BODY	1	0.006	11th-14th
PS0 (U/S)	LMU	BOWL	1	0.008	11th-14th
PS 40	PPOT	BODY	1	0.007	E.Neo/E. Iron Age
PS 77	MCW	BODY	1	0.005	11th-14th
PS 83	PPOT	BODY	1	0.004	E.Neo/E. Iron Age
PS84	RBGW	BODY	1	0.003	1st- 4th
PS 87	PPOT	BODY	1	0.004	E. Iron Age

Fabric Codes

PPOT = Prehistoric
RBGW = Romano-British grey ware
LMU = Local medieval unglazed ware
MCW = Medieval coarse ware

Appendix 2: Coin

Context	Description	Date
PS40	George III halfpenny	1806

Appendix 3: Flint

Context	Flakes	Blades	Misc Debitage	Cores	Scrapers	Other Tools	Total	Burnt Flint
D1	1						1	
D4	2						2	
D6	3	1			1		5	
D7	1						1	
D8	4						4	
D10	1						1	
D12	1						1	1
D13								1
D14	1						1	
D16	1						1	
D17	1						1	4
D18	3	2					5	1
D19	5						5	1
D20	1						1	
D22					1		1	1
D26	2						2	3
D27	1						1	
D28	2						2	
D30	4						4	
D32	1						1	
D33	3						3	
D34	1						1	
D35	2						2	
D36	1						1	
D38	6						6	
D39	6	1		2			9	
D40	5						5	
D41	6			1			7	
D43	4	2		1			7	

Context	Flakes	Blades	Misc Debitage	Cores	Scrapers	Other Tools	Total	Burnt Flint
D44	1						1	
D45	4						4	
D46	2						2	1
D47	4						4	2
D48	1	1					2	
D49	4						4	1
D50	2						2	3
D51	6						6	2
D52	8						8	1
D53	3						3	1
D54	2						2	2
D55	4	2					6	1
D56	2						2	
D57	3						3	
D60	2						2	1
D62			1				1	1
D63	1						1	
D64	4						4	
D65	7						7	1
D66	1						1	
D67	5						5	1
D68	4						4	2
D69	3						3	6
D70	1						1	
D72	3						3	
D73	2	1				1	4	
D75	1	2					3	
D76	3	1					4	
D77	4					1	5	
D78	11						11	2
D79			1				1	2
D80	1						1	
D81	11						11	2
D82	1			1			2	
D83	3						3	1
D85	4						4	
D86	2						2	1
D87	5						5	
D88	4	2					6	
D89	1						1	
D90	4						4	
D91	1	1					2	
D92	1						1	
D93	4						4	
D94	4	1					5	
D95	1						1	
D97	1						1	
D98	4						4	
D100	1						1	
D107	7						7	
D111	2						2	
D112	1						1	
FA1	5						5	
FA2	2						2	
FA3				1			1	
FA4	2						2	

Context	Flakes	Blades	Misc Debitage	Cores	Scrapers	Other Tools	Total	Burnt Flint
FA5	2				1		3	
FA7	1						1	1
FA8	3						3	
FA9	3				1		4	
FA10	1						1	
FA11	3			1			4	
FA13	2						2	
FA14	1						1	
FA16	5	1				1	7	2
FA17	6					1	7	8
FA18	2						2	3
FA19	1						1	1
FA20	2						2	
FA21	4						4	1
FA22	3						3	
FA23	4			2			6	
FA24	2						2	
FA26	2	1			1		4	
FA27	2						2	5
FA28	3						3	
FA29	1						1	
FA30	4						4	
FA32	7						7	
FA33	11						11	
FA38	2						2	2
FA39	6						6	
FA40	6						6	
FA41	3						3	
FA42	2						2	
FA44	4						4	
FA45	6						6	
FA46	1						1	
FA47	2						2	
FA48	2						2	
FA49	6			1			7	
FA51	5	1					6	
FA53	3						3	
FA54	3						3	1
FA55	4						4	
FA56	6						6	
FA58	6						6	
FA61	3						3	
FA62	3						3	
FA63	4	1					5	
FA64	4						4	
FA65	7						7	
FA66	1						1	
FA67	5						5	
FA68	4						4	
FA69	4		1				5	1
FA70	4						4	
FA75	1						1	
FA76	3						3	
FA77	1						1	
FA79	4						4	
FA80	5			1			6	

Context	Flakes	Blades	Misc Debitage	Cores	Scrapers	Other Tools	Total	Burnt Flint
FA81	2						2	
FA83	4						4	
FA85	3						3	
FA86	4						4	
FA87	6						6	1
FA88	4						4	
FA89	6						6	1
FA90	2						2	
FA91	2						2	1
FA92	5						5	
FA93	4						4	
FA94	1						1	
FA95	2	1					3	
FA97	4						4	
FA98	4						4	
FA99	5						5	
FA100	6	1					7	
FA101	3						3	
FA102	1						1	
FA103	2	1					3	
FA109	1						1	
FA110	1				1		2	
FA111	3						3	
FA113	2						2	
FA114	2						2	
FA115	2	1					3	
FA118	2	1					3	
FA120	4	1			1		6	
FA121	2	2		1			5	
FA122	7	1					8	
FA123	5	1					6	
FA124	3	1			1		5	
FA125	3						3	
FA126	1				1		2	
GN1	2						2	1
GN2	3						3	3
GN3	5	1				1	7	1
GN4	2	1					3	2
GN5	3						3	
GN6	4						4	
GN7	3				1		4	1
GN8	2						2	
GN11	3						3	1
GN12	2	1					3	
GN13	1			1			2	
GN15	1						1	
GN16	3					1	4	
GN17	2	1					3	
GN18	3						3	
GN19	3						3	
GN20	3						3	
GN21	6						6	
GN22	7						7	1
GN23	3						3	
GN24	2						2	
GN25	2						2	1

Context	Flakes	Blades	Misc Debitage	Cores	Scrapers	Other Tools	Total	Burnt Flint
GN26	3						3	
GN27	1						1	
GN28	8						8	
GN29	4						4	
GN30	6	1					7	
GN31	2	1					3	
GN32	1				1		2	
GN33	1	1					2	
GN35	3						3	
GN36	3						3	
GN37	3						3	1
GN38	7					1	8	1
GN39	1						1	
GN41	4						4	
GN45	2						2	
GN46	4						4	1
GN47	20						20	1
GN48	2						2	
GN51	3						3	
GN54	4						4	
GN55	1	1					2	3
GN56	2						2	
GN57	2						2	
GN59	3				1		4	
GN60	4						4	
GN61	5	1					6	
GN63	3	2				1	6	
GN66	1						1	
GN68	1	4				1	6	1
GN69								1
GN71	9	1					10	1
GN72	6	1					7	
GN73	3	2	1		1		7	1
GN75	1						1	
GN76		1					1	
GN77	5		1				6	
GN80	1	1					2	
GN82	2						2	
GN83	5						5	
GN85	2						2	
GN86	4	1					5	2
GN88	2						2	1
GN89	1						1	1
GN90	5						5	1
GN91	6						6	
GN92	2						2	
GN93	5	1					6	1
GN94	1						1	1
GN95	5						5	
GN96	12	3	1				16	8
PS0 (U/S)	2						2	
PS1								1
PS2	1						1	4
PS10								1
PS11								1
PS18	2						2	

Context	Flakes	Blades	Misc Debitage	Cores	Scrapers	Other Tools	Total	Burnt Flint
PS19	1						1	
PS20	3	1	1				5	
PS21	3						3	1
PS22								2
PS23		1					1	
PS29	1	1		1			3	
PS32	1						1	
PS33	1						1	
PS36	1						1	1
PS37	1						1	
PS38	1						1	
PS39	2						2	
PS40	2						2	
PS43	2						2	1
PS47	1						1	
PS51	2				1		3	1
PS52	5	1					6	2
PS54	2						2	
PS55	2						2	
PS56	3						3	
PS57								2
PS58	2						2	8
PS59	5						5	1
PS60	1						1	
PS65	2						2	3
PS66								4
PS67	1						1	2
PS68	1						1	1
PS70	1						1	
PS72	2						2	
PS75	2						2	5
PS76	1	1					2	11
PS79	1						1	
PS82								4
PS83	1						1	4
PS84								2
PS85								1
PS86	1						1	
PS87	2						2	

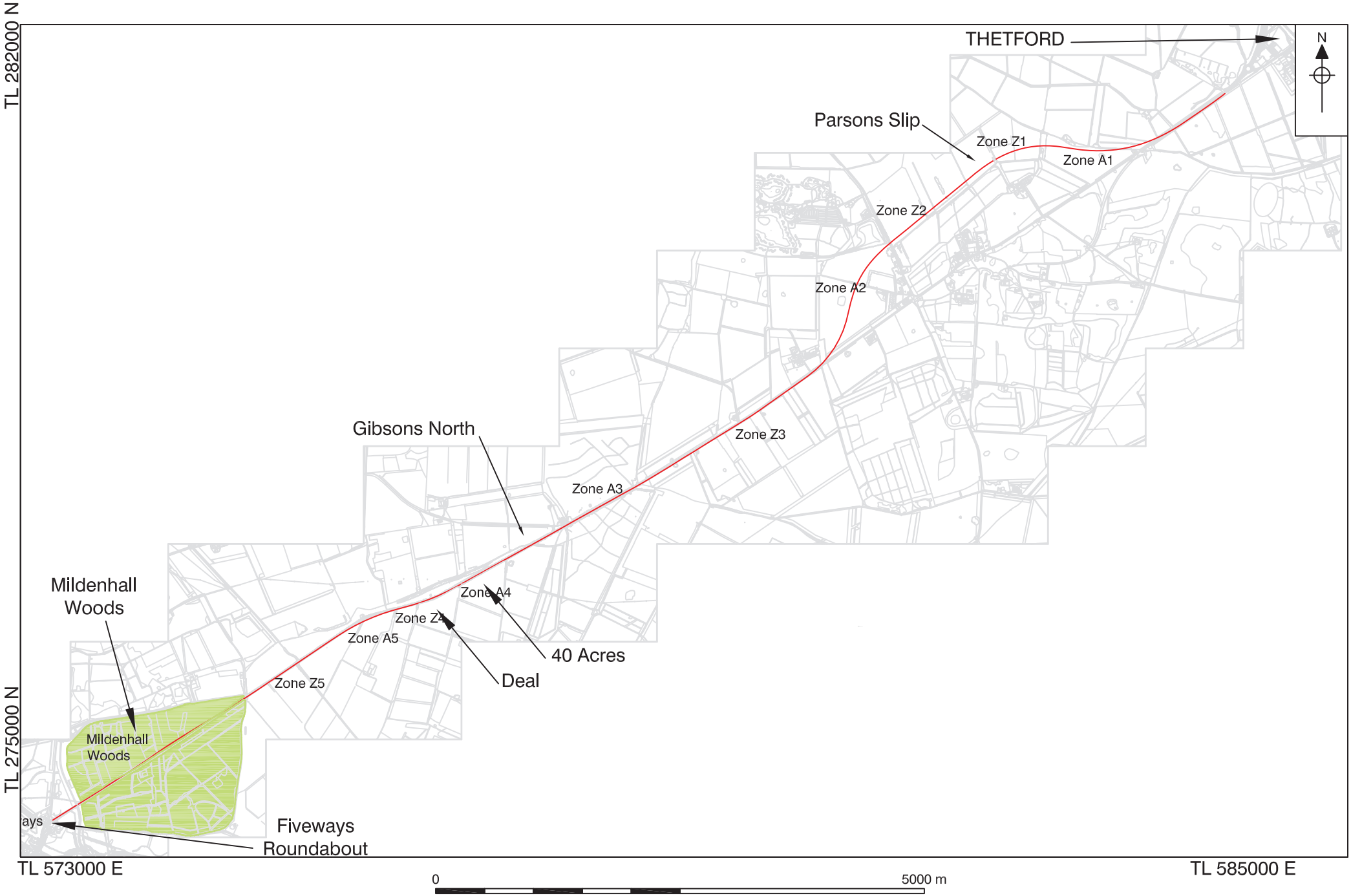

Figure 1. Site location plan. Scale 1:50000.

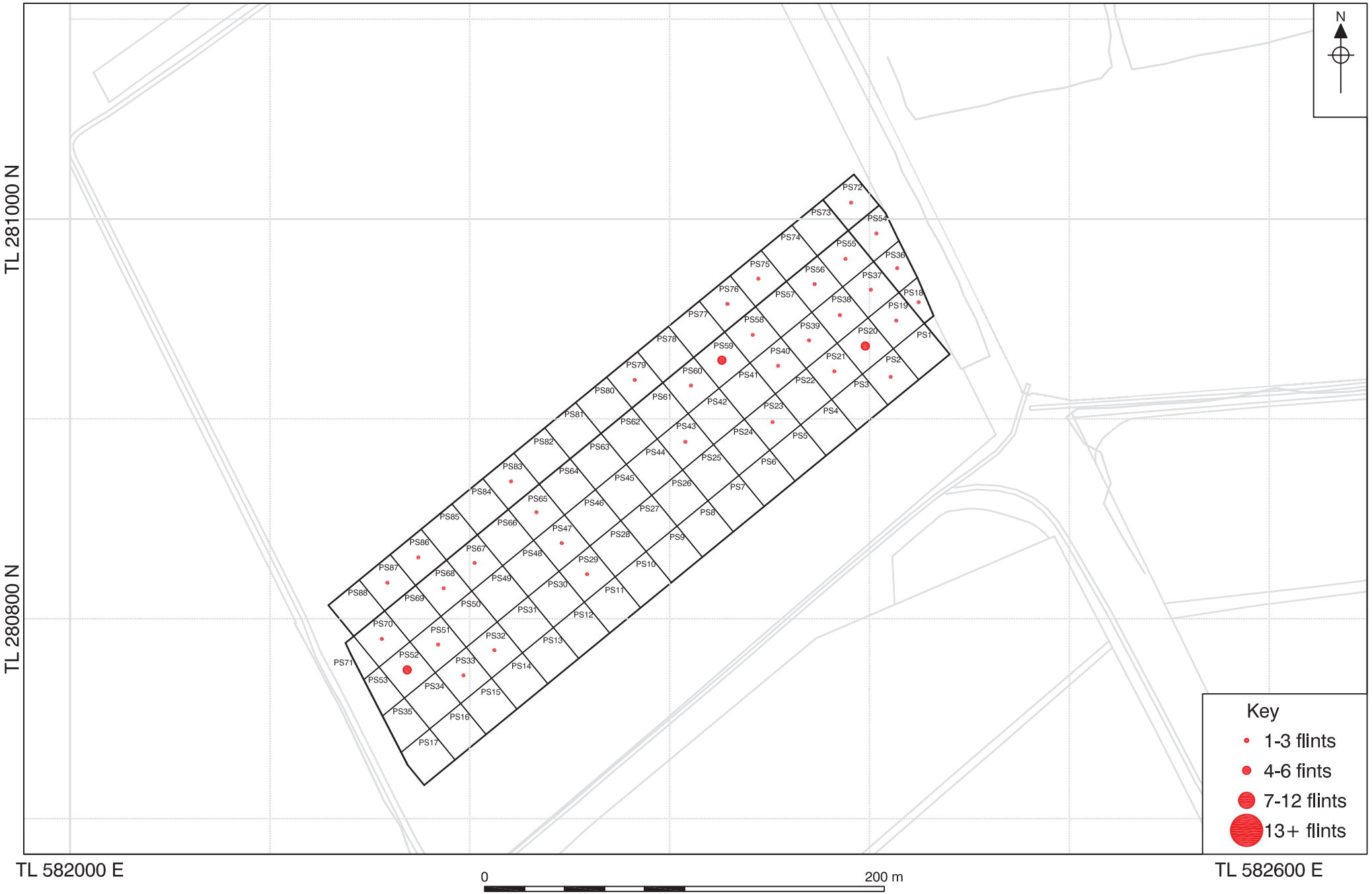

Figure 2. Distribution and density of flint from Parsons Slip (Field 4). Scale 1:2500.

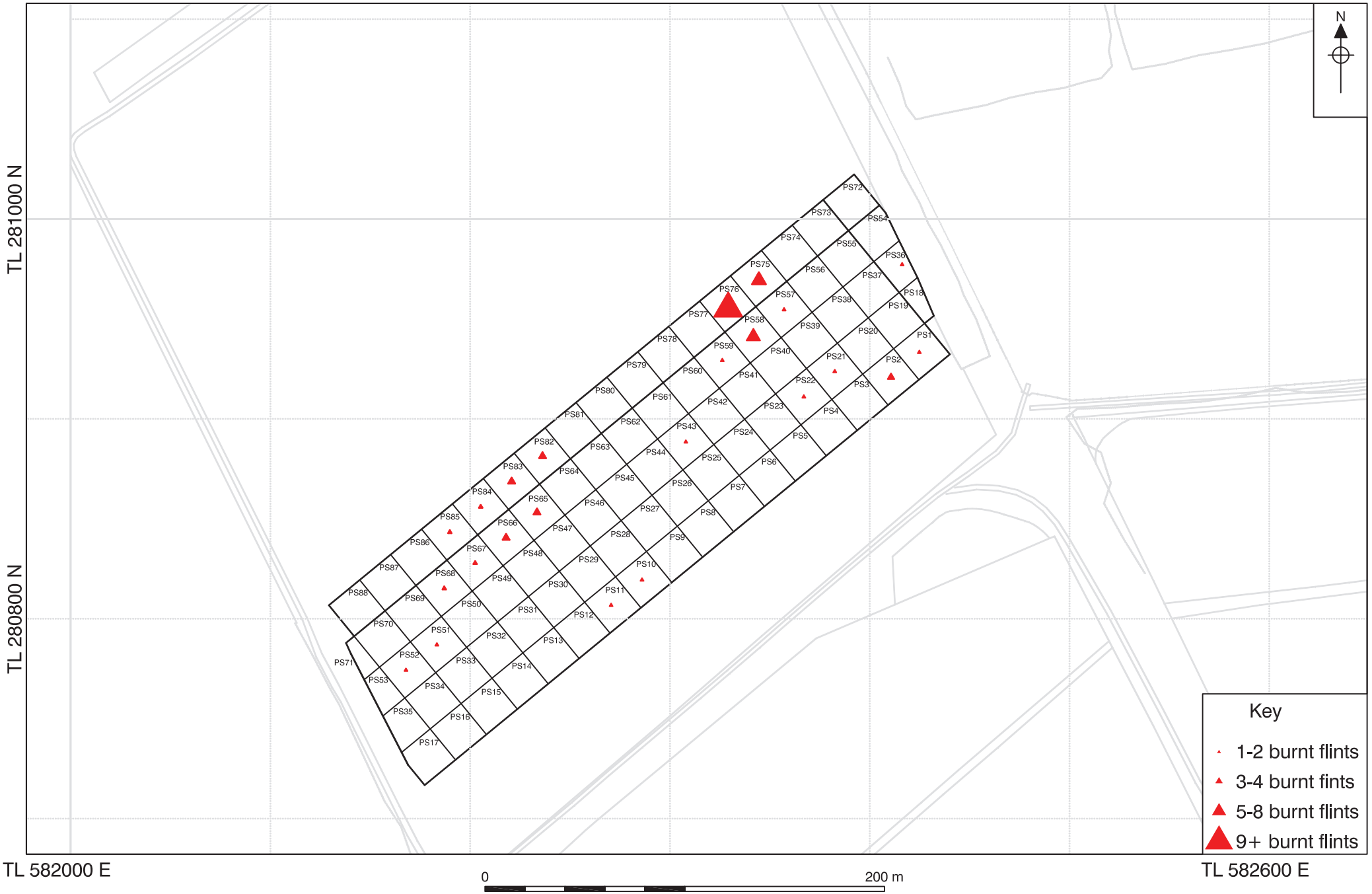

Figure 3. Distribution and density of burnt flint from Parsons Slip (Field 4). Scale 1:2500.

Figure 4. Distribution and density of flint from Gibsons North (Field 199). Scale 1:2500.

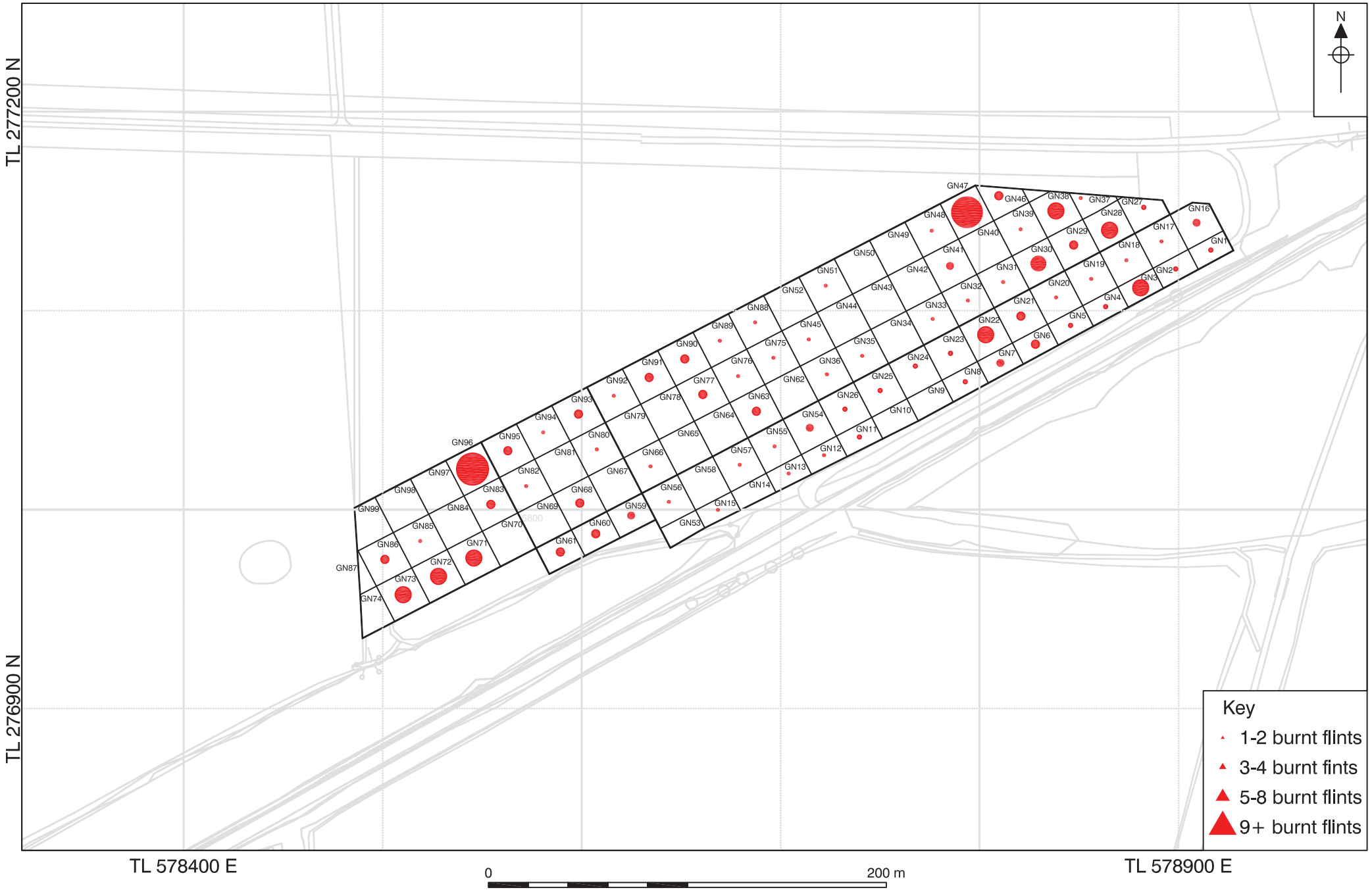

Figure 5. Distribution and density of burnt flint from Gibsons North (Field 199). Scale 1:2500.

Figure 6. Distribution and density of flint from Deal (Field 334). Scale 1:2500.

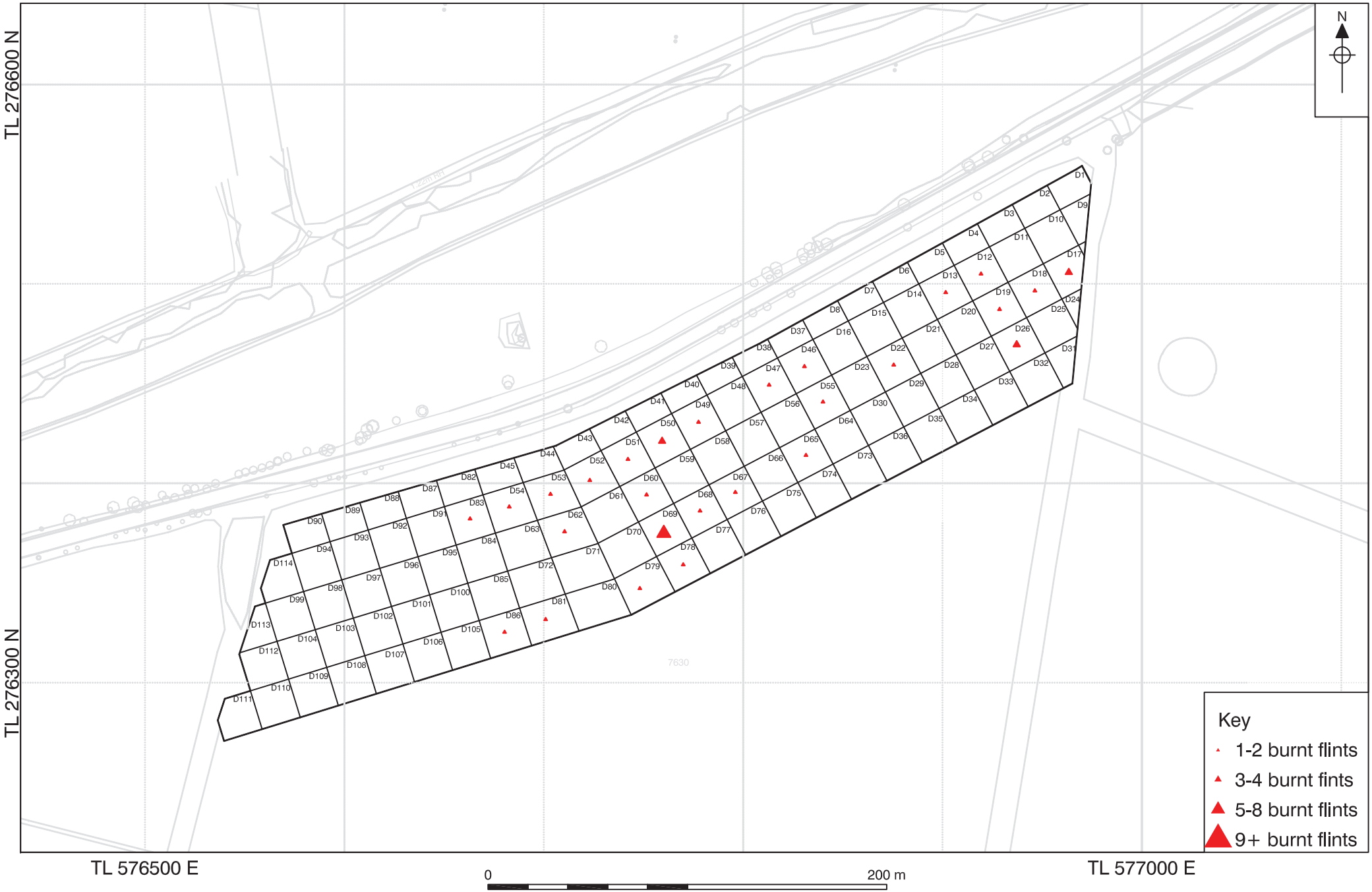

Figure 7. Distribution and density of burnt flints from Deal (Field 334). Scale 1:2500.

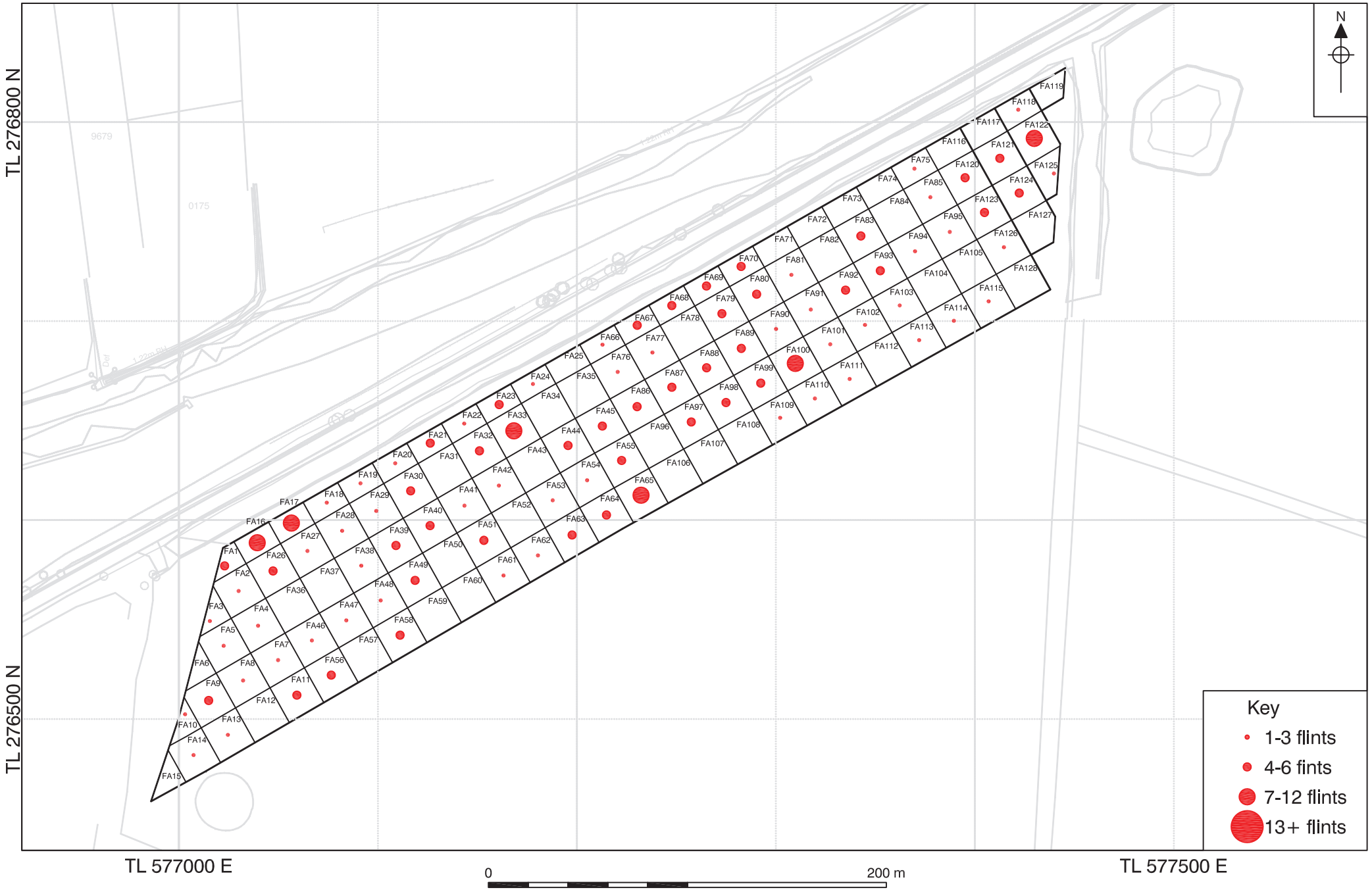

Figure 8. Distribution and density of flints from 40 Acres (Field 336). Scale 1:2500.

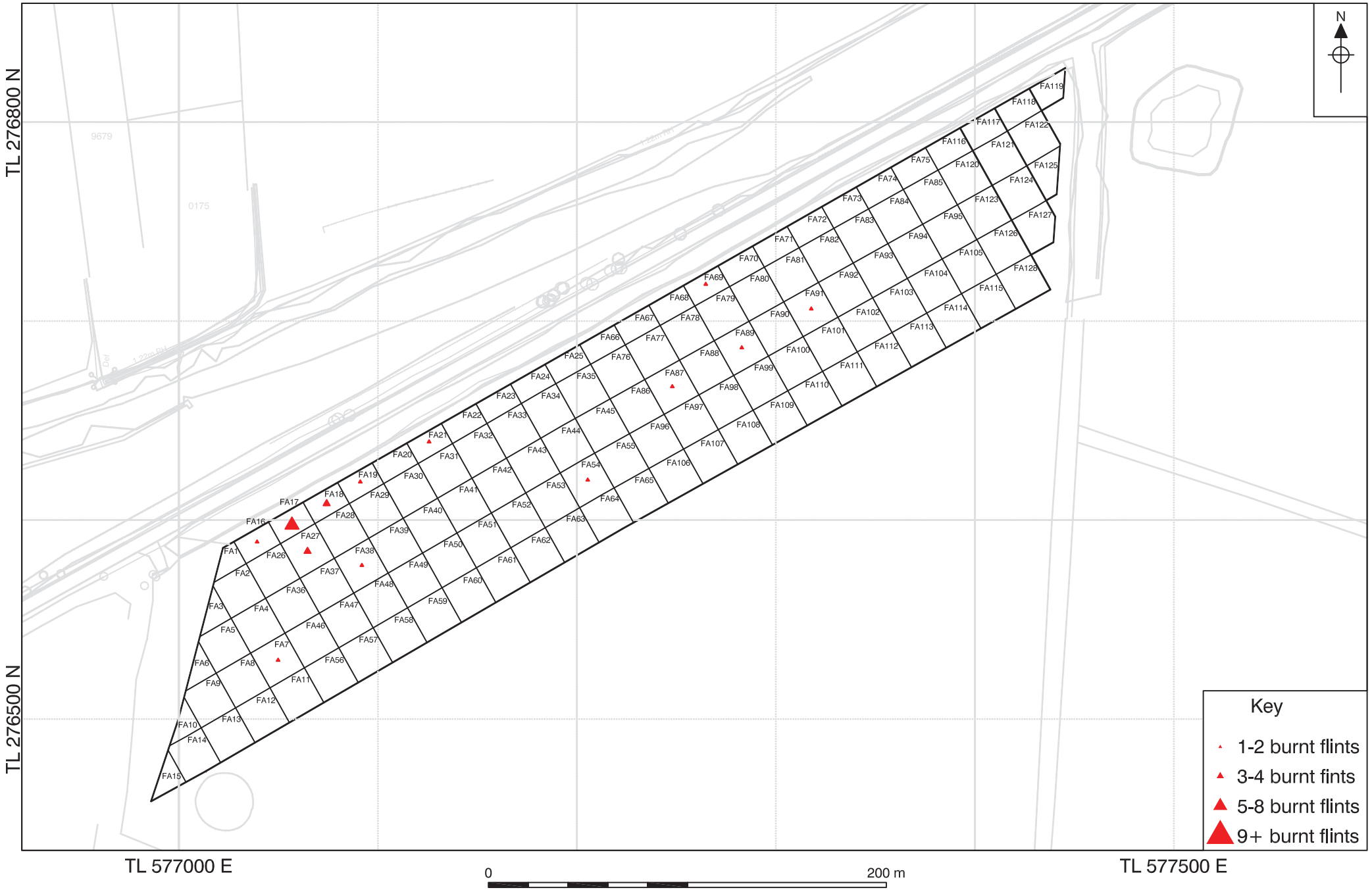

Figure 9. Distribution and density of burnt flints from 40 Acres (Field 336). Scale 1:2500.

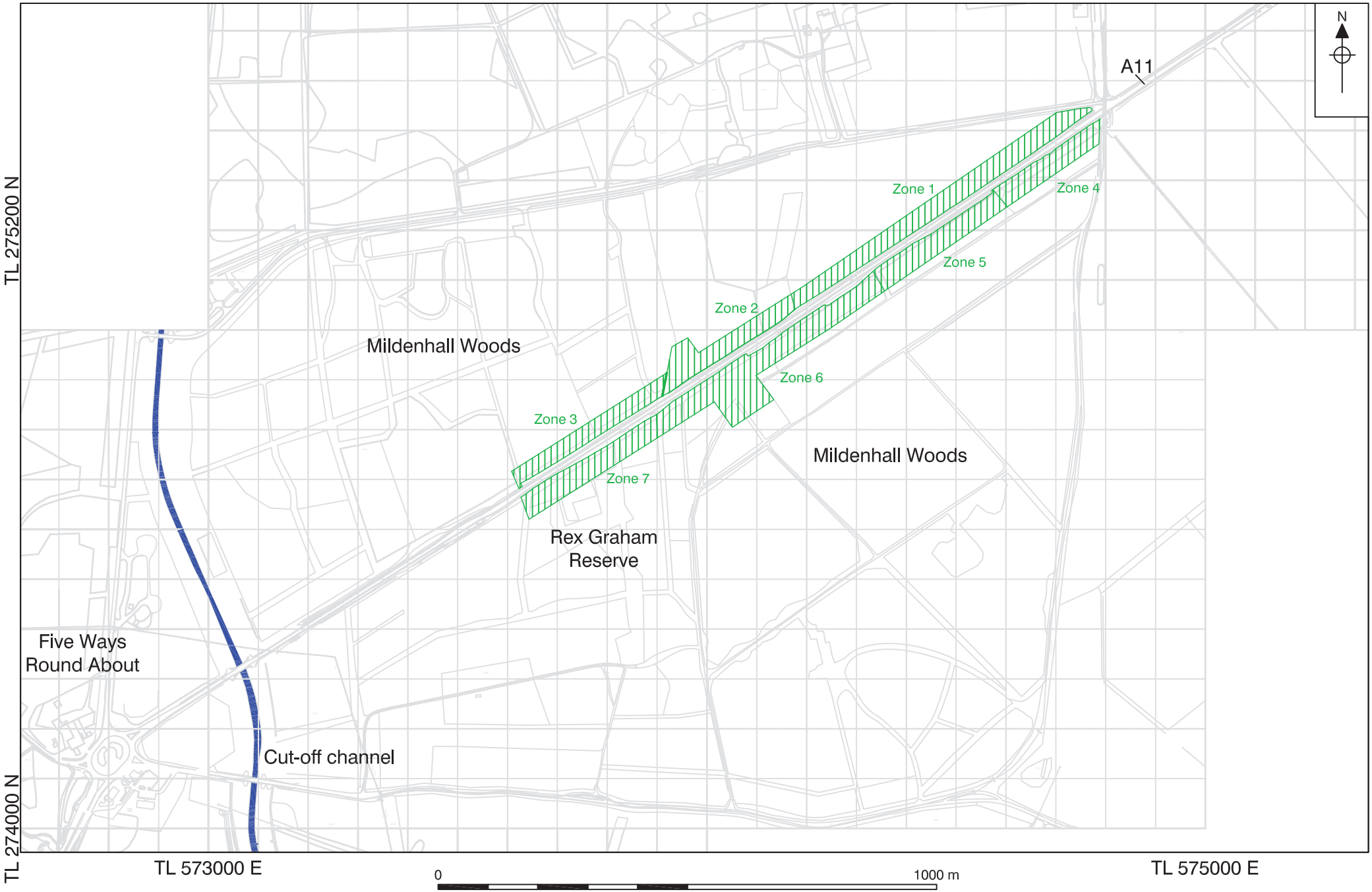

Figure 10. Survey corridor through Mildenhall Woods showing zones of vegetation. Scale 1:10000.

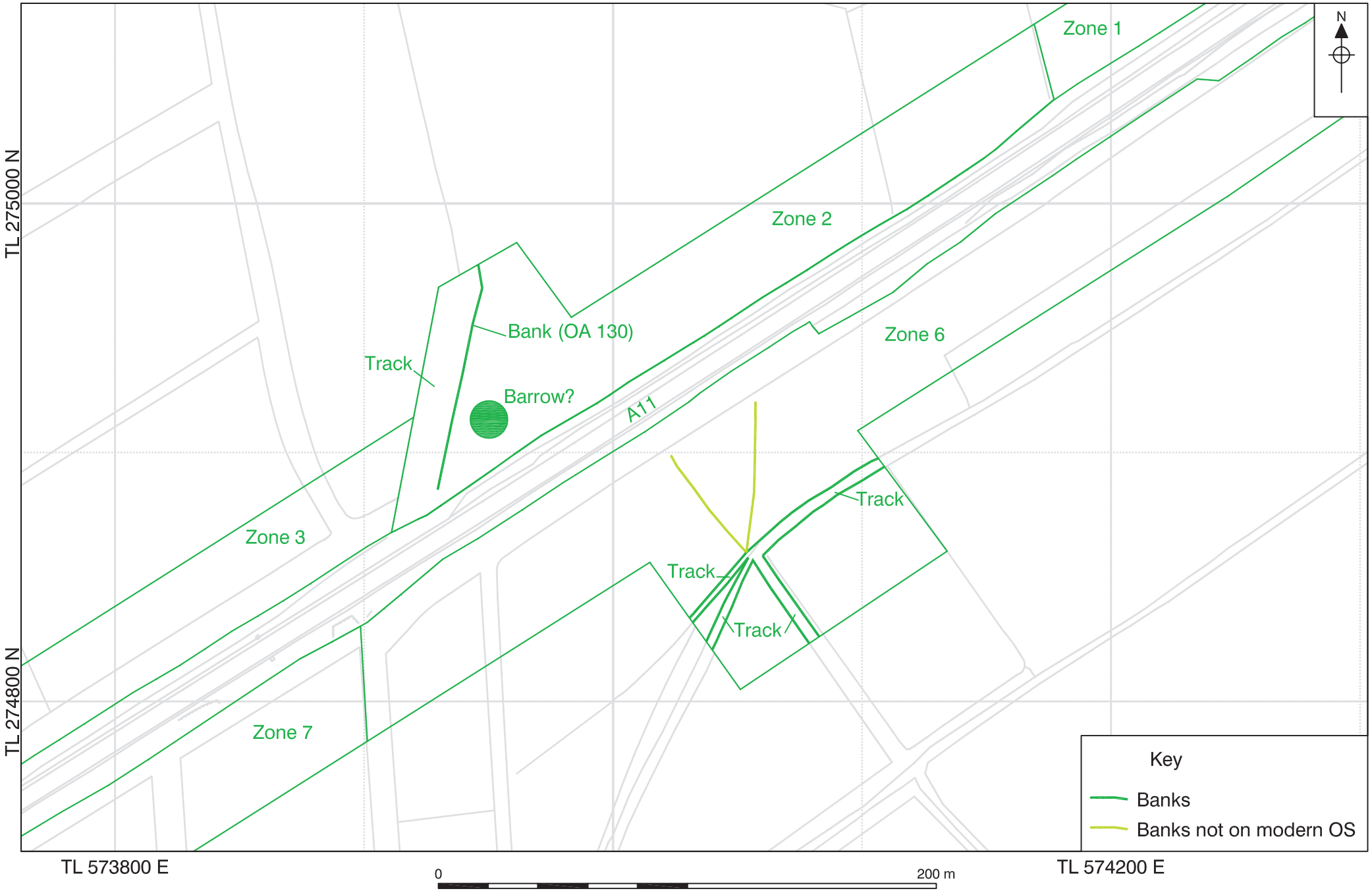

Figure 11. Woodland banks and possible barrow in Mildenhall Woods. Scale 1:2000.

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APPENDIX F

Archaeological Geophysical Survey

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NORTHAMPTONSHIRE COUNTY COUNCIL

NORTHAMPTONSHIRE ARCHAEOLOGY

JULY 2004

GEOPHYSICAL SURVEY ON A11 FIVEWAYS TO THETFORD ROAD IMPROVEMENTS SCHEME, NORFOLK/SUFFOLK

MAY 2004

STAFF

Project Manager	Adrian Butler BSc MA AIFA
Fieldwork	Stephen Morris
	& Jim Brown BSc, PGDip, PIFA
Text & Illustrations	Adrian Butler & Stephen Morris

QUALITY CONTROL

	Print name	Signed	Date
Checked by	Pat Chapman		06/07/04
Verified by	Andy Chapman		06/07/04
Approved by	Steve Parry		06/07/04

OASIS REPORT FORM

PROJECT DETAILS		
Project title	GEOPHYSICAL SURVEY ON A11 FIVEWAYS TO THETFORD ROAD IMPROVEMENTS SCHEME, NORFOLK	
Short description (250 words maximum)	A geophysical survey was carried out by Northamptonshire Archaeology over 7.5ha of land on parts of the proposed A11 road improvement scheme. Most fields surveyed identified no archaeological activity. Two possible archaeological linear ditches were located. Second World War defence features were identified on the heathland One field contained a single, large anomaly indicating a probable backfilled clay quarry. Putuative circular features were identified at the east end of the route. A high pressure gas main traversed the same area.	
Project type	Geophysical Survey	
Previous work	Fieldwalking survey was carried out by the Norfolk Unit.	
Future work	To be decided	
Monument type and period	-	
Significant finds		
PROJECT LOCATION		
County	Norfolk/Suffolk	
Site address	A11 Fiveways to Thetford	
Easting (use 2-letter 100km grid square no.)	5753	
Northing	2879	
Height OD	10m – 40m (SW-NE)	
PROJECT CREATORS		
Organisation	Northamptonshire Archaeology	
Project brief originator	Norfolk Archaeology	
Project Design originator	Northamptonshire Archaeology (NA)	
Director/Supervisor	Adrian Butler	
Project Manager	For NA, Adrian Butler	
Sponsor or funding body	Highways Agency	
PROJECT DATE		
Start date	May 2004	
End date	July 2004	
ARCHIVES	**Location (Accession no.)**	**Content (eg pottery, animal bone etc)**
Physical		
Paper		
Digital	Northants Archaeology	Geophysical Data, CAD/GIS
BIBLIOGRAPHY	Journal/monograph, published or forthcoming, or unpublished client report (NA report)	
Title	Geophysical survey on A11 Fiveways to Thetford Road Improvement scheme, Norfolk/Suffolk	
Serial title & volume		
Author(s)	Adrian Butler & Stephen Morris	
Page numbers		
Date		

Contents

Figures

GEOPHYSICAL SURVEY ON A11 FIVEWAYS TO THETFORD ROAD IMPROVEMENTS SCHEME, NORFOLK/SUFFOLK

JUNE 2004

Abstract

A geophysical survey was carried out by Northamptonshire Archaeology over approximately 7.5ha of land on parts of the proposed A11 road improvement scheme. In the majority of fields surveyed no archaeological activity was identified. One field contained a possible linear ditch, in another field a single, large anomaly indicating a probable old backfilled clay quarry was detected. Several linear features were identified on Weather Heath, probably the remains of Second World War defences and a former boundary. Putative circular features were identified at the east end of the route. A high pressure gas main traversed the same area. The survey may have identified variation in the local drift geology along the route.

1 INTRODUCTION

A geophysical survey was undertaken on land proposed for the A11 Fiveways to Thetford, road improvement scheme, Norfolk (NGR: TL 879 753, Fig 1) by Northamptonshire Archaeology on behalf of Norfolk Archaeology Unit. The work formed Phase 2 of the archaeological investigation, as part of an updated Specification issued by Oxford Archaeology (OAU 2003d). The project was carried out for the Highways Agency as part of the programme of road improvements along a 14 km stretch of the existing A11 that runs between the Fiveways junction in Suffolk to Thetford in Norfolk.

1.1 Topography and Geology

The proposed development consists of a single carriageway partly adjacent to the present A11 and across open country. The development corridor lies in a predominately rural landscape comprising mainly agricultural fields and woodland, this includes woodland belts utilised as field boundaries and roadside verges. Two areas of Sites of Special Scientific Interest (SSSI) are also traversed by the proposed road development, these are Weather and Horn Heaths. The height of the proposed development at the Fiveways junction at the south-western end was approximately 10m AOD, rising to approximately 40m at its north-eastern extent near Thetford.

The underlying geology is believed to consist of a solid basement of cretaceous chalk with overlying drift deposits of boulder clay and morainic drift in the mid-section of the A11 and lacustrine clays silts and sands laterally east and west, towards Thetford and Mildenhall (BGS).

The surveyable area initially consisted of five blocks of geophysical survey, GS1 - GS5. GS1 and GS2 were merged into one area consisting of six adjoining agricultural fields adjacent to the south side of the A11, and one area of rough grass and woodland on the north side of the road (Fig 2).

GS3 was located on Weather and Horn Heaths, both areas of Site of Special Scientific Interest (SSSI), on the north and south sides A11 respectively. Horn Heath was not surveyed due to heavy growth of heather and brier. The vegetation on Weather Heath was relatively lower due to the grazing of farm stock and was surveyed (Fig 2).

As farming methods made the surfaces unsuitable for traversing, the fields of GS4 were not surveyable. GS5 was located in a single open agricultural field aligned to the north of the A11 (Fig 3).
The total surveyable area including GS 1, 2, and 5 was approximately 7.5 hectares (Figs 2 & 3).

1.2 Archaeological Background

A Cultural Heritage report produced by Oxford Archaeology in November 2000 and up dated 2003 identified a series of potential sites that lie adjacent to, or are likely to be impacted by the proposed road improvement scheme. The sites identified include find spots, earthworks and cropmarks identified by aerial survey. The sites are indicative of occupation and settlement dating from the prehistoric through to the post-medieval period. Included with these sites there is the Scheduled Ancient Monument of How Hill Tumulus and a Grade II Listed 1920's war memorial at the eastern extent of Weather Heath (OAU 2003a).

An archaeological monitoring and recording exercise undertaken in 2002 during geo-technical survey identified a few undated features, which may represent ditch or pit remains in the vicinity of How Hill Tumulus and other known sites of prehistoric and Roman activity. Significant flint scatters have been identified throughout much of the length of the proposed road route, indicating potential prehistoric activity (OAU 2003c).

2 METHODOLOGY

The survey was undertaken according to the submitted project specification and as detailed below.

2.1 Fluxgate Magnetic Gradiometer Survey

Previous research has shown that fired, or cut and backfilled archaeological features such as kilns and hearths, ditches and pits often have an anomalously higher 'magnetic susceptibility' than the surrounding subsoil due to burning and biological processes. Differences in magnetic susceptibility within the subsoil and archaeological features can be detected as changing magnetic flux by an instrument such as a fluxgate gradiometer (Gaffney et al 2002). Data from this may be mapped at closely spaced regular intervals, to produce an image which may be interpreted to locate buried archaeological features (Clark 1996).

Detailed gradiometer survey was carried out utilising Geoscan Research fluxgate gradiometers - FM256 and FM36 with ST1 sample trigger. Prospection was carried out in grids of 20m x 20m along parallel traverses spaced at 1m intervals. Data points were recorded at 0.25m intervals (a total of 1600 points in each grid) to the maximum instrument sensitivity of 0.1nT in accordance with English Heritage Guidelines (EH 1995). The grids were surveyed in the 'zig-zag' style (traverses walked alternately south-north/north-south) in blocks. The data was downloaded to a notebook computer for storage and assessment.

Data manipulation took place utilising Geoscan Research Geoplot v.3 software. Following the survey the data was pre-processed to account for instrument drift over time. The mean level of each traverse of data was reduced to zero and all grids matched so that there are no differences between background levels. Processing included the removal of extreme data values, such as those associated with the measurement of sporadic ferrous debris. The data was analysed 'on-screen' using a variety of viewing parameters and styles and the most useful of these saved as a bitmap image and manipulated using Corel Draw software. A digital map of the survey area was constructed in MapInfo using client supplied Ordnance Survey Landline data. The greyscale image of the survey results were then overlaid onto digital mapping (Figs 4-12) and interpretation diagrams generalised from the results (Figs 5-13).

3 RESULTS

The results of the gradiometer survey in each area are shown at scale 1:2500 in greyscale within a linear range of -2.0nT to +2.0nT, white-black. An interpretative diagram has been overlain on a second plot in each case.

3.1 Geophysical Survey Area 1 & 2 (GS1 &GS2)

GS1 and GS2 was the most westerly part of the survey, extending approximately 400m to the west of How Hill Tumulus and 1.4km to the east.

This area divided into seven adjoining fields on the south side of the A11, consisting of from east to west, Field 338 (Gibson South), Field 336 (40 Acres), Field 334 (Deal, divided East & West), an un-numbered, un-named field (No-Name), Field 325 (King Carlos, divided East & West) and Field 324 (Crossroads). The only survey area on the north side was Field 200 (Mill Sail). The surveys in these fields were 20m wide approximately parallel to the road, as near as practical to the line of the proposed road widening.

Field 324 Crossroads *(Figs 4 & 5)*

This field sloped gently to the west to an overall length of 360m, with a 0.5m high crop. The How Hill Tumulus was located on the north side of the road almost opposite the east end of the survey area. The survey results showed no anomalies that relate to archaeological features. A number of broad intense negative and positive anomalies were located, forming a rough 'figure-of-eight' pattern on the south side of this survey towards the eastern extent. The anomaly was approximately ellipsoidal with a diameter of between 20 to 25m. This feature may relate to a former backfilled clay pit, that can be located on the 1890-1891, 1st edition map of Ordnance Survey, (www.oldmaps.co.uk Accessed 19/05/04). Negative readings occurred along part of the northern edge in the eastern part of the survey and were caused by the close vicinity of a barbed wire fence on the field boundary.

Field 325 King Carlos (West) *(Figs 4 & 5)*

King Carlos (west) is the west side of Field 325, 120m long. The How Hill Tumulus was located on the north side of the road opposite the west end of the survey area and as such was expected to be a core area for archaeological activity. This part of the field also

identified no anomalies relating to archaeology, but displayed a similar ripple effect of low readings of 1-2 nT, considered to be the effect of either geological change or ploughing in this area.

Field 325 King Carlos (East) *(Figs 4 & 5)*

This field sloped gently to the west, 200m in length, with a 0.5m high crop. No archaeological features were identified in this part of the field. The west end of the area displayed a 'ripple' effect of low readings of less than +1nT and were probably the effect of the geology or ploughing. An intense negative reading located at the very east end of the survey area was likely the effect of a nearby ferrous pipeline, beyond the field boundary.

No-Name Field *(Figs 4 & 5)*

This was a roughly grassed, level field, with a survey area of 200m in length. No anomalies relating to archaeology were observed. The 'ripple' effect (see above) at the west end had low readings of 1-2nT, which probably relate to underlying geology.

Field 334 Deal (West) *(Figs 6 & 7)*

Deal (West) is the west part of Field 334, 180m in length. No anomalies indicating archaeology were located in this part of the field. An uneven textural effect occurred within +1.0-2.0nT readings at the western end of the survey, which were probably indicative of underlying geological variation.

Field 334 Deal (East) *(Figs 6 & 7)*

Deal (East) is the east part of Field 334 which was a 260m long level field with a low crop. Two low intensity linear positive anomalies (not illustrated) run parallel from the west end to the centre of the survey area, but these are likely caused by the effect of crop alignment or farm vehicle tracks on survey instrumentation position.

Field 336 40 Acre *(Figs 6 & 7)*

Field 336 was a 500m long level field with a low crop. No archaeological features were identified in the survey of this field. The east end of the survey area shows a minor textured ripple effect of approximately 1.0nT change in intensity, which may relate to the underlying geological variation.

Field 200 Mill Sail Figs *(6 & 7)*

Field 200 was located on the north side of GS1 and GS2, opposite 40 Acre (Field 336). This survey area was located partially over woodland, with the west end situated across rough but level area of grass which was surveyable. A length of 240m was surveyed, but avoiding where the woodland encroached on the north side. The survey results showed a single narrow linear positive anomaly. This anomaly may be archaeological, aligned northeast-southwest with a length of approximately 12m. Negative readings occurred along part of the south edge of the survey, probably relating to the close vicinity of a barbed wire fence on the field boundary.

Field 338 Gibson South *(Figs 8 & 9)*

The survey area in this field was 300m in length with occasional undulations and a low crop. A single small intense negative anomaly occurred towards the east end of the survey area, which probably relates to a buried ferrous object. The west end of the survey shows a slightly disturbed area relating to a patch of rough ground between a pond and the corner of the field. A second small ferrous target was detected in that area. The survey results indicated no anomalies that relate to archaeological features.

3.2 Geophysical Survey Area 3 (GS3)

GS3 was the central part of the survey, consisting of two areas of Weather and Horn Heath (SSSI) located on the north and south sides of the A11 respectively. Both areas of heath consisted of heather cover with patches of briar and occasional trees. Horn Heath had the most developed vegetation making it unsurveyable. However, due to stock grazing the vegetation on Weather Heath was at a much reduced level and was surveyed. The survey area on Weather Heath was located to the west of the scheduled War Memorial and extended 560m to the west to where trees prevented further surveying. The survey in this area was 20m wide, approximately parallel to the road, across generally level ground, with the occasional linear earthworks feature traversing the area.

Weather Heath *(Figs 10 & 11)*

Several linear anomalies were identified, which relate to predominant standing earthworks across the survey area. These features are of likely probable recent construction, and may be part of the Second World War defences located on Weather Heath.

At the most westerly end of the survey a roughly linear +2nT anomaly was detected approximately orientated east-west and 40m long. At the east end of the linear anomaly, a discrete intense, ferrous anomaly was located. These appear to be a section of partially backfilled trenches and dugout, which may be part of defences connected to a standing Second World War pillbox, *c.*40m to the north-west.

Approximately 130m north-east along the Weather Heath survey corridor there was a partially infilled ditch, aligned north-west – south-east and extending north-west into the Heath. The readings were between +1.0nT - +2.0nT, but contained two typically ferrous responses within the feature or in the spoil heaps either side. This feature was also probably part of the Second World War defences on the heath and has been reported as an anti-glider ditch.

The feature may be one of four such anti-glider ditches identified within the survey area, all aligned in a similar north-west – south-east direction, all with comparable low readings. The other ditches are located 240m and 400m, respectively from the west end, with one at the very east extent.

At approximately 30m from the east end of the area, a curvi-linear anomaly was located with low positive readings of +1-3nT. The anomaly was aligned approximately east-west, but curving slightly to the north. This feature can be identified on the ground as a shallow ditch curving out across the Heath, but does not appear to be related to the other ditches. This ditch may relate to a boundary that can be located on the Ordnance Survey 1890-1891 1st edition map (www.oldmaps.co.uk, accessed: 19/05/04).

3.3 GEOPHYSICAL SURVEY AREA 5 (GS5)

Milestone Elveden *(Figs 12 & 13)*

This survey area was located across an open, level field with a low crop, approximately 300m from the A11. The survey area was 400m in length and 40m wide and aligned approximately east-west. No anomalies were identified as archaeological features within the survey area, but a buried high pressure gas main traversing the east of the survey area produced very high readings. This had the effect of subduing the more subtle anomalies within the general magnetic area affected by the pipe. However, suggestions of circular shapes can be seen as weak positive anomalies to the north of the pipeline. These anomalies could be true magnetic reactions to buried circular features or unfortunate data artefacts from computer processing near the huge pipe anomaly.

4 CONCLUSIONS

In the overall survey by gradiometer there was a low rate of identification of archaeology. A single linear feature may have been detected in the survey area of Field 200 - Mill Sail. Several linear features identified in the survey of Weather Heath, could be related to the remains of standing earthworks of Second World War defences and a possible earlier boundary crossing the heathland.

In Field 324 - Cross Roads, a large feature was identified as a backfilled clay pit and probably dates to the post-medieval period. A large magnetic disturbance was created in Field Milestone by an underlying high pressure gas pipeline. This may have masked archaeology in the pipelines vicinity, as there was an indication of possible circular features which may either have been hidden by the intense magnetism of the pipeline or caused by the heavy processing actions taken to account for said magnetic fields.

Note has been made of a textured 'rippled' magnetic effect in low levels of the magnetic data in parts of survey areas GS1 and GS2 in fields King Carlos north-east to 40 Acre. It is considered that this may be the zone where the lacustrine clay, silt and sand drift changes to boulder clay and morainic drift (see 1.1 above).

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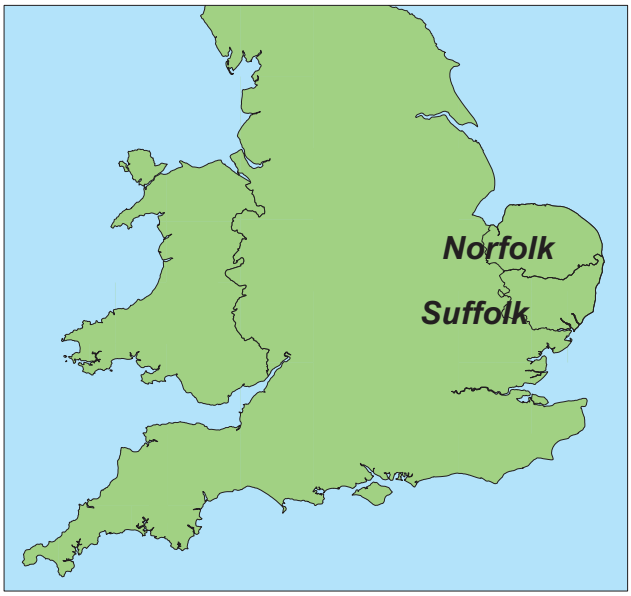
Northamptonshire Archaeology

a service of Northamptonshire County Council 6 July 2004



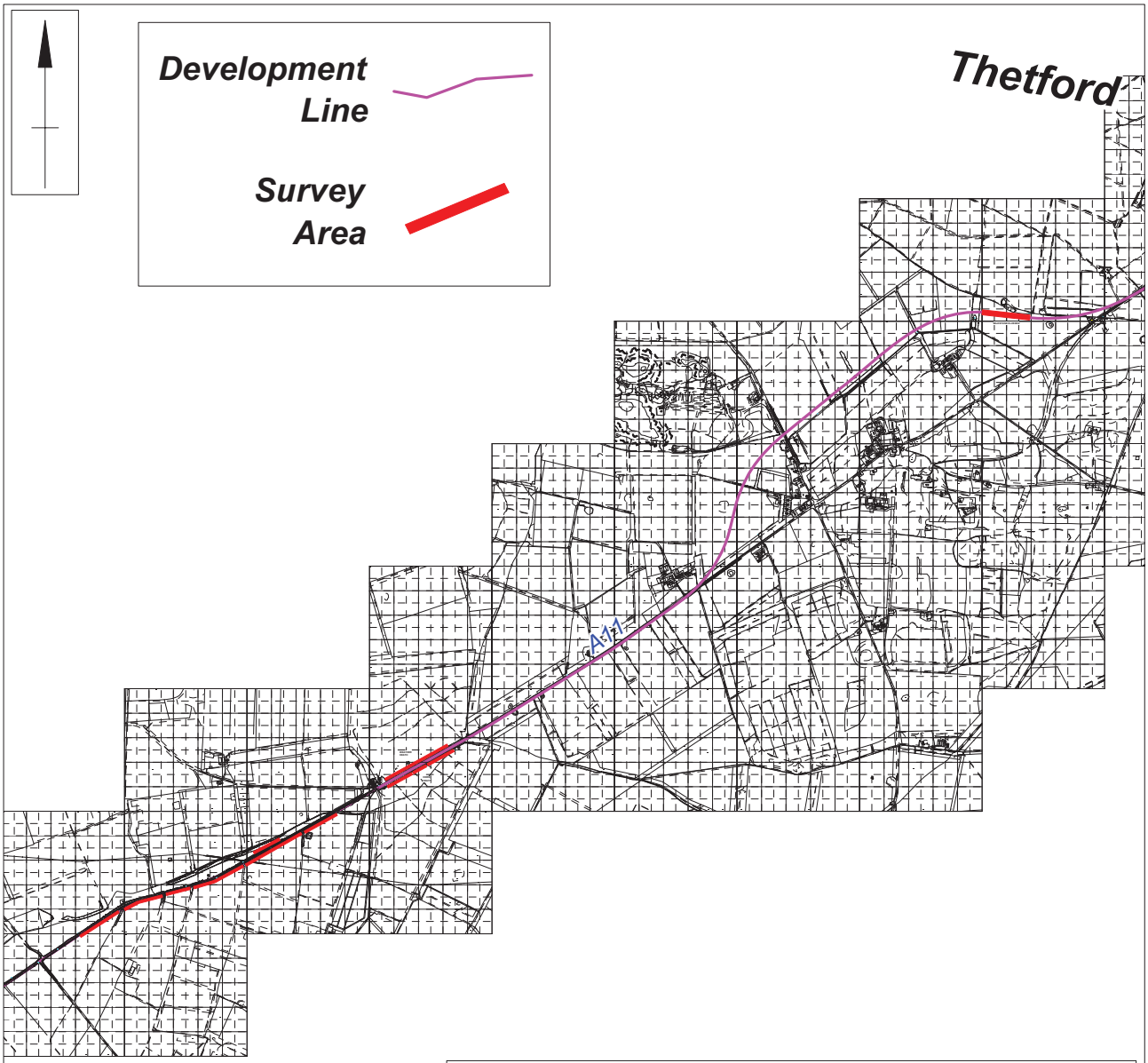


Figure 1: Site Location

Scale 1:10000

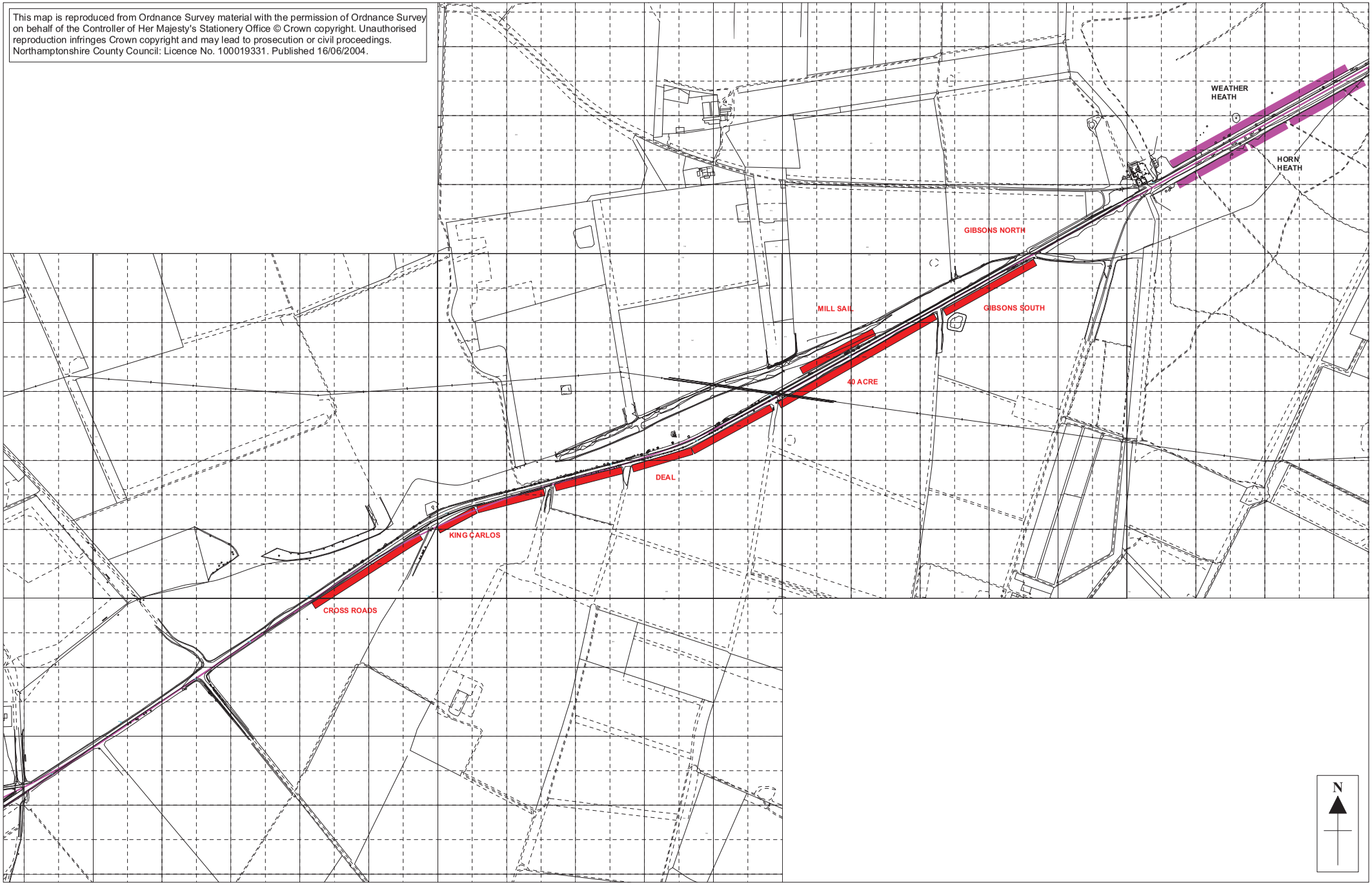


Figure 2: Survey Areas
Crossroads - Weather Heath

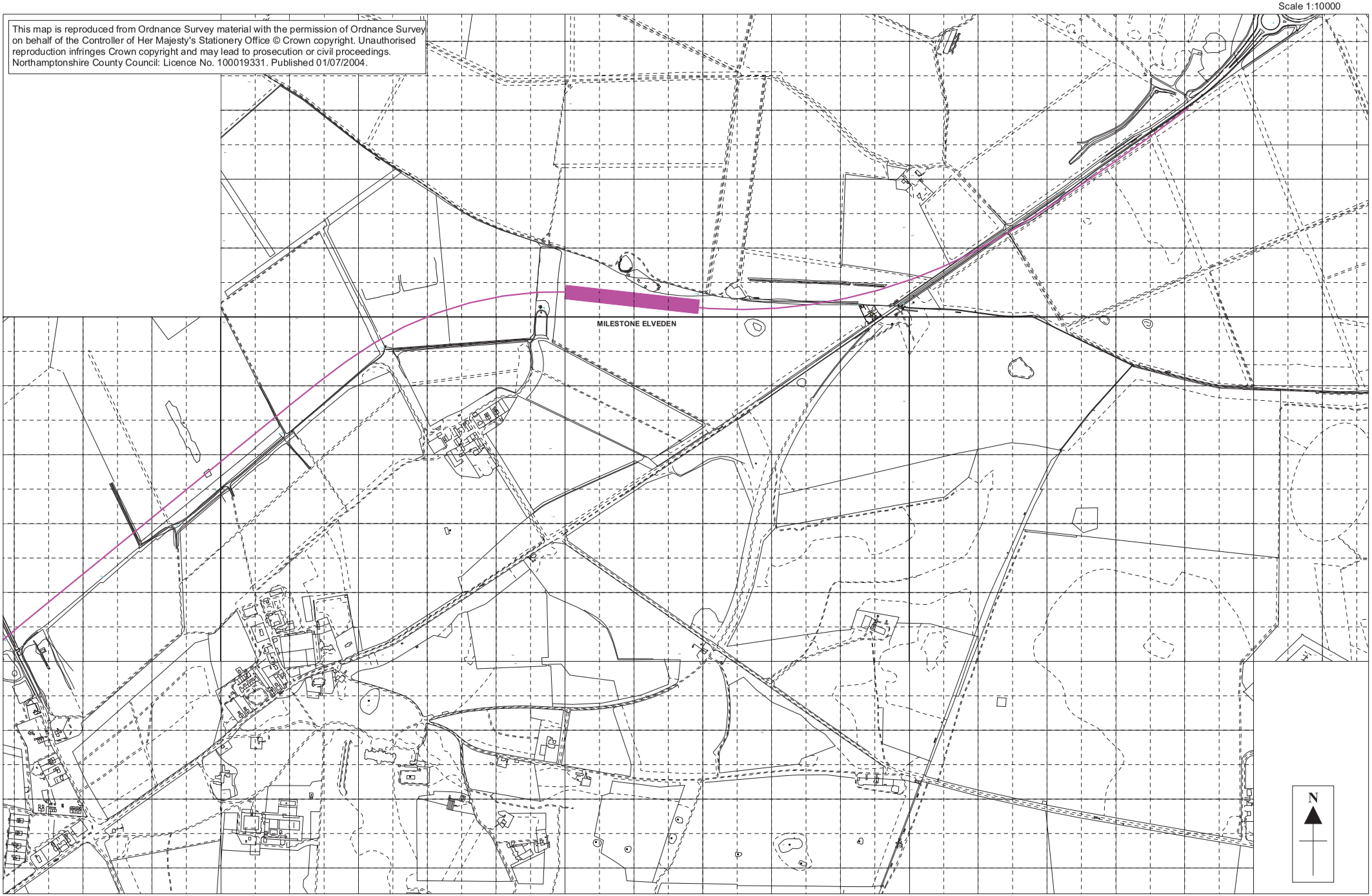


Figure 3: Survey Areas
Milestone Elveden

Scale 1:2500

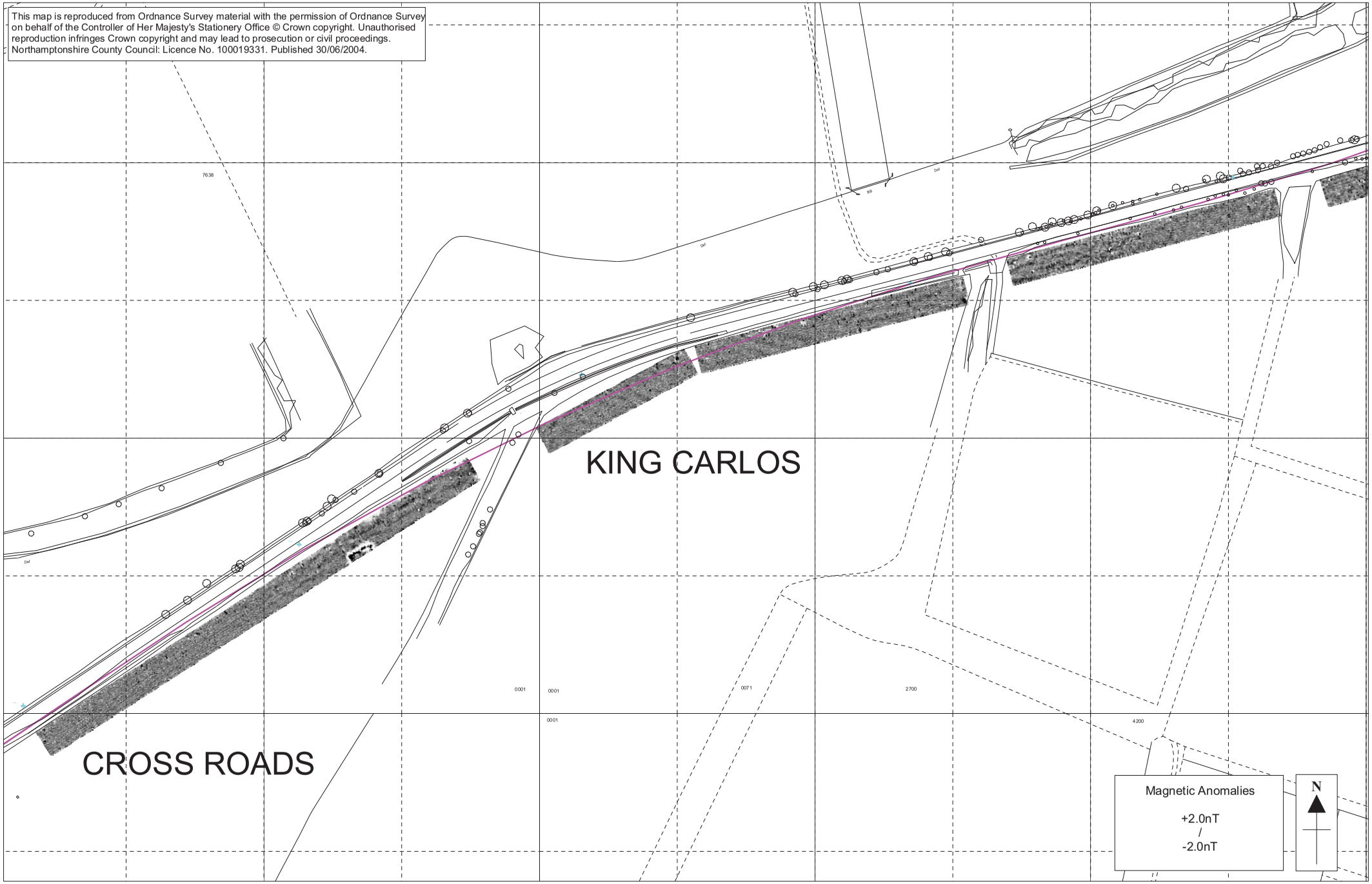


Figure 4: Gradiometer Results
Crossroads - 'No name'

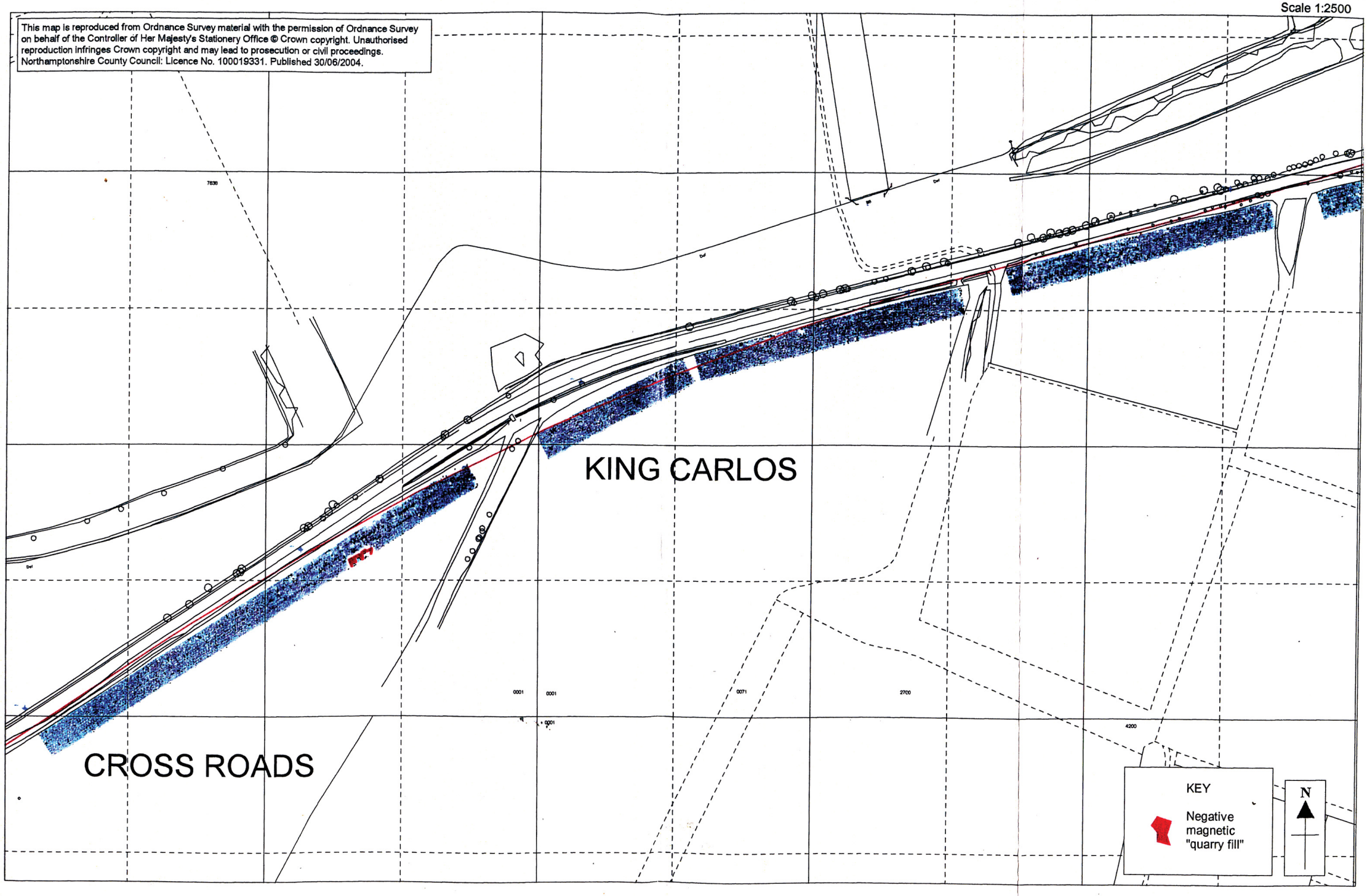


Figure 5: Gradiometer Interpretation
Crossroads - 'No name'

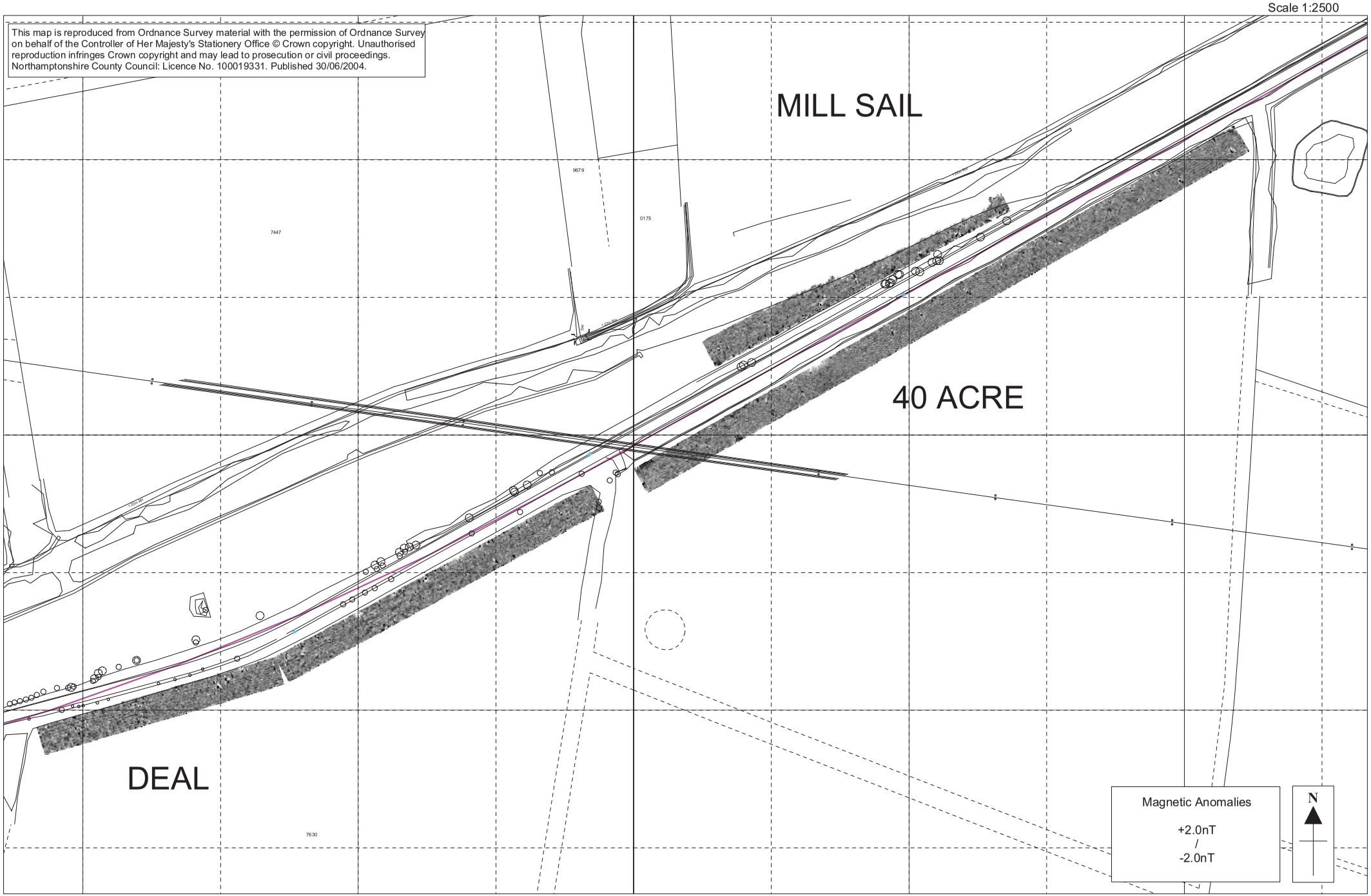


Figure 6: Gradiometer Results
Deal - 40 Acres

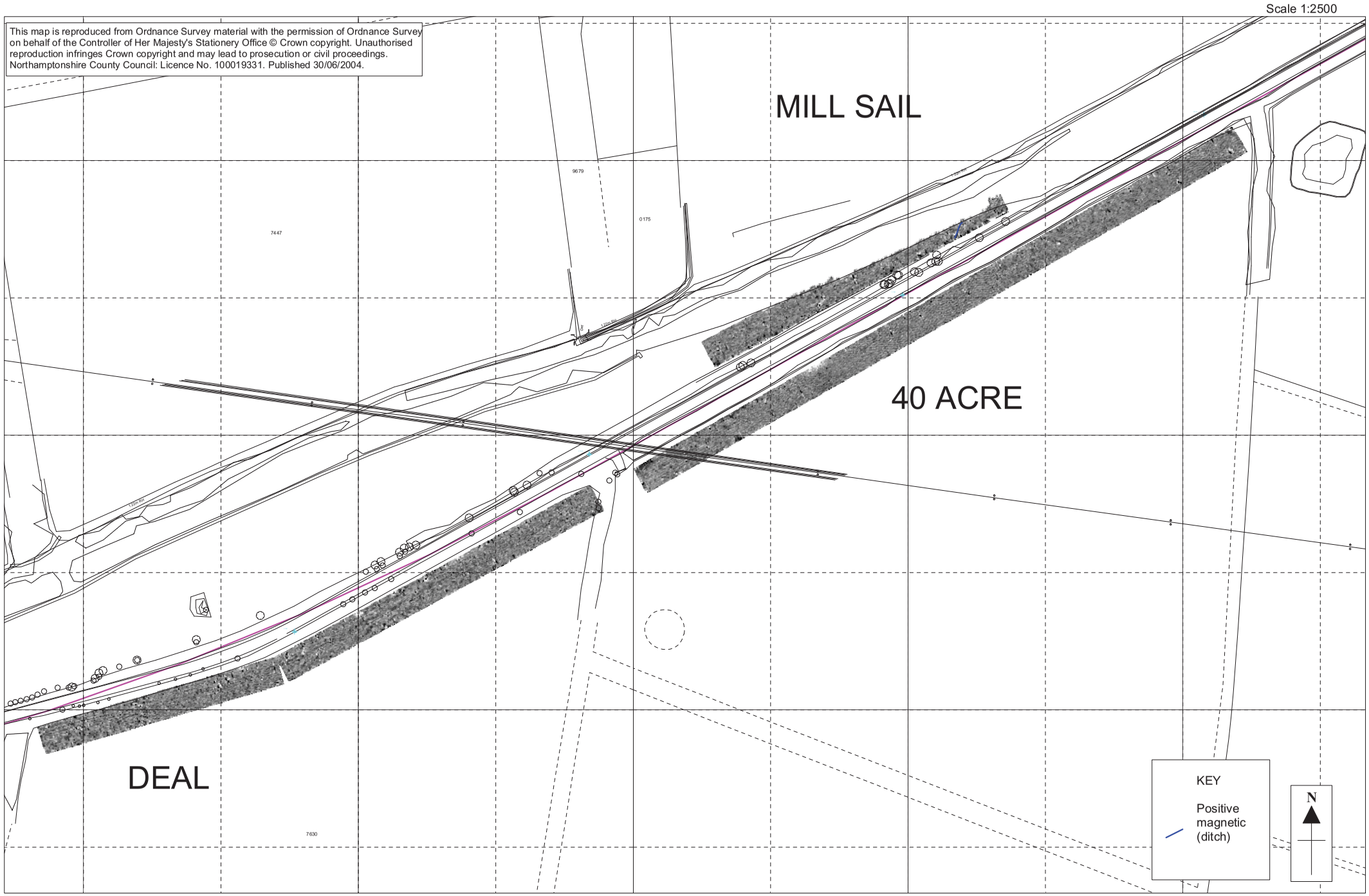


Figure 7: Gradiometer Interpretation
Deal - 40 Acre

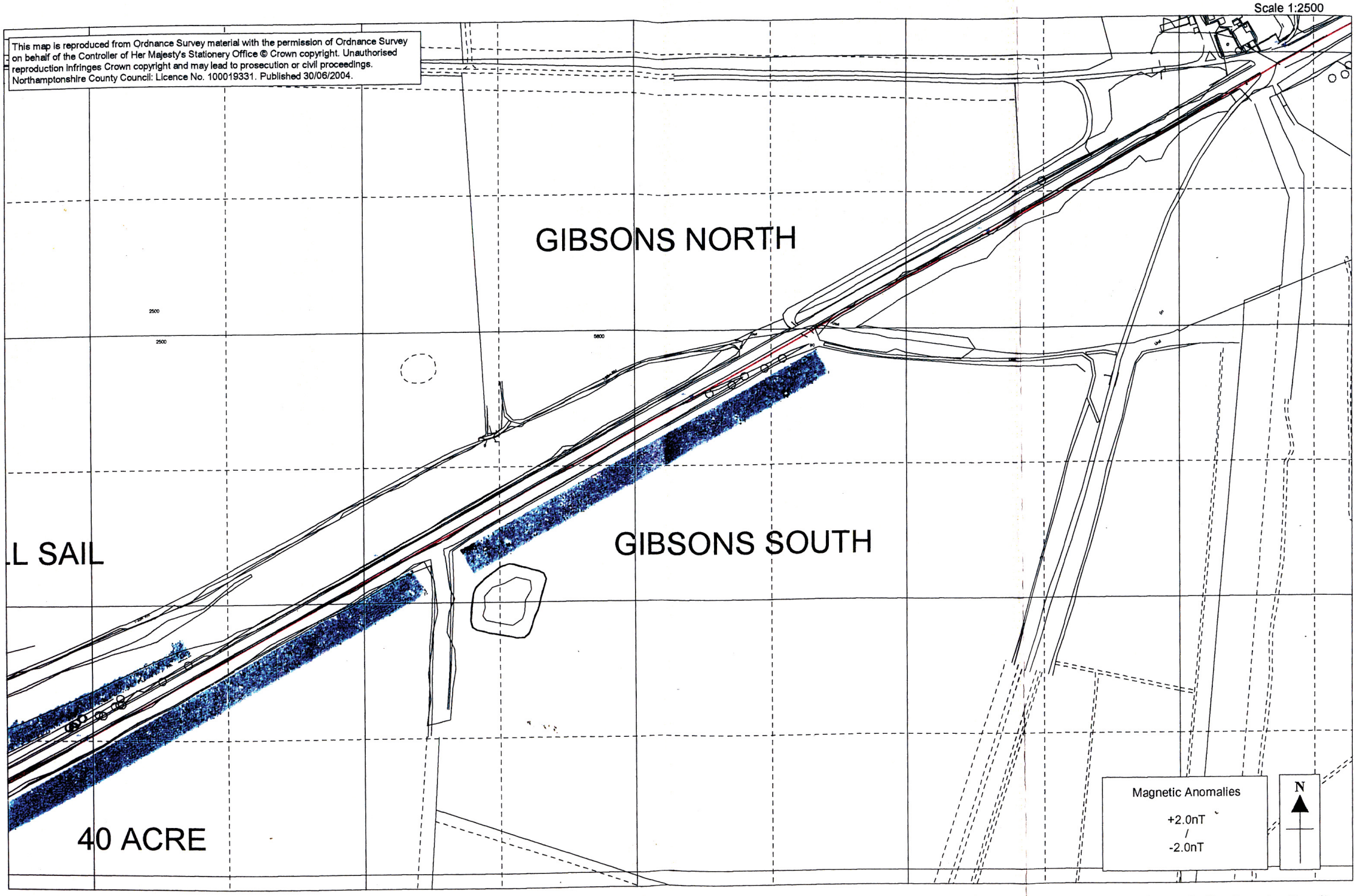


Figure 8: Gradiometer Results
Gibsons South

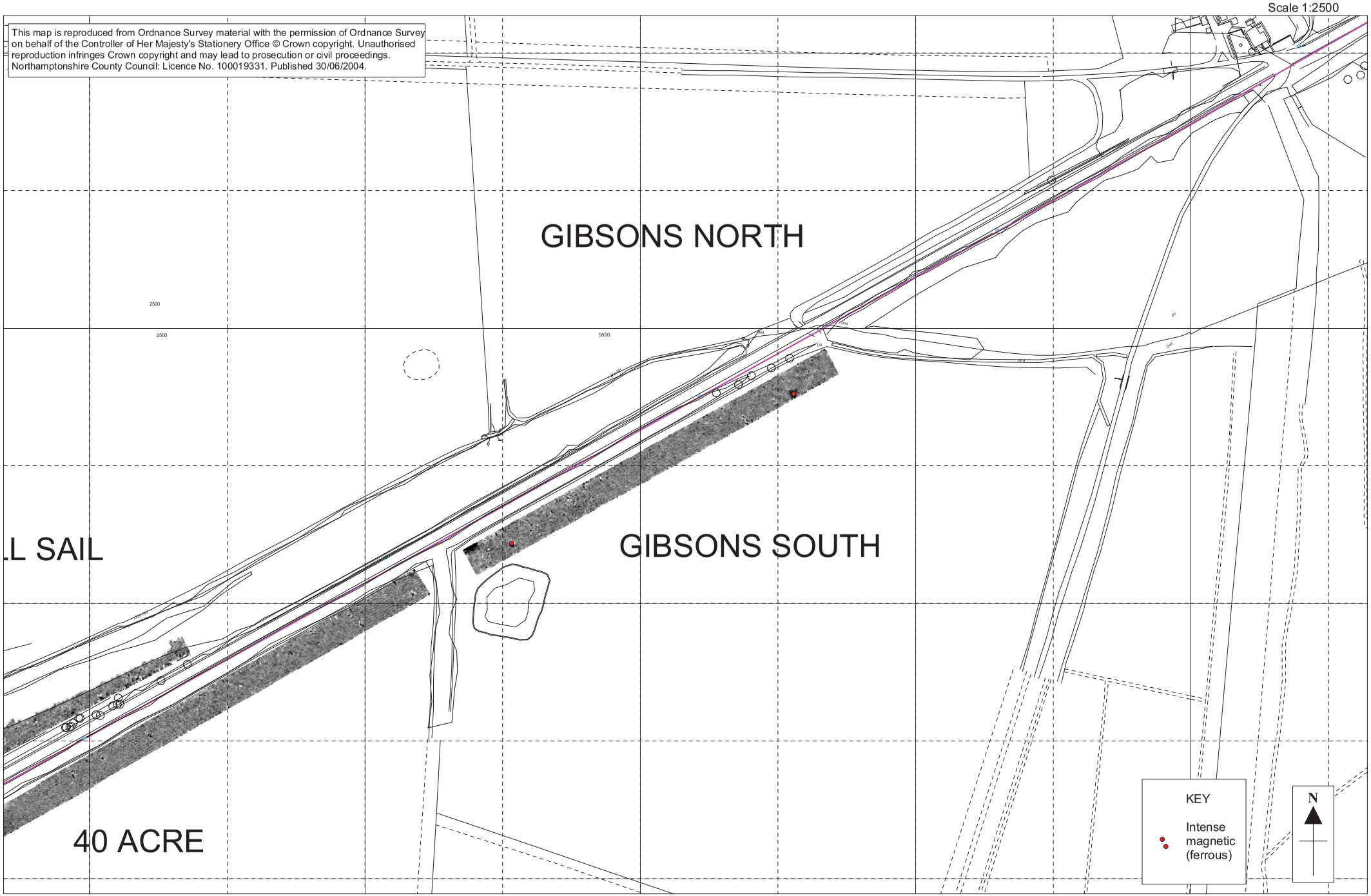


Figure 9: Gradiometer Interpretation
Gibsons South

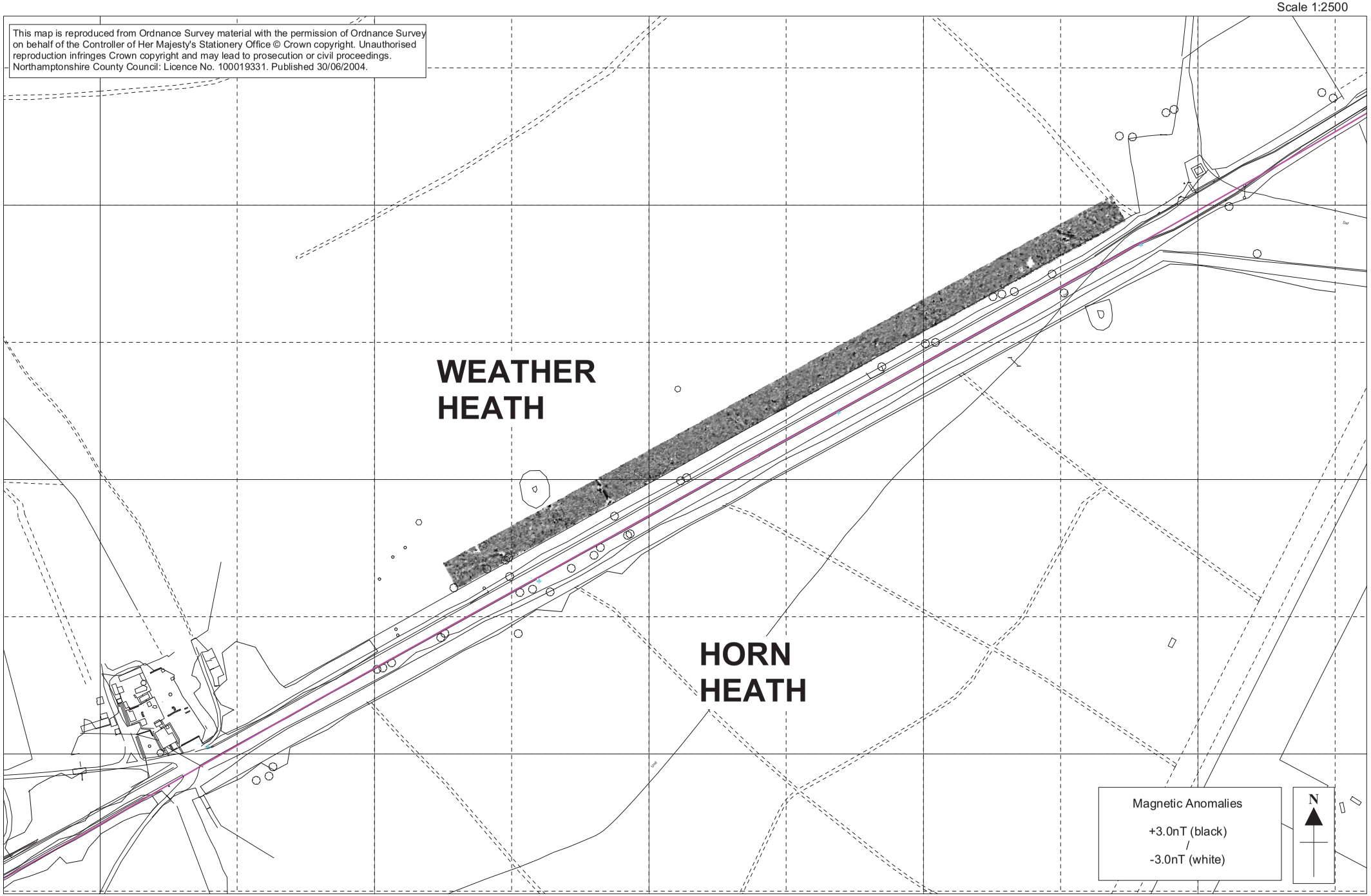


Figure 10: Gradiometer Results
Weather Heath

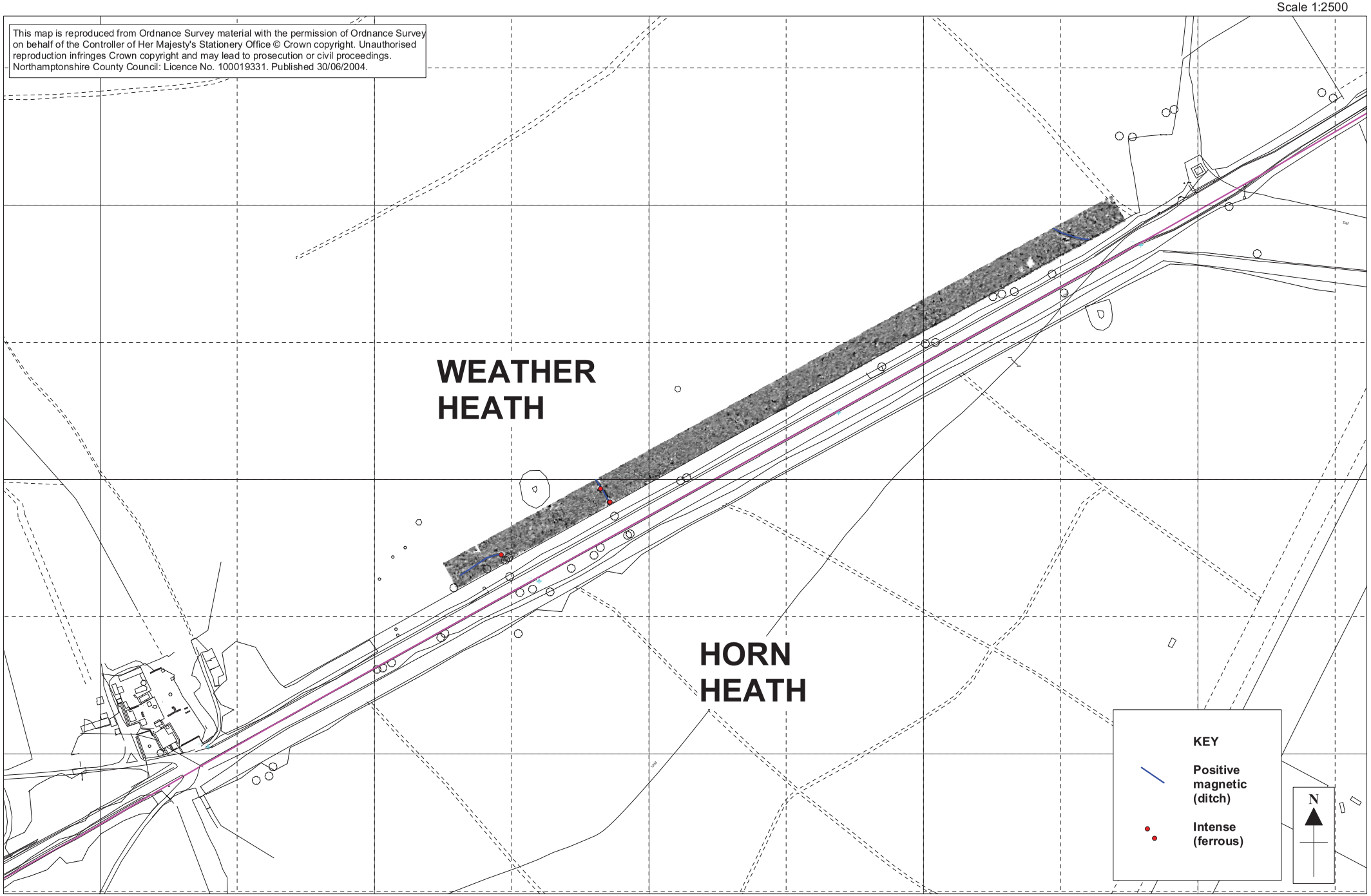


Figure 11: Gradiometer Interpretation
Weather Heath

Scale 1:2500

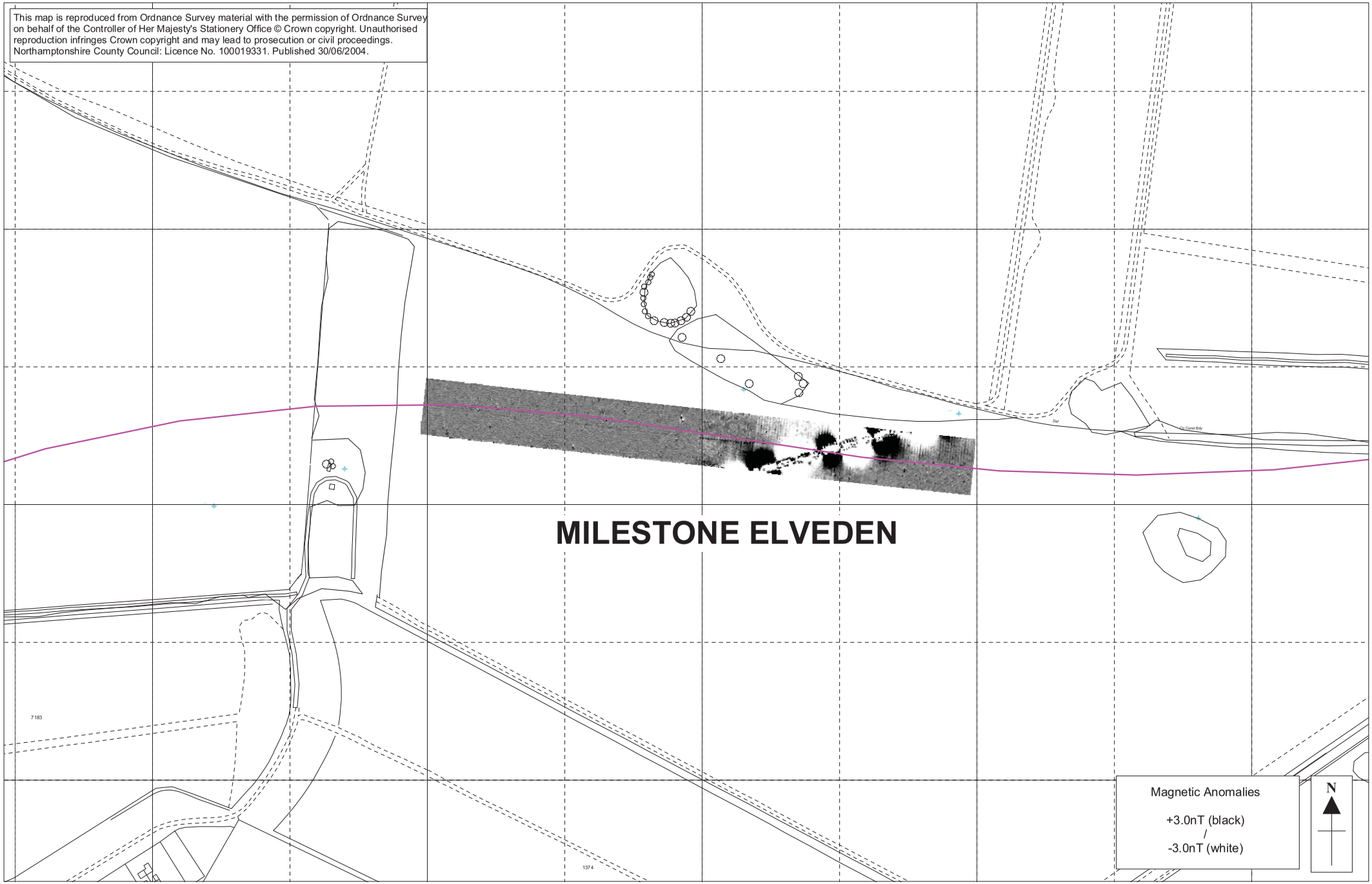


Figure 12: Gradiometer Results
Milestone Elveden

Scale 1:2500

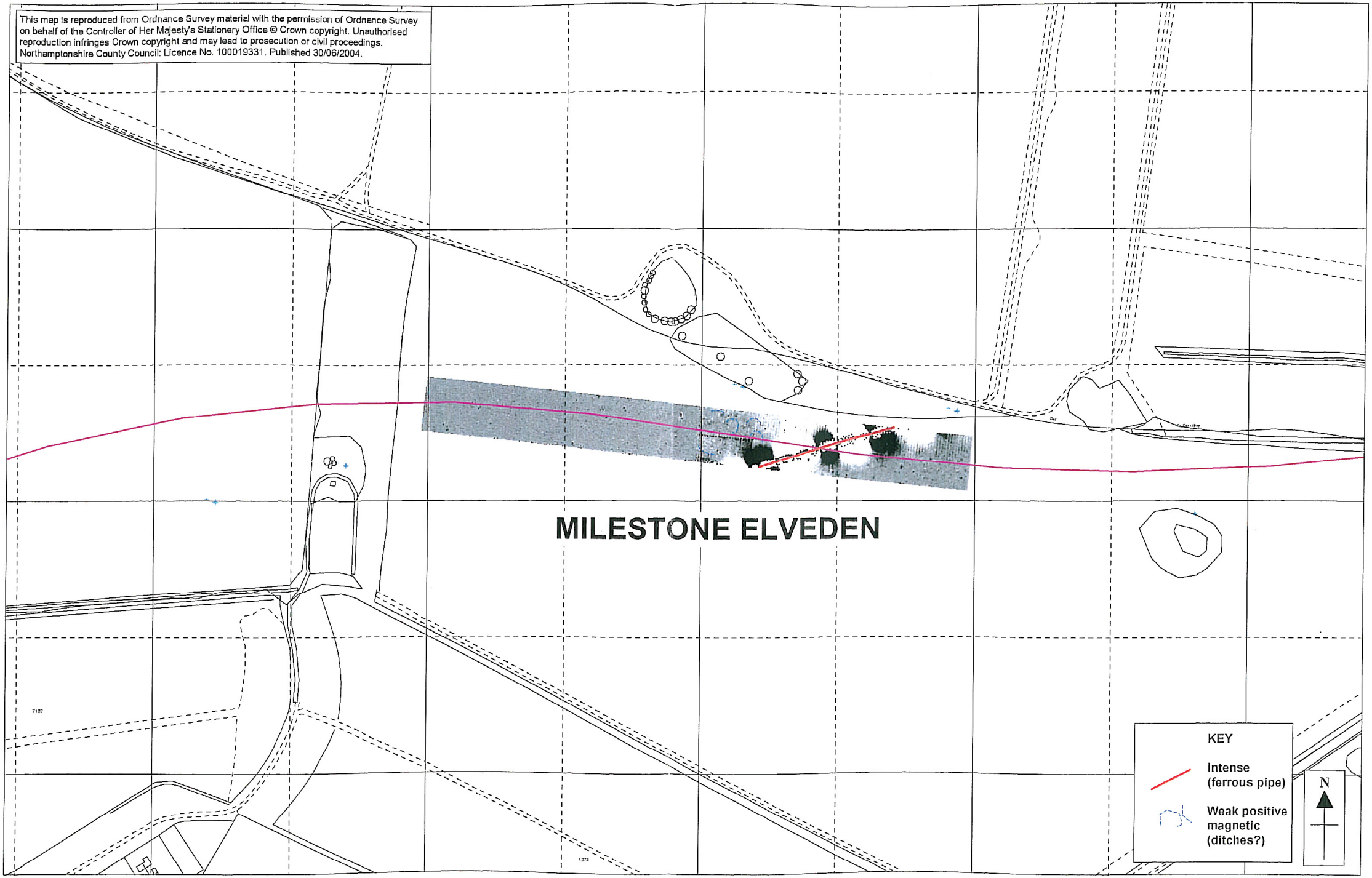


Figure 13: Gradiometer Interpretation
Milestone Elveden

APPENDIX G

Archaeological Evaluation

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NORFOLK ARCHAEOLOGICAL UNIT

Report No. 1027

An Interim Report on an Archaeological Evaluation at A11 Fiveways to Thetford Road Improvements Scheme

John Ames

December 2004

Contents

Location:	Barton Mills, Suffolk. Thetford, Norfolk
District::	Breckland
SMR and HER:	ELV 053, ELV 054, ELV 055, ELV 056, ELV 057, ELV 058, ELV 059, ELV 060, ELV 061, ELV 062, ELV 063, ELV 064, ERL 137, ERL 138, IKL 144, IKL 145, IKL 146, IKL 147, IKL 148, IKL 149, IKL 150 and IKL 151, 40876 THD
Grid Ref:	TL 728 742 (Suffolk) to TL 851 819 (Norfolk)
Date of fieldwork:	27th September to 4th November 2004

Summary

An archaeological evaluation was carried out along the proposed 14km easement for the A11 Fiveways to Thetford Road Improvement Scheme. One hundred and sixty nine trial trenches were excavated, fifty-five of which contained archaeological evidence.

The earliest phases of activity recorded consisted of prehistoric pits and linear ditches, from which Neolithic pottery (3600-3000BC) and worked flint were recovered.

A substantial mid-to-late Romano-British farmstead/settlement was located. Twenty-two evaluation trenches were placed within the possible nucleus of the settlement which revealed linear ditches, domestic and quarry pits, possible structural evidence and occupational deposits overlain by aeolian drift sands.

Truncation by intensive farming was evident throughout the evaluation easement and being most severe within the subsoil horizons.

1.0 Introduction

(Fig. 1)

In December 2003 the Norfolk Archaeological Unit (NAU) was invited by the Highways Agency to tender for a programme of archaeological field evaluation in connection with the proposed A11 Fiveways to Thetford Road Improvements Scheme. The proposed scheme of road improvement, junction works and associated landscaping involved the dualling of the existing A11, north of Elveden in Suffolk.

The Scheme's Environmental Co-ordinators, David Huskisson Associates, appointed Oxford Archaeology to act as archaeological consultants on behalf of the Highways Agency.

A Stage 2 DMRB Environmental Assessment report on the cultural heritage was produced by Oxford Archaeology. This Assessment reviewed all available data on archaeological sites and finds within a 1km corridor centred on the line of the existing A11 (Oxford Archaeology 2003a). The findings of three desk-based assessments (John Samuels Archaeological Consultants 1994; Oxford Archaeological Unit 2000a; 2000b) were incorporated into the Assessment. The results of a walkover survey (Oxford Archaeological Unit 2000c) and an archaeological watching brief carried out during geotechnical test pitting (Oxford Archaeology 2002; 2003b) were also included. This produced a comprehensive synthesis of the archaeology found within the study corridor and the likely impact of the Road Improvements Scheme upon them.

Oxford Archaeology prepared a Specification of Works for a phased programme of archaeological field evaluation designed to characterise the nature of the archaeological resource that will be affected by the Scheme (Oxford Archaeology 2003c).

The first two phases of work consisted of non-invasive survey were undertaken by NAU (Whitmore 2004) to establish the fullest understanding of the local topography and archaeology before the number and location of the evaluation trenches was finally decided.

NAU undertook an archaeological evaluation (Project Design: 1695/01/04/WAB) which resulted in the excavation of one hundred and sixty nine trial trenches, fifty-five of which contained archaeological evidence. The interim results of which are presented within this report.

2.0 Geology and Topography

The solid geology is predominantly of Cretaceous Middle Chalk with a small area of Lower Chalk at its south-western end. This is overlain by a series of deposits of Pleistocene age composed of chalky till, glaciofluvial and aeolian drift. Soils for the area comprises typical brown calcareous and argillic sands, brown calcareous earths and sandy brown rendzinas of the Methwold, Worlington, Swaffham Prior, Newmarket 1 and Newport 4 associations (Hodge *et al* 1984).

The topography for the corridor was characterised by gentle or moderate slopes and flat to undulating landscapes. Surface elevations rose from *c.* 10m AOD at the south-western end to *c.* 40m AOD at its north-eastern end.

The landuse along the length of the A11 Fiveways to Thetford Road Improvement scheme comprised of arable, woodland and rough grazing on heathland. The corridor ran through the Weather and Horn Heaths and Breckland Farmland Sites of Special Scientific Interest.

3.0 Archaeological Background

A total of 155 archaeological sites and/or findspots and twelve listed buildings were located within the study area (Oxford Archaeology 2003a). These included the scheduled How Hill Tumulus and a Grade II Listed war memorial adjacent to the existing A11 carriageway. An impact assessment carried out as part of the review identified that the scheme would have a direct impact on twenty-five known sites. These sites include six concentrations of Neolithic/Bronze Age worked flint, possible medieval ridge and furrow remains, cropmarks, numerous earthworks and boundary features and Second World anti-glider ditches. The remaining six sites comprised four linear features or pits and two features of periglacial origin recorded during geo-technical test pitting by the watching brief. Nine of these sites were identified by the assessment to be of local or district importance with the importance of the remaining sixteen sites categorised as uncertain and in need of further clarification.

Phase 1; the fieldwalking and cultural topographic survey *(NAU report 940)* was undertaken between the months of March-to-July 2004. The fieldwalking results are briefly discussed in (Appendix 1) with an overview to the evaluation results. Due to field conditions, standing crops and set-aside, fieldwalking was restricted to four fields. Parsons Slip, Gibson North, 40 Acres and Deal. In total, *c.* nine hundred and fifty-seven pieces of worked flint were recovered from these fields and indicate

extensive settlement of the area from the Mesolithic/early Neolithic-to-the Early-Middle Bronze Age.

The cultural topographical survey was carried out within the outline corridor though Mildenhall Woods and identified a number of earthwork features. Representing, probable woodland boundary enclosures and a possible prehistoric barrow. The putative barrow was investigated as part of the trial trenching phase of the evaluation.

Phase 2; the Geophysical Survey Areas 1, 2, 3, and 5 (GS1, GS2, GS3 and GS5) was undertaken in May 2004 and divided into seven adjoining fields predominately on the south side of the existing A11. Running east-to-west these include (GS 1 & 2) Gibson South, 40 Acres, Deal, an unnamed field (No-Name), King Carlos, Crossroads and north of the A11 at Mill Sall. (GS3) located to the central part of the survey and comprised of Weather and Horn Heath (SSSI). Geophysical Survey Area 5 (GS5) located to the eastern part of the survey at Milestone Elveden.

4.0 Methodology

The objective of this evaluation was to determine as far as reasonably possible the presence or absence, location, nature, extent, date, quality, condition and significance of any surviving archaeological deposits within the development area.

The Specification of Works prepared by Oxford Archaeology (2003c, Phase 3 Evaluation Trenching) required that a total of two hundred and eighteen trenches, 30m by 1.80m, were excavated to provide a 5% sample for areas of known archaeological sites or archaeological potential. A 2% sample for areas of uncertain or low archaeological potential. However, due to established trees thirteen trenches were unable to be excavated. A contingency for an additional forty-four trenches was summarised in the Specification of Works. On approval of the Oxford Archaeology consultant an additional three trenches and five trench extensions was implemented for further investigations.

The trenches were located using a Trimble 3605 DR total station and a number of temporary surveying stations placed along the proposed route of the A11 carriageway. The temporary surveying stations were linked to the Ordnance Survey national grid.

Machine excavation was carried out with a wheeled and a tracked hydraulic 360° excavator using a toothless ditching bucket under constant archaeological supervision.

All archaeological features and deposits were recorded using NAU *pro forma* sheets. Trench locations, plans and sections were recorded at appropriate scales and colour and monochrome photographs were taken of all relevant features and deposits. Photographs were taken pre-and-post machining of trenches and after the reinstatement.

In total, eighteen environmental samples were taken.

Site conditions were good with reasonable access. The weather conditions were variable throughout the survey ranging from torrential downpours to clear autumnal sunny days.

5.0 Results

Summaries of the fieldwalking survey (Appendix 1), geophysical survey (Appendix 2) and the trenches excavated (Appendix 3) are presented at the back of this report.

Zone A1 40876 THD

(Fig. 2)

Topsoil Dark greyish brown sandy silt loam *c.* 0.10m-to-0.30m in depth.
Subsoil Mid orange brown silty sand loam *c.* 0.20m-to-0.30m in depth with frequent root disturbance.
Natural Mainly yellow-to-orange sand with areas of pale yellow chalky till frequently disturbed by modern tree-throws.

This site consisted of ten trenches (1 to 7, 9, 10, 12 and 13), which measured 30m x 1.8m. Trench 2 was not excavated due to being positioned within established trees and Trench 4 was moved to avoid crossing a trackway. The trenches were located within an area of recently planted conifer trees ranging in height from *c.* 0.30m to 1m. The area was recently de-stumped, therefore, ground disturbances were evident in the topsoil and subsoil horizons. No archaeological features or deposit were encountered.

Zone A1 Milestone ELV 053

(Fig. 2)

Topsoil Mid greyish brown sandy silt *c.* 0.30m-to-0.40m in depth.
Subsoil The subsoil horizon was partially removed by deep ploughing. Occasional, patches of subsoil survive to the east of the site and consists of a mid orange-to-mid brown silty sand *c.* 0.10m to 0.15m in depth.
Natural Light brownish orange sandy clay till with areas of pale yellow chalky till. There were frequent modern plough marks and occasional tree-throws along the northern side of the site.

This site consisted of nineteen trenches (8,10, 11, 14 to 29) which measured 30m x 1.80m. Trench 21 was not excavated due to waterlogged conditions. Truncation by modern ploughing has possibly removed sub-surface archaeological evidence.

Archaeological Evidence

Trench 20 contained an undated shallow north-to-south linear ditch.

Zone Z1 Milestone ELV 054

(Fig. 3)

Topsoil Mid grey-to-mid brown sandy silt *c.* 0.30m-to-0.40m in depth.
Subsoil A layer of mid orange-to-mid brown silty sand exists across the entire site. *c.* 0.15m-to-0.25m in depth.
Natural Light brown-to-orange sandy clay with occasional areas of flint nodules.

This site consisted of seven trenches (30 to 36) which measured 30m x 1.80m, four of which contained archaeological features.

Archaeological Evidence

Trench 30 contained an undated shallow east-to-west ditch.

Trench 31 contained four undated archaeological features and two natural features; three excavated pits, a post-hole and two excavated natural tree-throw features.

Trench 34 contained two archaeological features; a linear ditch and a prehistoric burnt pit.

Trench 36 contained an undated (possibly prehistoric) burnt pit.

Zone Z1 ELV 055

(Fig. 3)

Topsoil Dark brown silty sand loam *c.* 0.30m-to-0.40m in depth.
Subsoil There was no apparent subsoil in this area.
Natural Mid orange-to-mid brown sand with occasional modern plough scars.

This site consisted of ten trenches (37 to 46) which measured (30m x 1.80m). Trenches 37, 38, 39, 40 and 41 were not excavated due to their location within a plantation of conifer trees. Trench 46 was not excavated because of a large pile of manure. No archaeological features or deposits were encountered.

Zone Z1 Parsons Slip ELV 056

(Fig. 3)

Topsoil Homogeneous mid grey-to-dark brown sandy silt loam *c.* 0.30m-to-0.35m deep.
Subsoil No subsoil horizon have been noted for this area. Except, for an area of reddish brown sand which was located in the southern end of Trench 53. This may be a patch of surviving subsoil or wind deposited sand.
Natural Mid orange brown sand with patches of pale yellow chalky till towards the south west.

This site consisted of seven trenches (47 to 53) which measured 30m x 1.80m. No archaeological features or deposits were encountered.

Zone Z2 Brandon Road North ELV 057

(Fig. 4)

Topsoil Mid greyish brown sandy silt loam *c.* 0.30m-to-0.40m in depth.
Subsoil There was no evidence of surviving subsoil in the area.
Natural Mid orange brown sand with patches of pale yellow chalky till.

This site consisted of five trenches (54 to 58), which measured 30m x 1.80m. Five trenches contained archaeological features and deposits.

Archaeological Evidence

Trench 54 contained a post-hole, or truncated burnt pit, from which an undiagnostic flint flake was recovered.

Trench 55 contained five undated post holes.

Trench 56 contained a northwest-to-southeast linear ditch, interpreted as a modern military-style slit-trench.

Trench 57 contained two pits and a post-hole, both undated.

Trench 58 contained two linear ditches, a post-hole and a pit/post pit.

Zone Z2 Brandon Road North ELV 058

(Fig. 4)

Topsoil Mid greyish dark brown sandy silt loam *c.* 0.30m-to-0.40m in depth.
Subsoil In general, no subsoil deposits survive, except for Trench 63.
Natural Mid orange-to-mid brown sand with areas of pale yellow chalky till.

This site consisted of five trenches (59 to 63), which measured 30m x 1.80m. One trench contained archaeological evidence.

Archaeological Evidence

Trench 63 A post-hole and two parallel west-to-east linear ditches were recorded within this trench. The ditches were located beneath a reddish brown subsoil *c.* 0.10m-to-0.20m in depth. All of these features were undated.

Zone A2 Landing ground ELV 059

(Fig. 5)

Topsoil Mid greyish brown sandy silt *c.* 0.30m-to-0.40m in depth.
Subsoil Most subsoil removed by deep ploughing. Areas of mid orange brown silty sand *c.* 0.10m-to-0.30m occur across the site, particularly towards the north-east and south-west. This may be evidence of disturbed natural caused by earlier ploughing. Areas of reddish brown sand were also found and these may be patches of surviving subsoil or wind deposited sand.
Natural Mid orange-to-light brown sands and gravels mixed with pale yellow chalky till.

This site consisted of twenty-two (64 to 85) trenches, which measured 30m x 1.80m. All of these trenches contained archaeological features.

Archaeological Evidence

Trench 64 a small clay-lined pit that produced a probable Iron Age sherd, a pit that contained three struck flints and one unexcavated ditch, were recorded within this trench.

Trench 65 three linear ditches (two excavated and one unexcavated) and three pits (two excavated and one unexcavated) were found within this trench.

Trench 66 two parallel linear ditches, a pit and an unexcavated amorphous spread (probably representing inter-cutting pits) were seen in this trench, all undated.

Trench 67 one post-hole (or pit) and three parallel linear ditches, were found within this trench. One of the ditches and post-hole/pit produced a flint flake and pottery with a date range of 1st-to-4th century AD.

Trench 68 two parallel linear ditches and a post-hole or small pit were found, both undated.

Trench 69 contained six linear ditches (five unexcavated), the excavated linear produced six struck flints and 2nd-to-3rd century AD pottery. One pit, six post-holes (two excavated) and three linear gullies (unexcavated) were also found.

Trench 70 contained five archaeological features; two parallel linear ditches, and three pits. One ditch and a pit produced pottery dating to the 1st-to-2nd century AD.

Trench 71 contained *c.* thirty-three archaeological features: two unexcavated linear ditches, two pits (one of which one pit produced 2nd-to-3rd century AD pottery), three gullies (one of which produced a 2nd-to-3rd century AD coin), sixteen post-holes (five excavated) and *c.* ten (unexcavated) lateral features.

Trench 72 a pit and linear ditch (that produced 2nd-to-3rd century AD pottery) were recorded in this trench.

Trench 73 contained one pit that produced a flint flake and 2nd-to-3rd century AD pottery and two unexcavated pits. A linear ditch produced 1st-to-mid 2nd century AD pottery.

Trench 74 contained two groups of inter-cutting linear ditches, possibly representing an rectilinear enclosure and a large rectangular pit, all of which were sealed by the subsoil. The ditches produced worked flint, fragments of burnt flint and late 2nd-to-3rd century AD pottery.

Trench 75 contained six inter-cutting pits and six undated linear ditches (one unexcavated). One of the pits produced a sherd of a 2nd to early 3rd century AD samian ware.

Trench 76 three pits, two of which produced 2nd-to-3rd century AD pottery, three undated post-holes, two undated linear ditches and an undated ditch terminus were recorded within this trench.

Trench 77 contained *c.* thirty-five archaeological features and two lateral deposits. This constituted *c.* twenty three post-holes (eight unexcavated), five

linear ditches (one unexcavated), with one linear producing 2nd-to-3rd century AD pottery. Also four undated pits (two unexcavated), a linear beam slot/gully, a curvilinear ditch and ditch terminus, which produced 2nd-to-3rd century AD pottery. The amorphous features are possibly inter-cutting pits.

Trench 78 contained *c.* six post-holes, three pits with one pit producing late 2nd-to-early 3rd century AD pottery, two undated linear ditches, a ditch terminus and an undated curvilinear ditch.

Trench 79 five pits (three unexcavated) with one pit producing struck flint, three linear ditches (two unexcavated) and one post-hole were recorded within this trench.

Trench 80 contained two undated archaeological features; one pit and a linear ditch.

Trench 81 three inter-cutting ditches (with one ditch containing late 1st-to-3rd century AD pottery and another a multi-platform flint core), a ditch/gully terminus and a pit (that produced a struck flint and 2nd-to-3rd century AD pottery) were recorded within this trench.

Trench 82 contained three linear ditches, a ditch terminus, two post-holes (with one producing a flint flake), four pits (one of which produced two flint flakes and another contained 4th century AD pottery, while another held a copper-alloy coin and an iron dagger).

Trench 83 contained eleven archaeological features and two lateral deposits. These constituted seven linear ditches (three unexcavated with one ditch producing 2nd-to-4th century AD pottery), three pits (one pit produced a worked antler) and a post-hole. The lateral deposits were overlain by possible aeolian sands and are either occupation layers or a series of inter-cutting pits.

Trench 84 Aeolian sands which overlay a probable occupation layer dated to the 4th century AD were recorded within this trench. Also recovered from this deposit were fourteen struck flints, which include a multi-platform core and a test-piece. The probable occupation layer was seen throughout the trench.

Trench 85 contained two linear ditches, a ditch terminus, two linear gullies and a gully terminus (which produced four flint flakes). Majority of the features produced pottery evidence ranging from 1st-to-4th century AD, as well as ceramic building materials and a fragment of quern stone. An unstratified flint flake was recovered from the subsoil.

Zone A2 Drier ELV 060

(Fig. 6)

This site consists of thirty-six (30m x 1.80m) trenches (86 to 121), which measured 30m x 1.8m. None were excavated, however, due to the field being under crop.

Zone Z3 Opposite Chalk Hall ELV 061

(Fig. 7)

Topsoil Mid greyish brown sandy silt loam *c.* 0.30m-to-0.40m depth.
Subsoil A layer of reddish brown sand *c.* 0.10m-to-0.20m depth exists across the entire site.
Natural Mid orange-to-mid brown sand with patches of pale yellow chalky till towards the north east.

This site consisted of four trenches (122 to 125), which measured 30m x 1.80m, all of which contained archaeological features.

Archaeological Evidence

Trench 122 two linear ditches, two ditch termini and three pits, all undated, were recorded within this trench.

Trench 123 two linear ditches and three possible post-holes, all undated, were contained within this trench.

Trench 124 three pits and a post-hole, all undated, were located within this trench.

Trench 125 three pits and a post-hole, all undated, were found within this trench.

Zone Z3 Sheep Run II ELV 062

(Fig. 7)

Topsoil Mid brown sandy silt loam *c.* 0.30m-to-0.40m in depth.
Subsoil An area of mid orange-to-light brown sand *c.* 0.10m in depth exists in the central and south-western part of the site.
Natural Mid orange-to-mid yellow sand with patches of pale yellow chalky till towards the south west.

This site consisted of four trenches (126 to 129) with one additional trench (128b), all measured 30m x 1.80m.

Archaeological Evidence

Trench 128 contained two linear ditch termini and a pit, all undated.

Trench 128b contained two undated ditch termini.

Zone Z3 Sheep Run II ELV 063

(Fig. 7)

Topsoil Mid brown sandy silt loam c. 0.30m-to-0.40m in depth.
Subsoil An area of mid orange-to-light brown sand exists in the central and south-western part of the site.
Natural Pale yellow chalky till with areas of mid orange-to-mid yellow sand central part of the site.

This site consisted of four trenches (130 to 133), which measured 30m x 1.80m.

Archaeological Evidence

Trench 130 a pit which produced a bladelet, two fragments of burnt flint and an unstratified struck flake, was recorded within this trench.

Trench 131 contained an undated linear ditch.

Trench 132 contained an undated pit.

Zone Z3 Sheep Run III ELV 064

(Fig. 7)

Topsoil Mid greyish brown silty sand loam *c.* 0.30m-to-0.40m in depth.
Subsoil An area of mid orange brown silty sand exists in the central part of the site.
Natural Mid orange-to-light brown sand.

This site consisted of three trenches (134 to 136) which measured (30m x 1.80m), however, no archaeological features or deposits were found.

Zone A3 Memorial Heath ERL 137

(Fig. 8)

Topsoil Mid greyish-to-mid brown silty sand loam *c.* 0.30m-to-0.50m in depth.
Subsoil Areas of mid orange-to-mid brown silty sand *c.* 0.10m-to-0.30m in depth exists across the entire site.
Natural Mid orange-to-light brown sand with patches of pale yellow chalky till.

This site consisted of ten trenches (137 to 146), which measured 30m x 1.80m. One of the trenches (145) was not excavated due to established trees.

Archaeological Evidence

Trench 139 contained a pit where fragments of burnt flint were recovered.

Zone A4 Gibson North and east of Gibson South ERL 138

(Fig. 9)

Topsoil Mid greyish-to-dark brown silty sand loam *c.* 0.30m – 0.40m in depth.
Subsoil There was no subsoil in this area.
Natural Mid orange-to-light brown sand with areas of pale yellow chalky till towards the south west.

This site consisted of eleven trenches (147 to 157), which measured 30m x 1.80m. No trenching took place east of Gibson South as several of the trenches (147, 149, 151, 153 and 155) were located within established woodland. Moreover, no archaeological features or deposits were found within the excavated trenches.

Zone A4 Gibson South IKL 144

(Fig. 9)

Topsoil Mid grey-to-mid brown silty sand *c.* 0.30m-to-0.40m in depth.

Subsoil Areas of mid orange-to-mid brown silty sand occur to the extreme north-east and south-west of the site.
Natural Mid orange-to-light brown sand with occasional patches of pale yellow chalky till.

This site consisted of six trenches (158 to 163), which measured 30m x 1.80m.

Archaeological Evidence

Trench 158 contained what appeared to be an in-filled post-medieval marl pit.

Trench 161 contained a probable modern machined pit or ditch.

Zone A4 40 Acres (S) IKL 145

(Fig. 9)

Topsoil Mid greyish brown silty sand loam *c.* 0.30m-to-0.40m depth.
Subsoil There was no evidence of surviving subsoil in the area.
Natural Mid orange-to-light brown sand with areas of pale yellow chalky till.

This site consisted of nine trenches (164, 165, 166, 168, 169, 170, 172, 174 and 175) with one additional trench (164b), all of which measured 30m x 1.80m.

Archaeological Evidence

Trench 164 contained a post-hole and a burnt pit which contained burnt/cremated bone and burnt flint fragments, both of probable prehistoric date.

Trench 164b a ditch terminus, or pit, was recorded in this trench which contained twelve sherds of early Neolithic pottery and ten struck flints.

Trench 165 one small pit, undated, pit was recorded.

Trench 166 one undated pit was recorded in this trench.

Trench 168 contained one shallow pit.

Trench 172 contained a probable ditch terminus and a linear ditch (that produced one sherd of early Neolithic pottery).

Trench 174 a large deep modern pit which had been sealed with a layer of chalk and contained nine pieces of residual struck flint was recorded in this trench.

Trench 175 contained one small undated pit.

Zone A4 Mill Sall IKL 145

(Fig. 9)

Topsoil Mid brown sandy silt loam *c.* 0.30m-to-0.40m depth.
Subsoil Areas of mid orange-to-mid brown silty sand exist to the north-east and south-west of the site.
Natural Mid orange-to-light brown sand with areas of pale yellow chalky till.

This site consisted of three trenches (167, 171 and 173) which measured 30m x 1.80m, however, no archaeological features or deposits were found.

Zone Z4 Deal (N) IKL 146

(Fig. 10)

Topsoil Mid greyish brown silty sand loam *c.* 0.30m-to-0.40m depth.
Subsoil Areas of mid orange-to-mid brown silty sand exist to the north-east and south-west of the site.
Natural Mid orange-to-light brown sand with large areas of pale yellow chalky till towards the south west.

This site consisted of four trenches (176, 179, 181 and 183) north of the A11, which measured 30m x 1.80m.

Archaeological Evidence

Trench 183 contained a possible undated post-hole.

Zone Z4 Deal (S) IKL 146

(Fig. 10)

Topsoil Mid greyish-to-dark brown silty sand *c.* 0.30m-to-0.40m in depth.
Subsoil There was no evidence of surviving subsoil in the area.
Natural Mid orange-to-light brown sand with large areas of pale yellow chalky till towards the south west.

This site consisted of six trenches (177, 178, 180, 182, 184 and 185) south of the A11, all of which measured 30m x 1.80m.

Archaeological Evidence

Trench 185 contained five undated post-holes.

Zone Z4 (N) IKL 147

(Fig. 10)

Topsoil Mid greyish-to-dark brown silty sand loam *c.* 0.30m-to-0.40m in depth.
Subsoil Areas of mid orange-to-mid brown silty sand exist across the entire site.
Natural Mid orange-to-light brown sand with patches of pale yellow chalky till.

This site consisted of two trenches (186 and 189) north of the A11, which measured 30m x 1.80m.

Archaeological Evidence

Trench 186 contained an undated post-hole.

Zone Z4 (S) IKL 147

(Fig. 10)

Topsoil Mid greyish brown sandy silt *c.* 0.30m-to-0.40m in depth.

Subsoil There was no evidence of surviving subsoil in the area.
Natural Mid orange-to-light brown sand with patches of pale yellow chalky till.

This site consisted of three trenches (187, 188 and 190) south of the A11, which measured 30m x 1.8m. Trench 187 was extended for further investigations.

Archaeological Evidence

Trench 187 contained a shallow undated curvilinear ditch/gully.

Zone A5 King Carlos IKL 148

(Fig. 11)

Topsoil Mid greyish brown sandy silt loam *c.* 0.30m-to-0.40m in depth.
Subsoil There was no evidence of surviving subsoil in the area.
Natural Pale yellow chalky till with patches of mid orange-to-light brown sand.

This site consisted of eight (191 to 198) trenches and one additional negative trench (164b), all of which measured 30m x 1.80m.

Archaeological Evidence

Trench 192 contained a small pit and a post-hole, both undated.

Trench 196 a pit cut by a possible post-hole, that contained twenty-one struck flints and thirty-nine sherds of flint tempered early Neolithic pottery, was recorded in this trench. The probable post-hole produced three struck flints.

Trench 197 two undated post holes were recorded in this trench.

Trench 198 contained several irregular shaped features initially considered as quarry pits but later re-interpreted as natural features within the chalk strata, one struck flint was recovered.

Zone Z5 Crossroads IKL 149

(Fig. 12)

Topsoil Mid greyish brown sandy silty loam *c.* 0.30m-to-0.40m in depth.
Subsoil There was no evidence of surviving subsoil in the area.
Natural Chalk with cyroturbation features.

This site consisted of eleven trenches (199 to 209), which measured 30m x 1.80m, however, no archaeological features or deposits were recorded within them.

Zone Z5 Pit Field and Boundary Field IKL150

(Fig. 12)

Topsoil Mid greyish brown sandy silty loam *c.* 0.30m-to-0.45m in depth.
Subsoil Mid orange brown silty sand *c.* 0.15m-to-0.25m in depth.
Natural Chalk with cyroturbation features.

This site consisted of six trenches (210 to 215) which measured (30m x 1.80m), however, no archaeological features or deposits were recorded.

Zone Z5 Boundary Field and Durham Heath IKL 151

(Fig. 12)

Topsoil	Dark brown sandy silty loam *c.* 0.15m-to-0.25m in depth.
Subsoil	Mid brown silty sand *c.* 0.15m-to-0.25m in depth.
Colluvial (a)	Mid yellowish brown silty sand with occasional small rounded-to-sub-rounded flint *c.* 0.30m in depth.
Colluvial (b)	Mid brownish yellow silty sand with occasional patches of brown silty sand. This deposit appears to be slightly mixed with disturbed natural *c.* 0.15m in depth.

This site consisted three trenches (216 to 218), which measured 30m x 1.80m. No archaeological features or deposits were found, however, two colluvial deposits (a and b) were recorded in Trenches 217 and 218. The topographic location of the trenches south of the A11, lie at the bottom of a hill. Therefore, the presence of colluvial deposits possibly represents hill-wash from the upper north-facing slopes.

Possible Barrow

During the Cultural Topographical Survey in (*Phase 1, Zone 2);* there was a partially surviving ring ditch enclosing a mound *c.* 8-to-9m in diameter. This was initially interpreted as a possible Bronze Age barrow (Site 546). However, subsequent excavations has proven that this feature was not a Bronze Age barrow, but either, sand and gravel upcast from a possible woodland boundary bank or a natural sand and gravel knoll. The final excavation results shall be incorporated in the full evaluation report.

6.0 The Finds

Pottery

The Prehistoric Pottery

Site IKL 148

Thirty-nine sherds of flint tempered pottery, weighing 0.83kg, were recovered from a single deposit (pit fill [19]). The abundant, coarse, burnt flint inclusions and smoothed surfaces suggest that the sherds are of earlier Neolithic date 3600-3000BC. The sherds appear to be from a single vessel, an undecorated round-based bowl. No rim sherds were found. The condition of the sherds is mixed some being large and fresh others smaller and burnt or abraded. One sherd has a spall or flaw from misfiring during production.

Site IKL 145

Thirteen sherds of earlier Neolithic pottery, weighing 0.122kg, were recovered from two contexts ([22] and [24]). The sherds are from at least two undecorated bowls with round bases and rounded or out-turned rims. All the sherds are heavily tempered with crushed burnt flint.

Site ELV 059

An amount of prehistoric pottery (which will be quantified for the final evaluation report) consisting of handmade flint or sand-tempered sherds was found alongside Romano British pottery, suggesting that they may have been residual within these later contexts.

Fired Clay

Site ELV059

Sixty-four pieces of fired clay, weighing 0.655kg, were recovered from sixteen contexts, of which only [528], [529] and [663] produced significant assemblages. The fired clay pieces from these contexts have one smoothed surface, occasionally with deep thumb or fingertip impressions, and one irregular surface. One example, ([528]), has a twig impression on the rough face suggesting clay lining, which had been pressed onto a wattle superstructure.

Non local Stone

Site IKL148

A large quartzite cobble, weighing 1.584kg, was found ([19]). The sub-rounded cobble showed signs of having been burnt on part of one surface and was probably derived from local glacio fluvial deposits.

Site ELV059

Non local stone was found in two contexts. Context [553] contained a single heat fractured quartzite pebble possibly collected from glacial sand and gravel. Context [735 produced two pieces from an iron rich sandstone pebble and a small block of micaceous sandstone. Both the pieces had been burnt. The origin of these pieces is uncertain but they are probably collected from the glacial tills rather than river borne deposits.

Worked Flint

Site ELV057

A single small fragment of an undiagnostic flake came from this site ([21]).

Site ELV059

A total of forty-three struck flints and twenty-eight fragments of burnt flint (0.366kg) were recovered from this site.

A multi platform flake core is present and a cortical piece with one flake struck from it may have been tested as a core, both are from context [983]. A fairly large lump of flint may also be a core but is heavily burnt and its surfaces patinated and partially shattered [547].

Most of the flint consists of unmodified flakes, many of them small. There are some thinner neater flakes which probably came from formal cores, but irregular and thicker flakes which are more randomly struck, often by hard hammer, predominate and there is only one blade-like flake. Many of the pieces are quite sharp although there is some degree of edge damage on others.

Two retouched flakes and a utilised flake are present.

The flint is not closely datable, although it is likely to be of Late Neolithic or Bronze Age date.

Site ELV062

Two pieces of worked flint. One piece is a blade-like flake and the other is an irregular flake with substantial edge damage.

Site ELV063

A tiny, incomplete, bladelet and two fragments of burnt flint were recovered from this site.

Site IKL145

A total of twenty-one struck flints and three fragments of burnt flint (0.073kg) were recovered from this site.

The assemblage includes fourteen flakes, including two quite neat thin pieces. There is also a neat blade-like flake from a blade core. Four other pieces are classified as blades, although the largest of these ([1]) has a strange dry texture to its dorsal surface and traces of what may be mortar adhering to it – possibly it is not of prehistoric date.

A quite thick ovate flake has neat retouch around its distal end forming an end scraper [24].

The neat blade-like nature of some of the material from this site suggests that a Neolithic date may be likely for it, although the assemblage as a whole may include later material as well.

Site IKL148

A total of twenty-one pieces of struck flint came from this site. A small multi platform flake core is present ([19]).There are also eight flakes, six blade-like flakes, three blades and three spalls. Most of the flints are quite small in size and most are quite sharp. They are all from the same context and the similar nature and condition of the material suggest that it is probably contemporary – most likely of Late Neolithic or Bronze Age date.

HER	Type	Number
ELV057	flint	1
ELV059	flint	71
ELV062	flint	2
ELV063	flint	14
IKL145	flint	26
IKL148	flint	25

Quantified flint by site

The Roman pottery

Site ELV 059

The pottery largely consists of mid to late utilitarian Roman coarse wares (micaceous and sandy grey and oxidised wares) of local production (Wattisfield; Tomber and

Dore 1998, 184). Also found was a small percentage of fine (samian, Nene Valley, Pakenham, Hadham and Oxfordshire colour coats) wares and some specialist wares (amphorae and mortarium) imported from regional and international production centres (Tomber and Dore 1998).

Of particular interest is the presence of forty-six sherds of a white ware narrow mouthed jar with red painted decoration ([645]), provisionally dated to the late Roman period (late 3rd to 4th century). This pottery is thought to be the product of a kiln recently excavated at Two Mile Bottom (Bates and Lyons 2004, 84-86, figs 54 and 55). This is the first time the products of this kiln have been recognised away from the production site.

Although the pottery is abraded, generally the condition is good with evidence of use (such as sooting and wear marks surviving), while the average sherd size also appears large. This suggests a relatively low level of residuality and little post-depositional disturbance.

The Faunal remains

Site ELV 059

A total of 10.701kg of faunal remains were recovered , the majority retrieved from ditch and pit fills, although small quantities were found in gully, linear, occupation and subsoil fills. The assemblage includes butchering evidence from skinning and hornworking, also two species of deer. Most of the remains are thought to be of a Romano-British date.

Environmental Evidence

A total, of eighteen samples were collected. The rationale for selection and methodology employed for study are based on *Environmental Archaeology* (EH 2002). The samples have not been sent for analysis until the full allocation of trenches have been completed. The results shall be incorporated in the full evaluation report.

7.0 Conclusions

The extensive scheme of evaluation trenching recorded well preserved prehistoric and Romano-British features. The presence of these features demonstrates that the survey area is located in an ancient landscape that has been settled upon for thousands of years. Moreover, the features and objects recorded during this project are relevant to local and regional research objectives (Brown and Glazebrook 2000, 9-13 and 19-22).

The prehistoric evidence

The earliest recorded archaeological features are prehistoric in date. Zone A4 (IKL 145) produced eight trenches with archaeology. A linear ditch (Trench 172) and a potential ditch terminus or pit (Trench 164b) were excavated and produced pottery dating to the earlier Neolithic period with a date range between 3600-3000BC. Four, of the eight trenches recorded burnt pits containing similar fills, which consisted of a dark greyish black silty sand with fragments of burnt flint. A pit (Trench 164) produced burnt bone and burnt flint fragments, the burnt bone is non-human and

consists of sheep/goat, cattle and distorted fragments of mammal bone. These pits are certainly of prehistoric date.

Zone A5 (IKL 148) is of particular interest because of its close proximity to a Scheduled Tumulus called How Hill, which is located *c.* 150m to the north. Trench 196, revealed a large pit which when sectioned revealed a probable post-pipe, therefore, this feature could be interpreted as a post-pit. In total, thirty-nine sherds of earlier Neolithic flint tempered pottery was recovered from this feature. An extension of the trench revealed the full extent of the pit.

Functional interpretations of pits like those previously mentioned usually facilitate storage or rubbish disposal, are now received with caution as a ritual explanation involving the 'structured deposition' of artefacts within features is thought more likely (Trimble in prep).

Small groups of charcoal rich pits have previously been excavated in Norfolk. Excavations at Wood Farm, Gorleston (Timms and Ashwin 1999), Harford Park and Ride, Norwich (Trimble in prep) and The Oaks, Norwich (Trimble forthcoming) have produced charcoal rich pits, from which early-to-middle Bronze Age pottery and worked flint has been recovered. Moreover, numerous charcoal rich pits were excavated at Cringleford Park and Ride (Ames in prep) and Bowthorpe, 3 Scores (Green 2004) which did not produce datable evidence, although, these two sites (both near Norwich) had associated Iron Age settlement evidence.

In many ways, the fieldwalking and evaluation has provided further evidence to aid with understanding the development of prehistoric activity in north-west Suffolk.

The Romano-British evidence

The Romano-British settlement in Landing Ground Field (Zone A2 ELV 059) has proven very productive in the amount of pottery, faunal remains, coins and other metal objects recovered from within the twenty-two trenches. It certainly appears that the trenches were positioned within the nucleus of the settlement. The pottery and coin evidence give a date towards the 2nd to 3rd century AD for the main phase of occupation.

It has been suggested that Romano-British settlements on the Fen-edge were positioned to exploit a number of geological and environmental zones, with access to both the Fenland and Upland resources (Gurney 1986, 147). The economy of the Fen-edge settlements probably incorporated cereal cultivation on the uplands and a wide range of activities in the Fens. The location of the settlement at Elveden is in close proximity to Romano-British settlements in north-west Suffolk, with Mildenhall, Icklingham, and Ixworth/Pakenham lying in a arc about 15km south of Thetford. The Icknield Way may also have provided an impetus for settlement location. These are large sprawling sites, with Icklingham and Pakenham being considered as small 'towns' (Mudd 2002, 3). No chronological period phasing has taken place on Landing Ground, to date, and it should be anticipated that prehistoric features and deposits will be evident during the analysis of the site.

The trenches north of Landing Ground at Zone Z2 (ELV 058), show that the settlement did not extend in a northwards direction. Although, archaeological features were recorded in the field, north of Landing Ground they were undated and in no-way at the same density as that recorded for Landing Ground. It is probable that the features recorded in Zone Z2 represents Romano-British or medieval field systems.

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Appendix 1: Fieldwalking Results

Phase 1; the Fieldwalking and Topographical Survey produce mixed results in terms of evaluated sub-surface archaeology.

Parsons Slip (Z1 ELV 056) recovered *c.* seventy pieces of struck flint, abraded prehistoric, Romano-British and medieval pottery. It was noted during the fieldwalking that truncation of the natural was evident in the light orange brown discolouration within the ploughsoil. The amount of truncation was certainly noticed when the topsoil was removed and it was clear that no subsoil horizon survives, except for an area of reddish brown sand in one trench. If there were sub-surface archaeological features they would have been removed by modern ploughing.

Gibson North (A4 ERL 138) produced two hundred and eighty-five struck flint and burnt flint fragments. This field parallels Parsons Slip in that no subsoil survives, therefore, sub-surface features are likely to have been removed by modern ploughing.

40 Acres (A4 IKL 145) produced three hundred and forty-four pieces of struck flint, burnt flint, prehistoric and medieval sherds. The fieldwalking and evaluation results have complemented each other by the fact that prehistoric sub-surface archaeology was encountered. In total, nine probable prehistoric features were identified with two trenches producing stratified early Neolithic pottery and worked flint.

Deal (Z4 IKL 146) produced two hundred and fifty eight pieces of struck flint, however, only one trench produced archaeological evidence five possible post-holes.

Appendix 2: Geophysical Survey Results

- Geophysical Survey Area 1 & 2 (GS1 & GS2) were divided into seven adjoining fields predominately on the south side of the existing A11. Running east-to-west these include Gibson South, 40 Acres, Deal, an unnamed field (No-Name), King Carlos, Crossroads and north of the A11 at Mill Sall.
- Geophysical Survey Area 3 (GS3) located to the central part of the survey and comprised of Weather and Horn Heath (SSSI).
- Geophysical Survey Area 5 (GS5) located to the eastern part of the survey at Milestone Elveden.

In general, the results of the gradiometer produced limited archaeological evidence. A single linear was possible detected in Mill Sail, a possible back-filled pit in Crossroads and linear features were identified in Weather Heath which are likely to be related to the remains of standing earthworks of Second World War defences.

Appendix 3:Trench Summary

Trench	Dated Archaeological features	Undated Archaeological features	Modern, natural or miscellaneous features	Trenches under crop (not machined)	No archaeology, buried soil, modern or natural features
1					●
2				●	
3					●
4					●
5					●
6					●
7					●
8					●
9					●
10					●
11					●
12					●
13					●
14					●
15					●
16					●
17					●
18					●
19					●
20					●
21				●	
22					●
23					●
24					●
25					●
26					●
27					●
28					●
29					●
30		●			
31		●			
32					●
33					●
34		●			
35					●
36		●			
37				●	
38				●	
39				●	
40				●	
41				●	
42					●
43					●
44					●
45					●
46				●	
47					●
48					●

Trench	Dated Archaeological features	Undated Archaeological features	Modern, natural or miscellaneous features	Trenches under crop (not machined)	No archaeology, buried soil, modern or natural features
49					●
50					●
51					●
52					●
53					●
54	●				
55		●			
56		●			
57		●			
58		●			
59					●
60					●
61					●
62					●
63		●			
64	●				
65	●				
66	●				
67	●				
68	●				
69	●				
70	●				
71	●				
72	●				
73	●				
74	●				
75	●				
76	●				
77	●				
78	●				
79	●				
80	●				
81	●				
82	●				
83	●				
84	●				
85	●				
86				●	
87				●	
88				●	
89				●	
90				●	
91				●	
92				●	
93				●	
94				●	
95				●	
96				●	
97				●	
98				●	

Trench	Dated Archaeological features	Undated Archaeological features	Modern, natural or miscellaneous features	Trenches under crop (not machined)	No archaeology, buried soil, modern or natural features
99				●	
100				●	
101				●	
102				●	
103				●	
104				●	
105				●	
106				●	
107				●	
108				●	
109				●	
110				●	
111				●	
112				●	
113				●	
114				●	
115				●	
116				●	
117				●	
118				●	
119				●	
120				●	
121				●	
122		●			
123		●			
124		●			
125		●			
126					●
127					●
128		●			
128b		●			
129					●
130	●				
131		●			
132		●			
133					●
134					●
135					●
136					●
137					●
138					●
139		●			
140					●
141					●
142					●
143					●
144					●
145					●
146					●
147				●	

Trench	Dated Archaeological features	Undated Archaeological features	Modern, natural or miscellaneous features	Trenches under crop (not machined)	No archaeology, buried soil, modern or natural features
148					●
149				●	
150					●
151				●	
152					●
153				●	
154					●
155				●	
156					●
157					●
158			●		
159					●
160					●
161			●		
162					●
163					●
164		●			
164b	●				
165		●			
166		●			
167					●
168					●
169					●
170					●
171					●
172	●				
173					●
174			●		
175			●		
176					●
177					●
178					●
179					●
180					●
181					●
182					●
183		●			
184					●
185		●			
186		●			
187		●			
188					●
189					●
190					●
191					●
192		●			
193					●
194					●
195					●
196	●				

Trench	Dated Archaeological features	Undated Archaeological features	Modern, natural or miscellaneous features	Trenches under crop (not machined)	No archaeology, buried soil, modern or natural features
196b					●
197		●			
198	●				
199					●
200					●
201					●
202					●
203					●
204					●
205					●
206					●
207					●
208					●
209					●
210					●
211					●
212					●
213					●
214					●
215					●
216					●
217					●
218					●

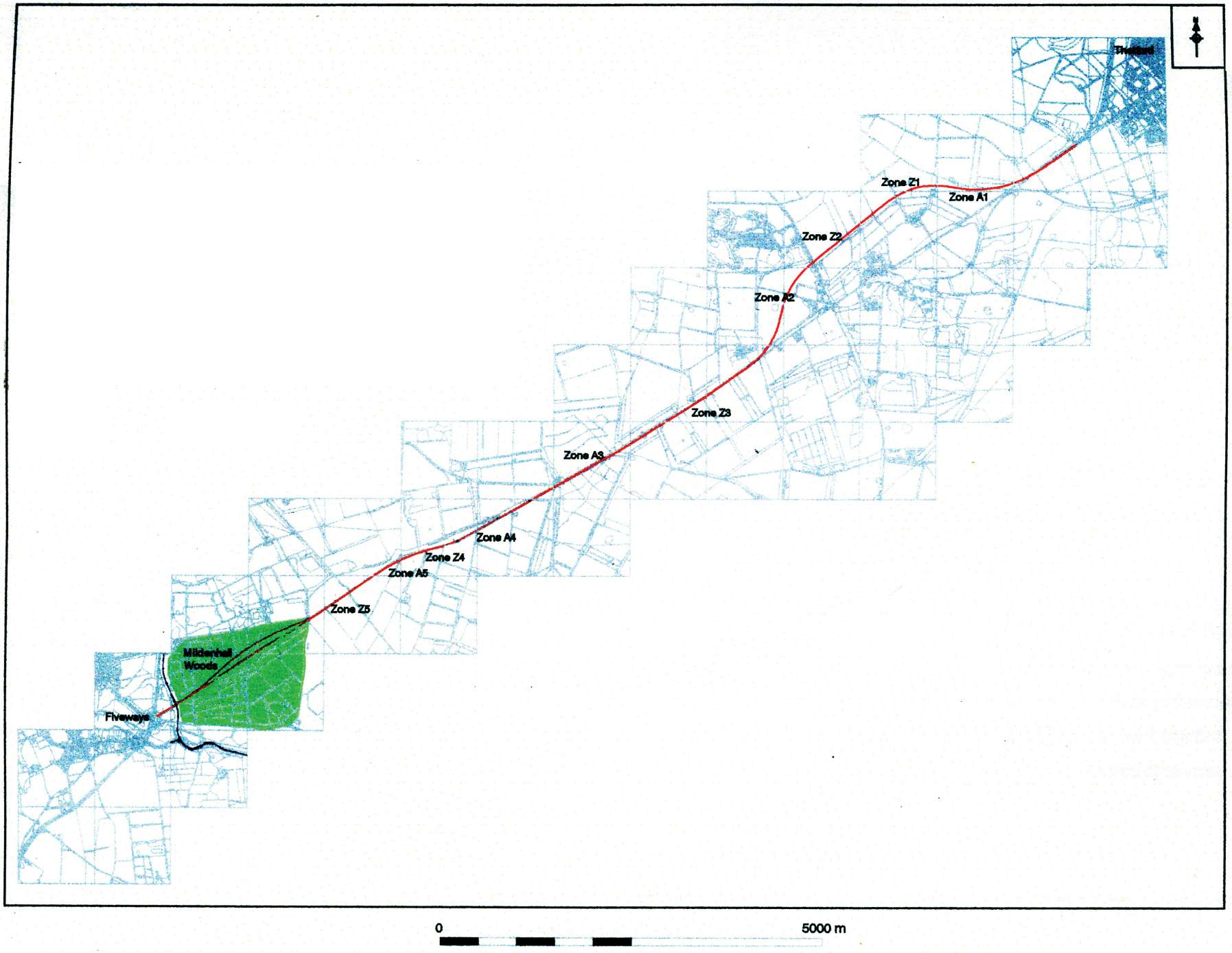

Figure 1. Site location plan. Scale 1:75,000

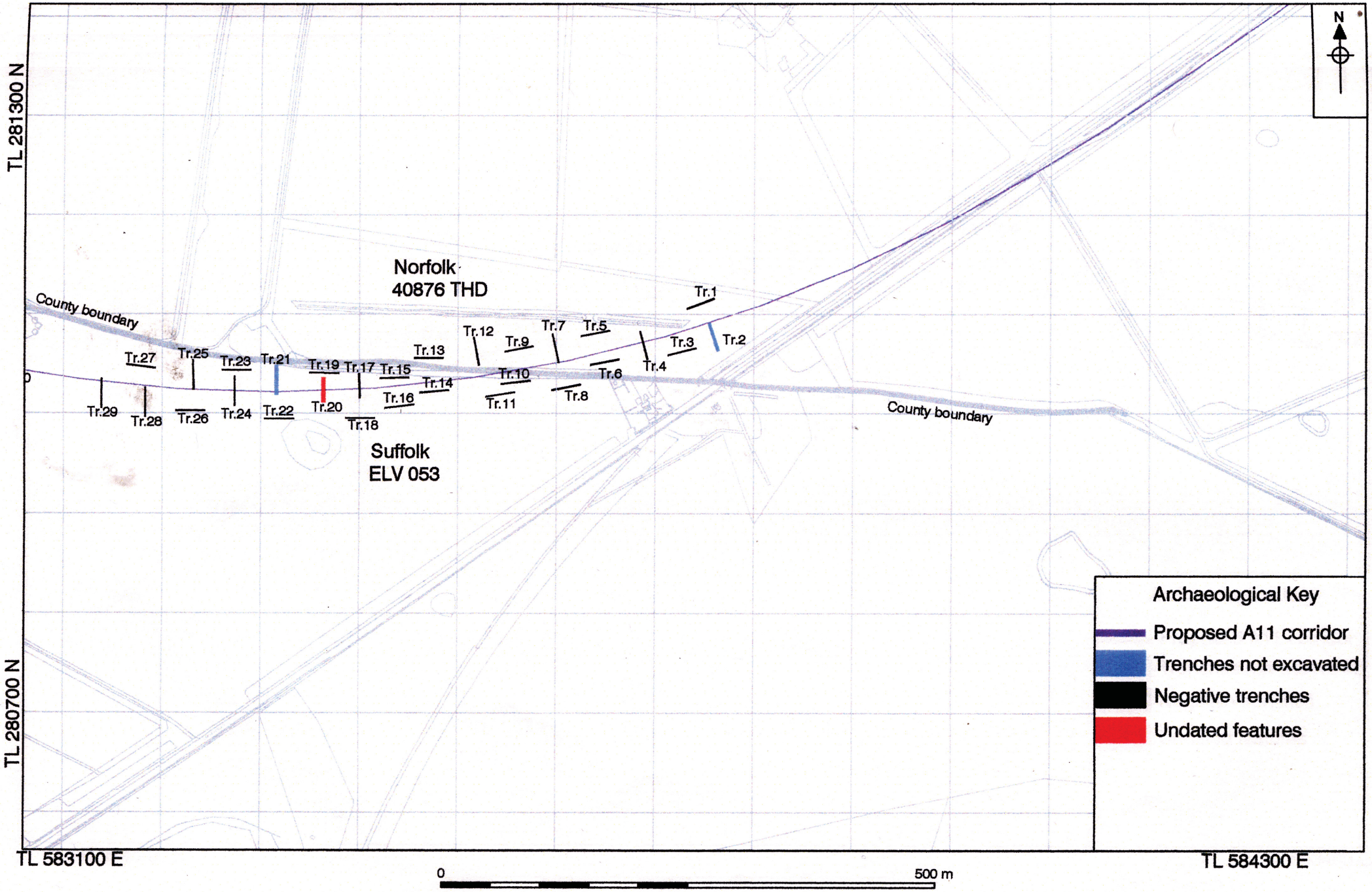

Figure 2. Location of trenches in Zone A1. Scale 1:5000.

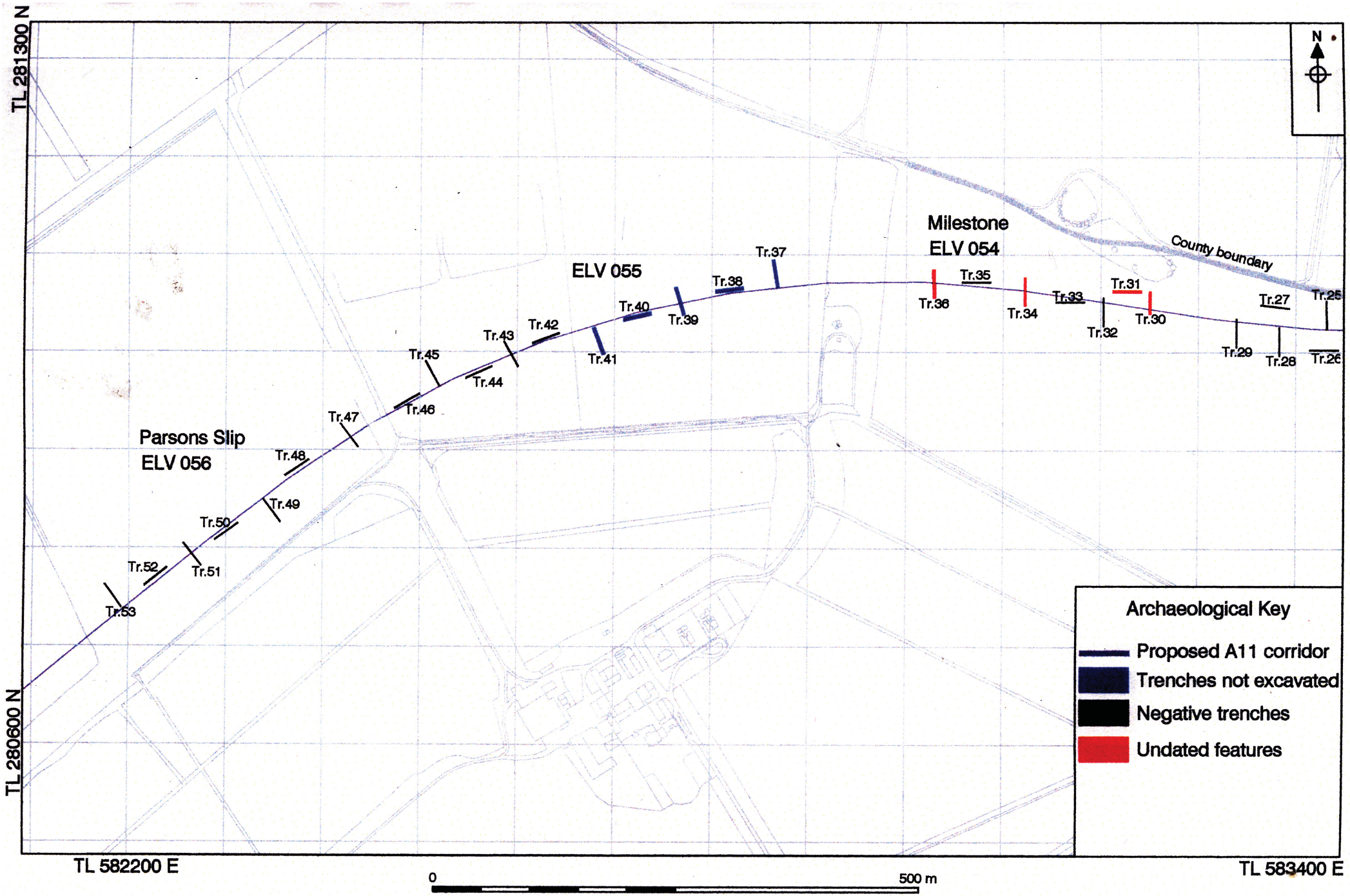

Figure 3. Location of trenches in Zone Z1. Scale 1:5000.

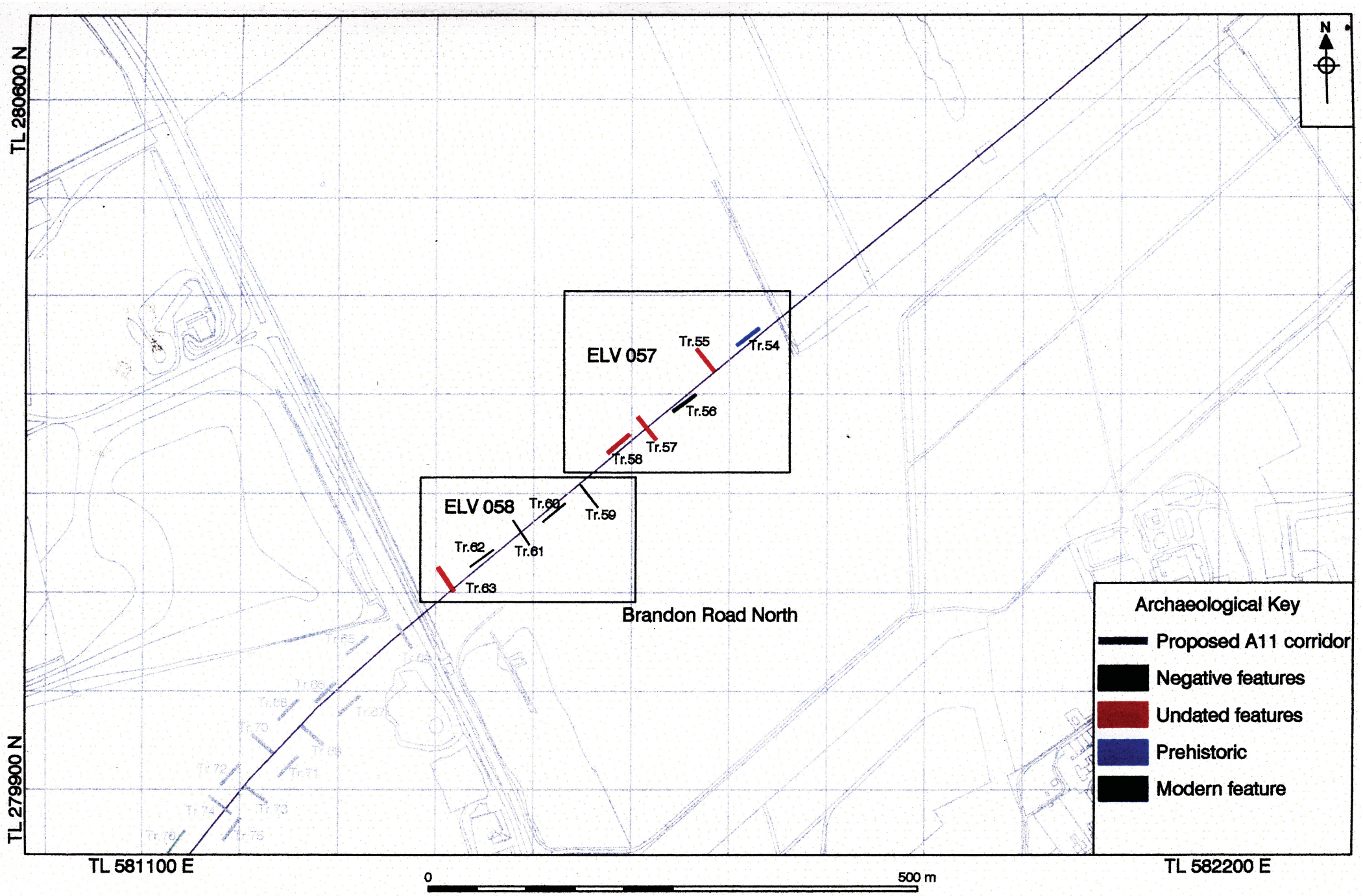

Figure 4. Location of trenches in Z2. Scale 1:5000.

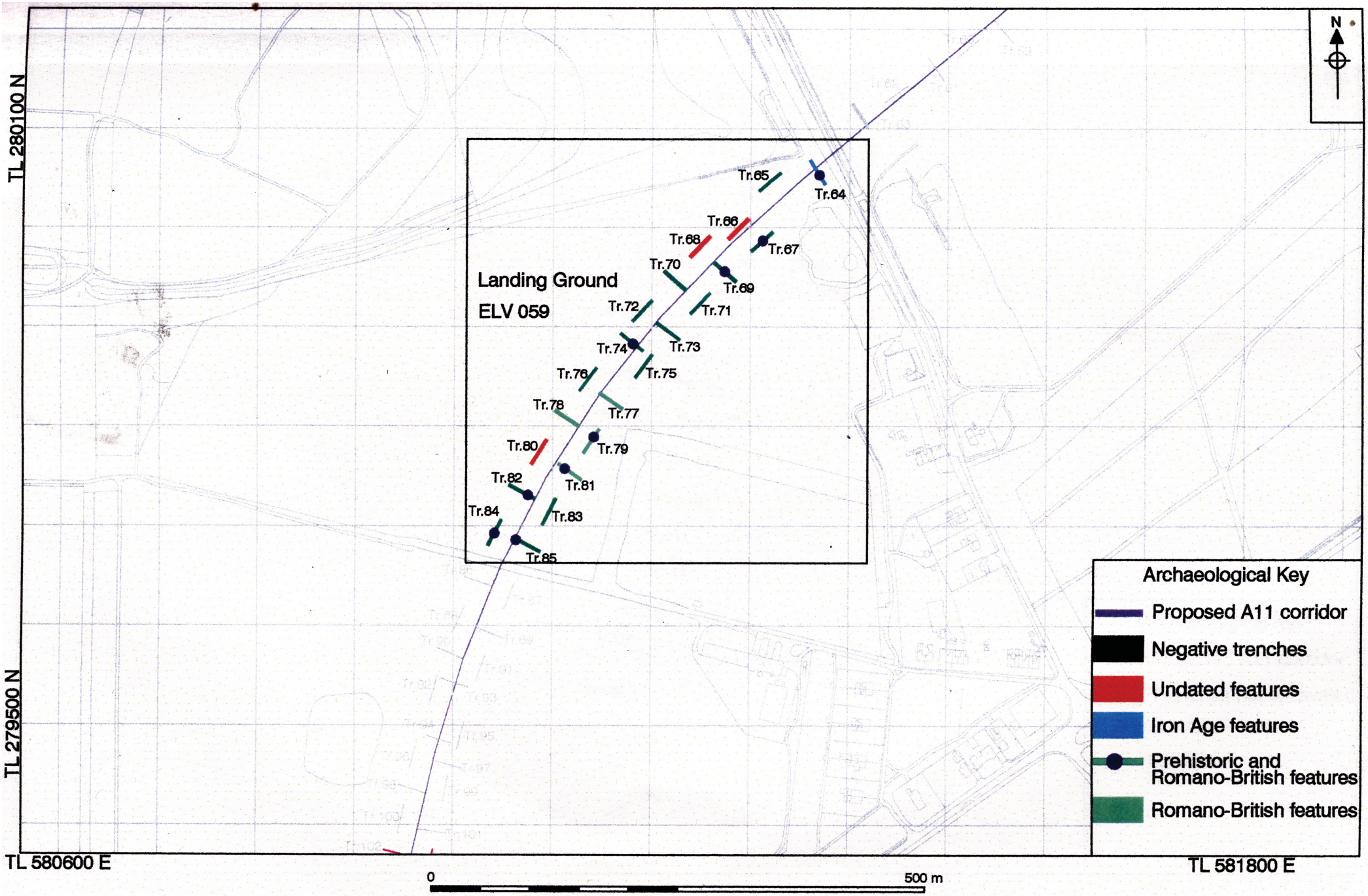

Figure 5. Location of trenches in Zone A2 (North). Scale 1:5000.

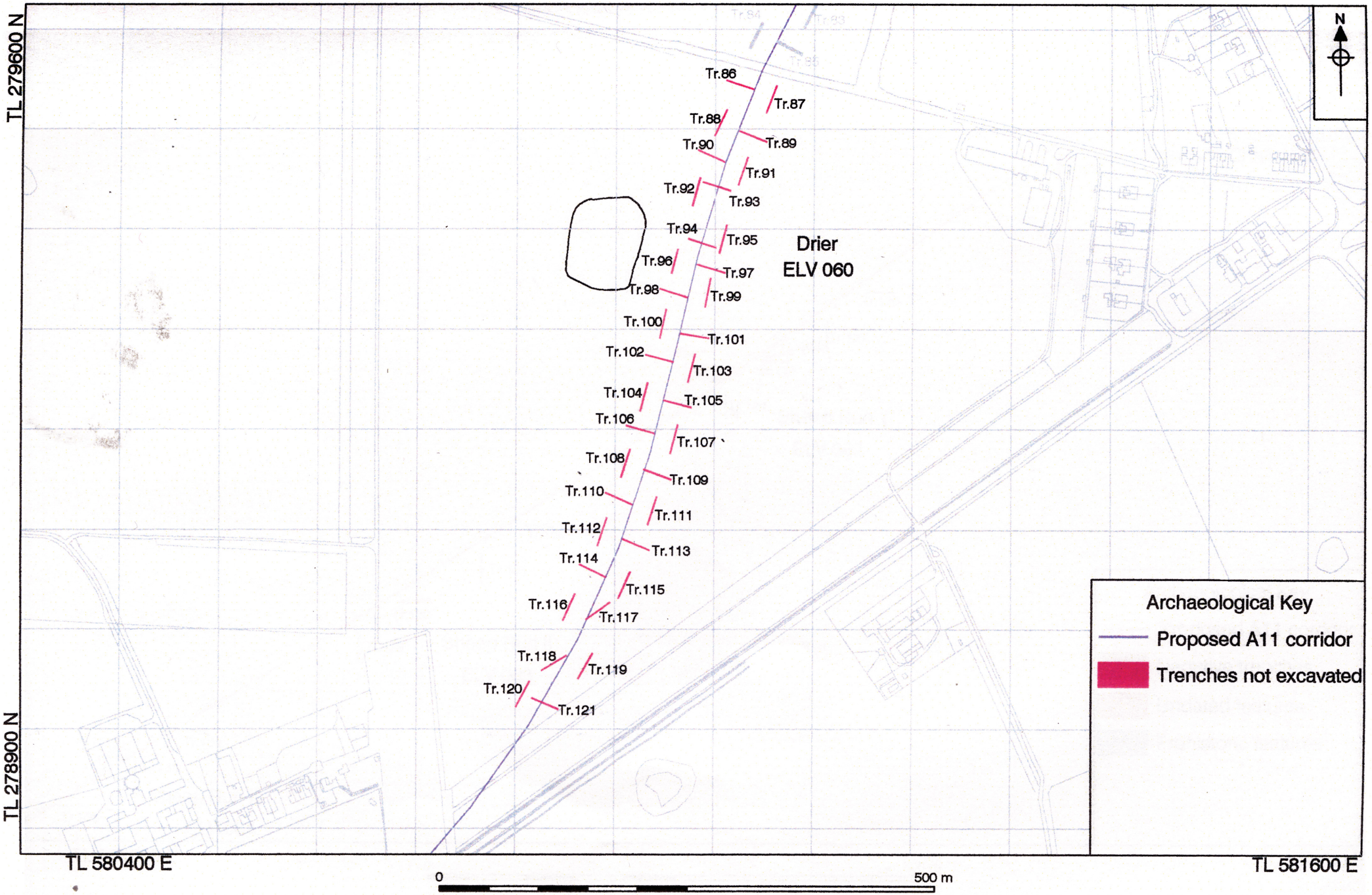

Figure 6. Location of trenches in Zone A2 (South). Scale 1:5000.

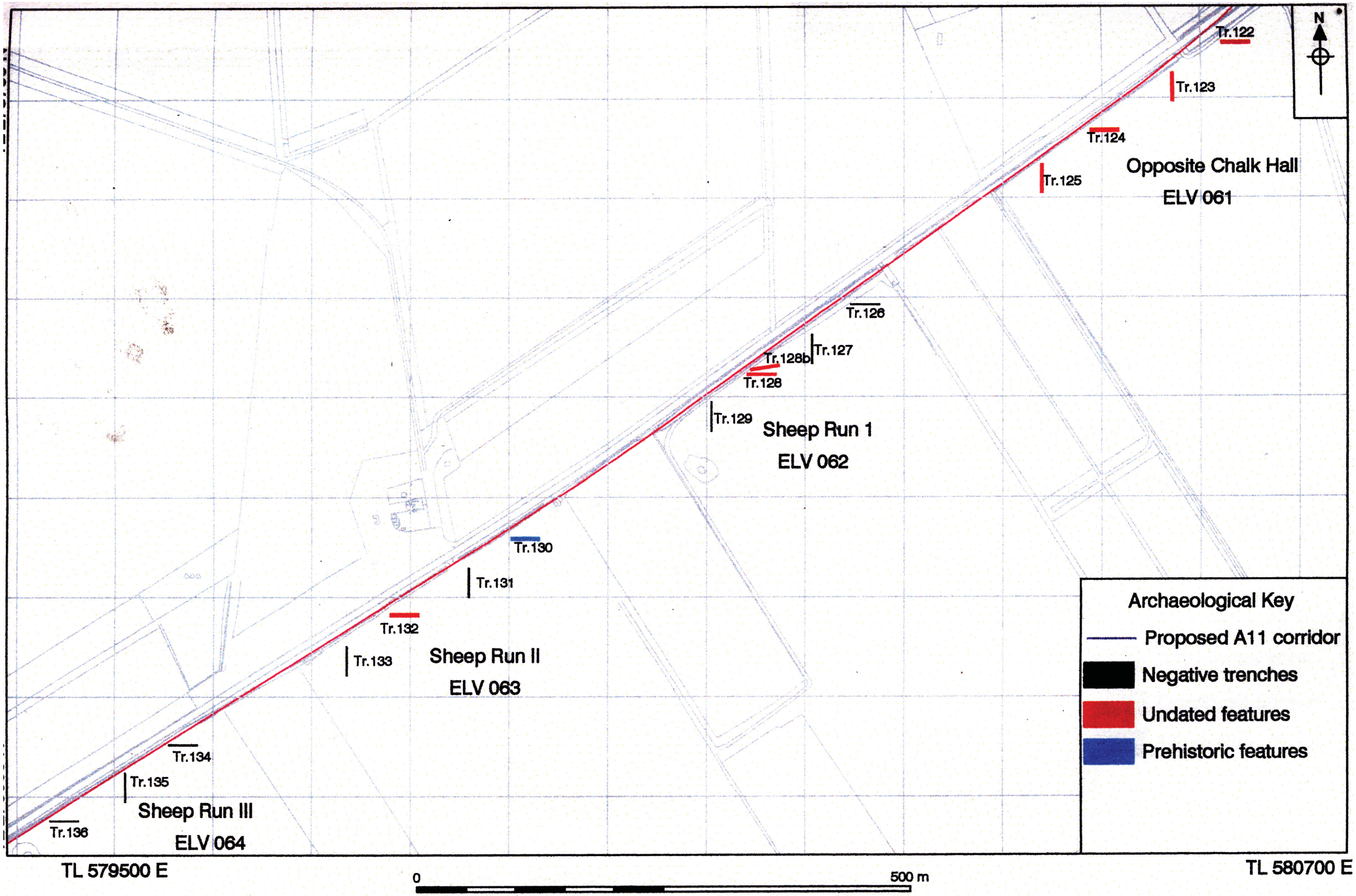

Figure 7. Location of trenches in Zone Z3. Scale 1:5000.

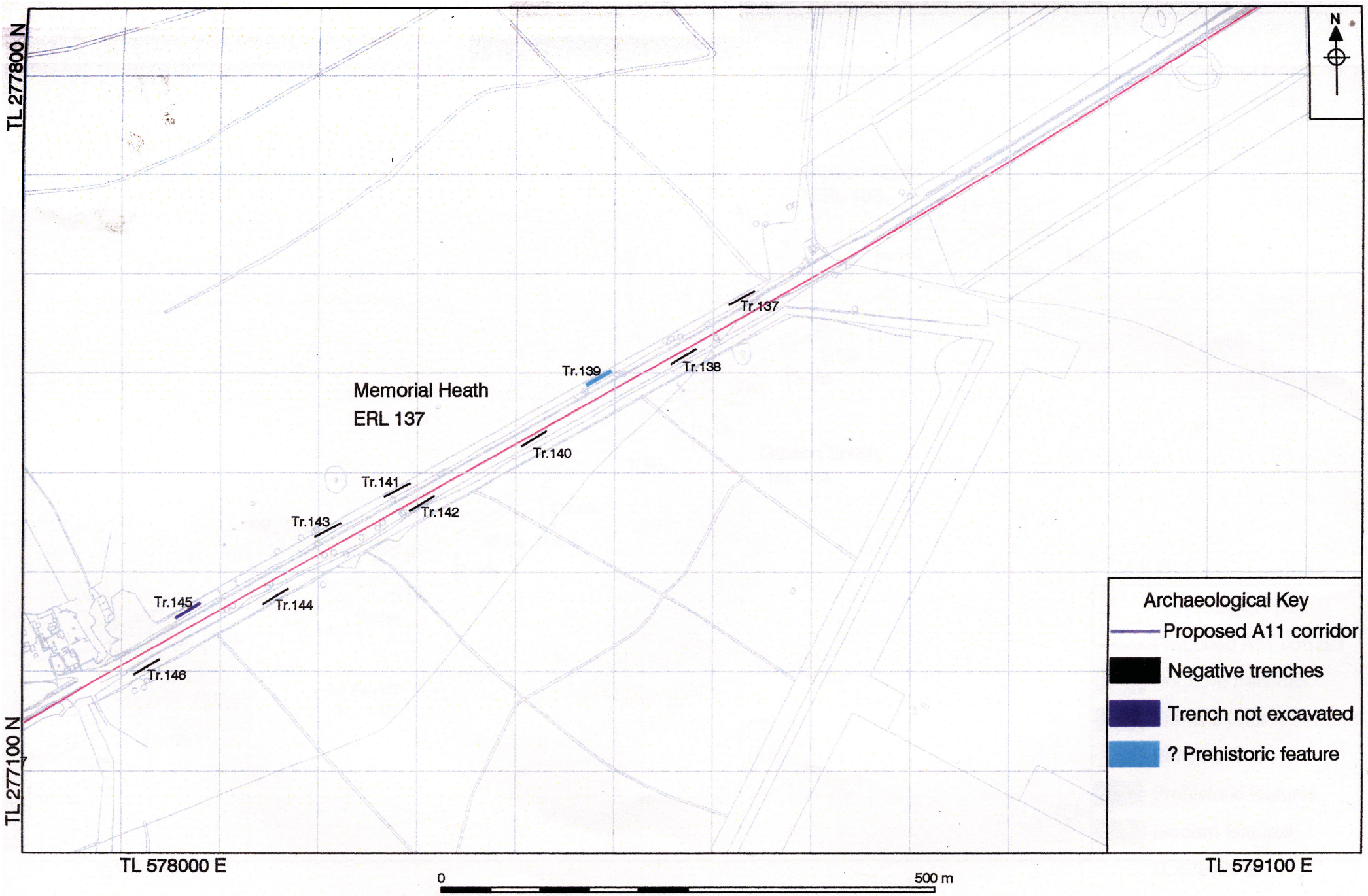

Figure 8. Location of trenches in Zone A3. Scale 1:5000.

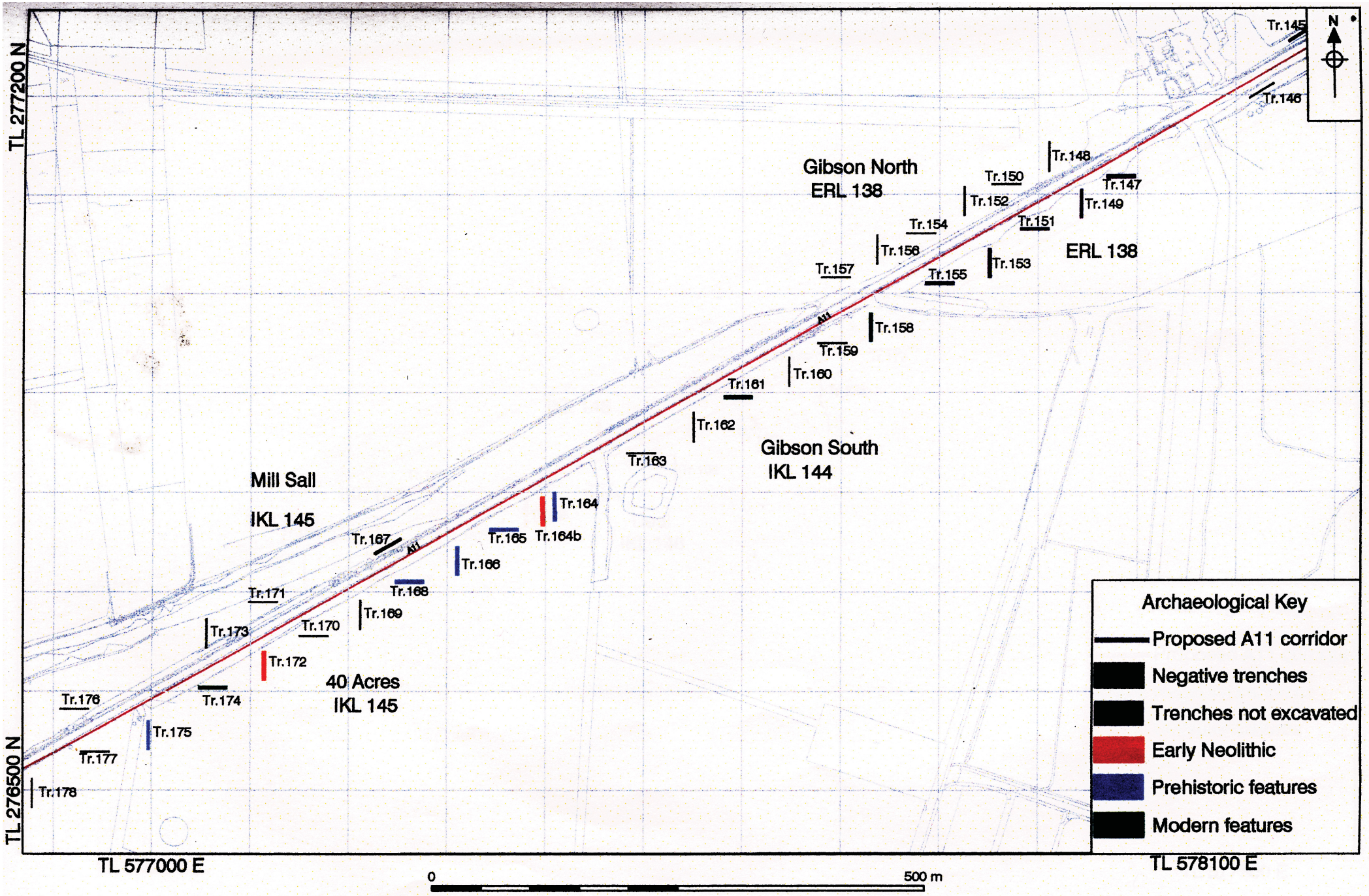

Figure 9. Location of trenches in Zone A4. Scale 1:5000.

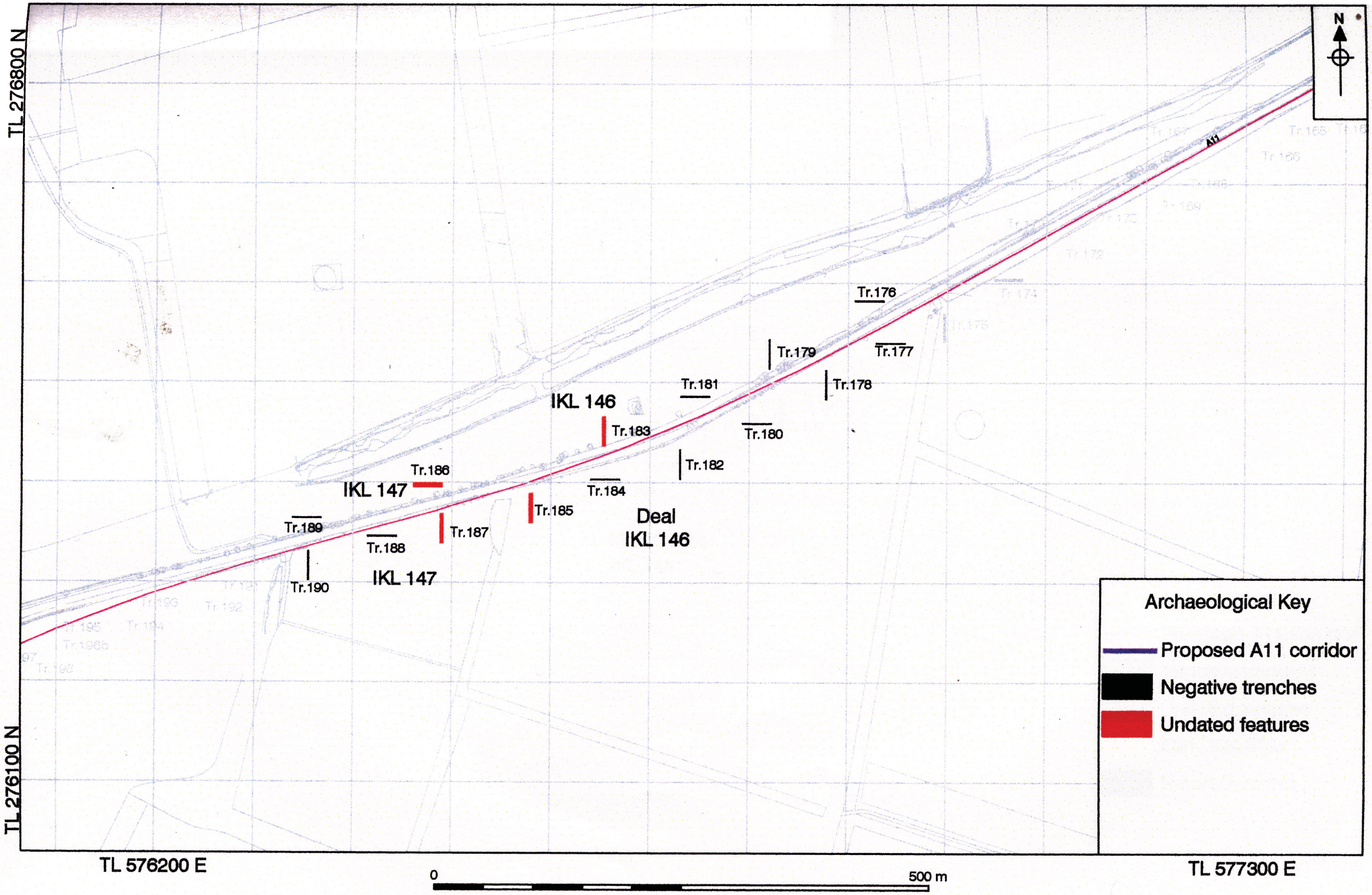

Figure 10. Location of trenches in Zone Z4. Scale 1:5000.

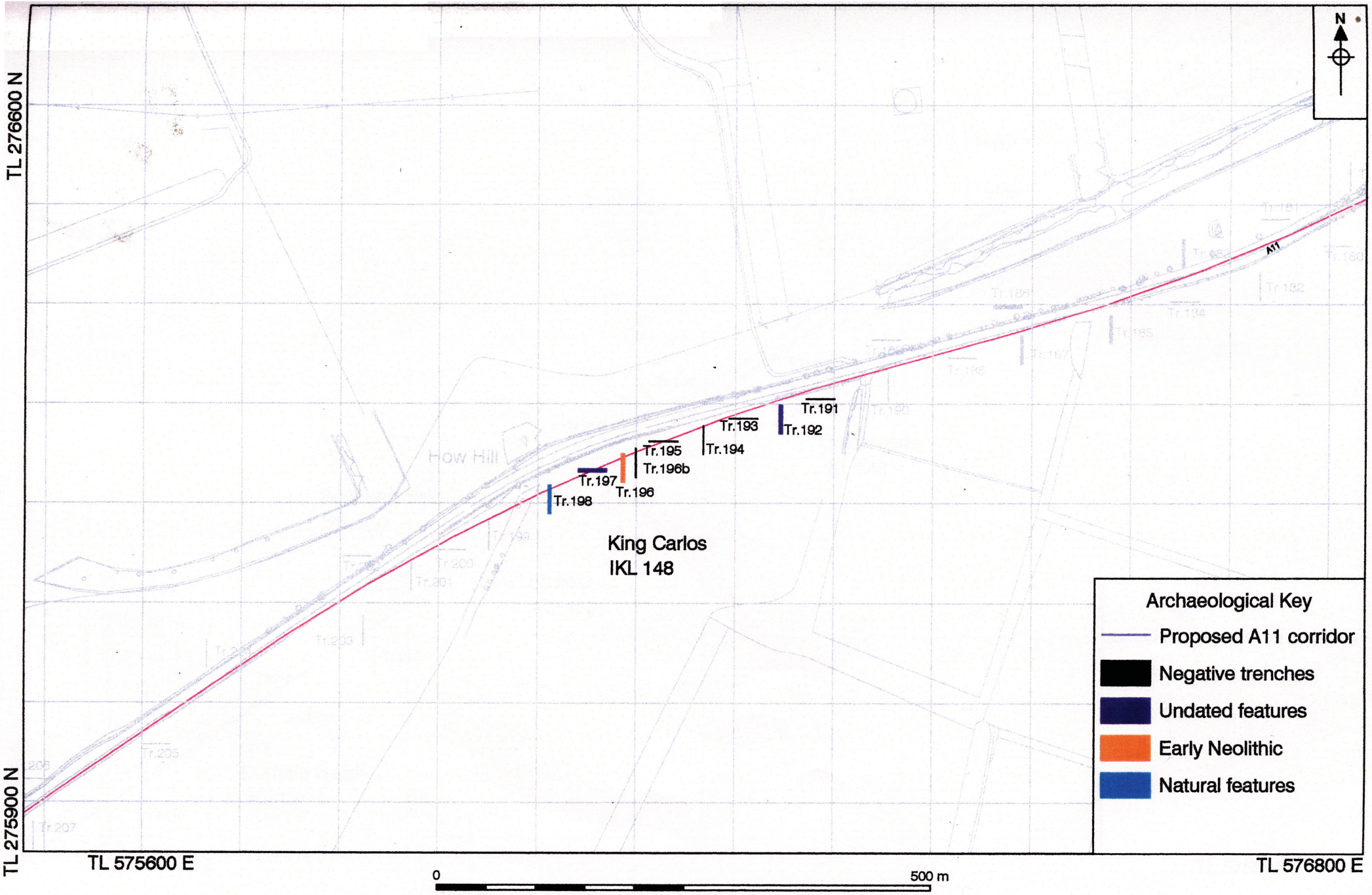

Figure 11. Location of trenches in Zone A5. Scale 1:5000.

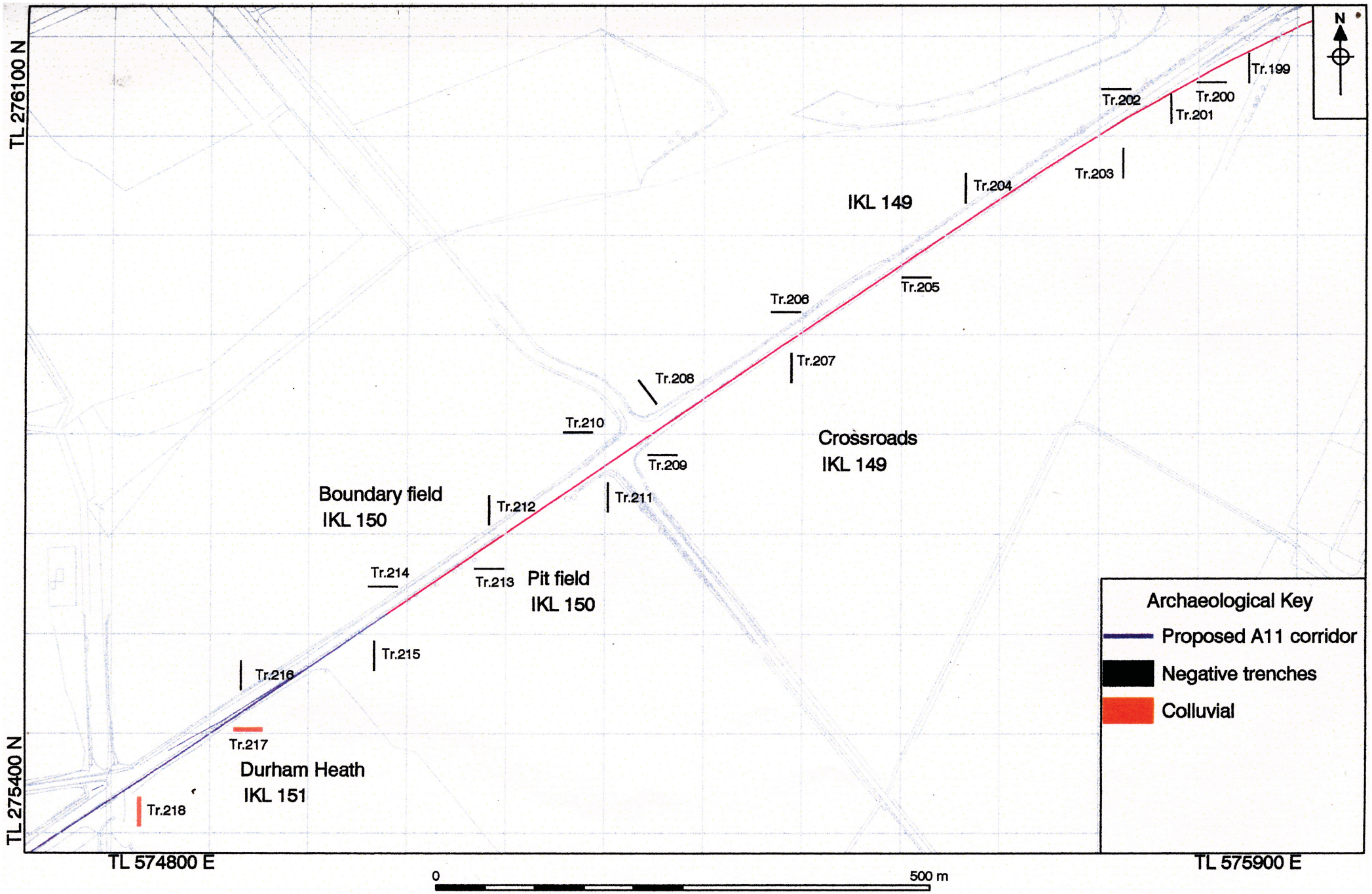

Figure 12. Location of trenches in Z5. Scale 1:5000.