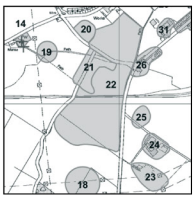
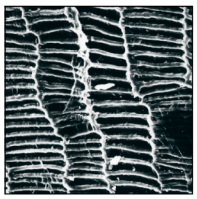
SRLW20










LAND SOUTH OF STEVENAGE ROAD, LITTLE WYMONDLEY, NORTH HERTFORDSHIRE

GEOPHYSICAL SURVEY REPORT

commissioned by The Environmental Dimension Partnership Ltd
on behalf of Welbeck Strategic Land IV LLP

March 2020

HEADLAND ARCHAEOLOGY

REGISTERED ORGANISATION CIfA

LAND SOUTH OF STEVENAGE ROAD, LITTLE WYMONDLEY, NORTH HERTFORDSHIRE

GEOPHYSICAL SURVEY REPORT

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March 2020

This report adheres to the quality standard of ISO 9001:2015

PROJECT INFO:

HA Project Code **SRLW20** / NGR **TL 2123 2709** / Parish **Wymondley** / Local Authority **North Hertfordshire District Council** / OASIS Ref. **headland5-386687**

PROJECT TEAM:

Project Manager **David Harrison** / Author **Alistair Webb** / Fieldwork **Chris Osbourne, Ross Bishop** / Graphics **David Harrison, Eleanor Winter**

Approved by **David Harrison** D Harrison.....

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HEADLAND ARCHAEOLOGY

part of the RSK Group

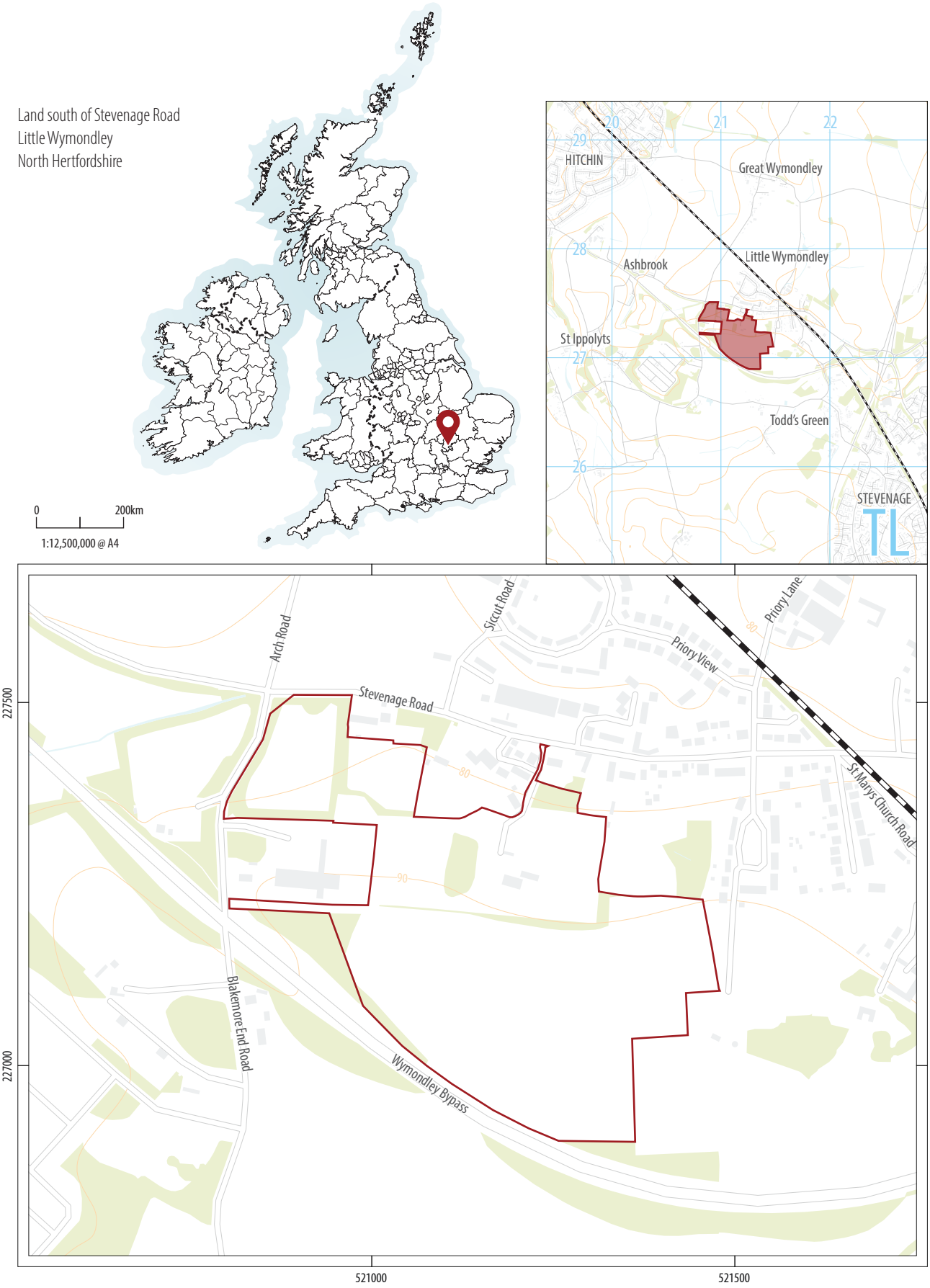
REGISTERED ORGANISATION CIfA

PROJECT SUMMARY

Headland Archaeology (UK) Ltd undertook a geophysical (magnetometer) survey covering approximately 16 hectares on land south of Stevenage Road, Little Wymondley, prior to the submission of a planning application for a proposed housing development. No anomalies of probable archaeological origin have been identified by the survey. The survey has, however, confirmed that spoil from the construction of Wymondley Bypass has been spread across the southern half of the site effectively 'masking' the response from any archaeological features that may be present in that area; albeit that this does not affect the entire site. The archaeological potential of this part of the site therefore remains uncertain but is assumed to be low based on the conclusions of a recent desk-based assessment. In the northern half of the site anomalies indicative of post-medieval and modern activity, mostly small-scale mineral extraction, are identified. No anomalies consistent with medieval activity have been identified suggesting that the medieval village did not extend to the northern limits of the survey area; the most northerly part of the site, comprising a single small field, was overgrown and unsuitable for survey and therefore remains unevaluated. The archaeological potential of the PDA is considered to be low where the survey returned usable data.

CONTENTS

LIST OF ILLUSTRATIONS



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ILLUS 1 Site location

LAND SOUTH OF STEVENAGE ROAD, LITTLE WYMONDLEY, NORTH HERTFORDSHIRE

GEOPHYSICAL SURVEY REPORT

1 INTRODUCTION

Headland Archaeology (UK) Ltd was commissioned by The Environmental Dimension Partnership Ltd (the Consultant) on behalf of Welbeck Strategic Land IV LLP (the Client) to undertake a geophysical survey on land south of Stevenage Road, Little Wymondley, North Hertfordshire (ie 'the PDA'). The results of the survey will be submitted to inform a planning application for a proposed residential development and will inform future archaeological strategy at the site.

The survey was undertaken in order to assess the impact of the proposed development on the historic environment and was undertaken in accordance with a Written Scheme of Investigation (Harrison 2020) which was submitted to and approved by Simon Wood, Historic Environment Advisor (HEA) to Hertfordshire County Council, who provides archaeological advice to the Local Planning Authority (North Hertfordshire District Council). The survey was also undertaken in line with guidance contained within the National Planning Policy Framework (MHCLG 2019) and with current best practice (Chartered Institute for Archaeologists 2014, Europae Archaeologia Consilium 2016).

1.1 SITE LOCATION, TOPOGRAPHY AND LAND-USE

The proposed development area (PDA) comprises an irregularly shaped block of land centred on TL 2123 2709 covering approximately 16 hectares (Illus 1). It is bound to the south by the A602 Wymondley Bypass, to the west by Needham House Hotel and Blakemore End Road, to the east by recreation grounds and a public footpath and to the north by residential properties and gardens fronting onto Stevenage Road. Seven small fields (F1 to F7 inclusive), closest to the core of Little Wymondley, make up the northern part of the PDA with a single large field (F8) to the south comprising most of the PDA.

At the time of survey all the fields were under close cropped permanent pasture (Illus 2–3) except for F6 which was overgrown and unsuitable for survey (Illus 4).

The PDA rises up to the south from approximately 80m Above Ordnance Datum (AOD) on Stevenage Road to approximately 100m AOD in the south-eastern corner adjacent to the bypass.

The survey was carried out between 27th January and 29th January 2020.

1.2 GEOLOGY AND SOILS

The bedrock geology comprises Holywell Nodular Chalk Formation and New Pit Chalk Formation (undifferentiated). This is overlain by superficial Glaciofluvial deposits (sand and gravel) and Lowestoft Formation (diamicton) (NERC 2020).

The soils are classified in the Soilscape 8 Association, characterised as loams and clays with impeded drainage (Cranfield University 2020).

2 ARCHAEOLOGICAL BACKGROUND

An Archaeological and Heritage Assessment (EDP 2017) established that there are two previously identified areas of archaeology within the PDA which are recorded on the Hertfordshire Historic Environment Record (Illus 5). These comprise an area of ridge and furrow cultivation (HER No 18642) and demolished 20th-century farm buildings (HER No 15089). The northern tip of the PDA is included within the Archaeological Alert Area for Little Wymondley being on the edge of the medieval core of the village.

ILLUS 2 Field 1, looking north

The assessment concluded that:

> *'overall, the available evidence suggests that the site (PDA) is located within an area of low potential for archaeological remains dating from the prehistoric to early medieval periods. Medieval and later activity is likely to be represented by nothing more than 'low value' features such as buried furrows, plough soils and former boundaries, as the site (PDA) was located on the periphery of the medieval settlement.'*

Information provided by the HEA (Wood 2019) also notes that the PDA abuts a field which contained the remains of a large Roman settlement or farmstead (Illus 5 – HER No 2607). Features consisting of the foundations of buildings, worked stone, tile, tesserae and cobbled surfaces were excavated prior to the construction of the bypass. It should be noted, however, that whilst the field containing the Roman farmstead does abut the PDA, the farmstead itself (as recorded on the HER) is 0.4km south-east of the edge of the PDA. Pottery from the site indicated late 1st- to early 3rd-century occupation. Further investigation in 2000 showed that the settlement extended a further 100m to the north-west. A 3rd century circular building was found, along with an earlier rectangular structure (HER No 10720). Also present were two possible sunken kilns or ovens. It has therefore been concluded that there is *'a strong possibility that Roman settlement or industrial remains may be present within the PDA, particularly in the eastern part of the site (PDA)'* (Wood 2017).

3 AIMS, METHODOLOGY AND PRESENTATION

The general aim of the geophysical survey was to provide enough information to establish the presence/absence, character and extent of any archaeological remains within the PDA. This will therefore enable an assessment to be made of the impact of the proposed development on any sub-surface archaeological remains, if present.

The specific archaeological objectives of the geophysical survey were:

- to provide information about the nature and possible interpretation of any magnetic anomalies identified;
- to therefore determine the likely presence/absence and extent of any buried archaeological features; and
- to produce a comprehensive site archive and report.

3.1 MAGNETOMETER SURVEY

Magnetic survey methods rely on the ability of a variety of instruments to measure very small magnetic fields associated with buried archaeological remains. A feature such as a ditch, pit or kiln can act like a small magnet, or series of magnets, that produce distortions (anomalies) in the earth's magnetic field. In mapping these slight variations, detailed plans of sites can be obtained as buried features often produce reasonably characteristic anomaly shapes and strengths (Gaffney & Gater 2003). Further information on soil magnetism and the interpretation of magnetic anomalies is provided in Appendix 1.

The survey was undertaken using four Bartington Grad601 sensors mounted at 1m intervals (1m traverse interval) onto a rigid carrying frame. The system was programmed to take readings at a frequency of 10Hz (allowing for a 10–15cm sample interval) on roaming traverses (swaths) 4m apart. These readings were stored on an external weatherproof laptop and later downloaded for processing and interpretation. The system was linked to a Trimble R8s Real Time Kinetic (RTK) differential Global Positioning System (dGPS) outputting in NMEA mode to ensure a high positional accuracy for each data point.

MLGrad601 and MultiGrad601 (Geomar Software Inc) software was used to collect and export the data. Terrasurveyor V3.0.35.1 (DWConsulting) software was used to process and present the data.

ILLUS 3 Field 8, looking east

3.2 REPORTING

A general site location plan is shown in Illus 1 at a scale of 1:7,500. Illus 2, Illus 3 and Illus 4 are site condition photographs. Illus 5 is a 1:3,000 survey location plan showing the direction of survey as GPS swaths and recorded heritage assets. Large scale (1:2,500) fully processed (greyscale) data, minimally processed (XY trace plot) data and an accompanying interpretation plot are presented in Illus 6–8.

Technical information on the equipment used, data processing and magnetic survey methodology is given in Appendix 1. Appendix 2 details the survey location information and Appendix 3 describes the composition and location of the site archive. Data processing details are presented in Appendix 4. A copy of the OASIS entry (Online Access to the Index of Archaeological Investigations) is reproduced in Appendix 5.

The survey methodology, report and any recommendations comply with the WSI (Harrison 2020), guidelines outlined by Europae Archaeologia Consilium (EAC 2016) and by the Chartered Institute for Archaeologists (CIfA 2014). All illustrations from Ordnance Survey (OS) mapping are reproduced with the permission of the controller of Her Majesty's Stationery Office (© Crown copyright).

The illustrations in this report have been produced following analysis of the data in 'raw' and processed formats and over a range of different display levels. All illustrations are presented to most suitably display and interpret the data from this site based on the experience and knowledge of management and reporting staff.

4 RESULTS AND DISCUSSION

Ground conditions were very good across the PDA (see Illus 2–3) although one small area (F6) was overgrown and unsuitable for survey (Illus 4). A high standard of data throughout was therefore achieved although it is clear that the majority of F8 has been subject to tipping (see below).

Nevertheless, parts of the PDA have not been affected and in these areas anomalies have been identified, albeit none are considered to be of probable archaeological origin.

4.1 MODERN AND FERROUS ANOMALIES

The data across more than 50% of the PDA (almost the whole of F8) is dominated by broad high magnitude magnetic anomalies which coalesce into a single area of magnetic disturbance. Documentary evidence clearly shows that this disturbance corresponds with an area over which waste material, generated by the construction of the Wymondley Bypass in the late 1980s, was spread. The waste licence stipulated that the material should be '*clean non-hazardous chalk, topsoil and subsoil free from chemical contamination...*'. It is understood that this material was spread over the existing land surface but the depth of the material is not recorded. The magnitude of the magnetic disturbance is such that the responses from any underlying archaeological features, if present, are unlikely to be detectable under the prevailing circumstances; for example a former chalk pit recorded on the late 19th-/early 20th-century maps cannot be discerned amongst the strongly enhanced magnetic background.

Smaller areas of magnetic disturbance are also identified in the small fields comprising the northern half of the PDA. At the north-eastern corner of F5 the sub-square area of disturbance correlates with the location of a former pond and three small structures which are recorded on the second edition Ordnance Survey mapping (1898). None of these features appear on the 1924 edition or on the Inclosure map of 1811. The disturbance is due to the magnetic properties of the material used to infill the pond and from residual material from the demolition of the structures. This area of disturbance is defined on its southern edge by a line of discrete dipolar anomalies which probably locate a drain.

In the north-western corner of the same field high magnitude curvilinear and rectilinear anomalies both correlate with the location

ILLUS 4 Field 6, looking north

of a gravel pit recorded on the first edition (1887) OS map but absent from mapping thereafter indicating the short lived nature of these small scale extraction pits.

Another discrete area of disturbance is present in the north-western corner of F2. Here there is no obvious cartographic or visual explanation for the disturbance but it is considered most likely to be due to recent activity.

Lines of equidistant 'spike' responses, such as the one in F5 (see above) and a second in F7 are interpreted as modern drains. Other drains or service pipes are identified as linear anomalies) in F7 (Illus 8 – SP1, SP2 and SP3) and parallel curvilinear anomalies (Illus 8 – SP4 and SP5) running around the southern boundary of F8. These latter two features were probably installed during the construction of the bypass.

Other discrete ferrous anomalies, characterised as individual 'spikes', are typically caused by ferrous (magnetic) material, either on the ground surface or in the plough-soil. Little importance is normally given to such anomalies, unless there is any supporting evidence for an archaeological interpretation, as modern ferrous debris is common on most sites, often being present as a result of manuring or tipping/infilling. There is no obvious clustering to these ferrous anomalies which might indicate an archaeological origin. Far more probable is that the 'spike' responses are likely caused by the random distribution of ferrous debris in the upper soil horizons.

4.2 AGRICULTURAL ANOMALIES

Several linear trend anomalies either parallel with or orthogonal to the existing field alignment are interpreted as of likely agricultural origin, either ploughing trends, headlands or drains.

4.3 GEOLOGICAL ANOMALIES

In the north-east corner of F8, beyond the area of waste spreading, a cluster of broad amorphous anomalies of enhanced magnetic susceptibility are identified. These anomalies make no coherent pattern which might suggest an archaeological origin and a geological origin is preferred. Similar anomalies in F1 and F7 are also interpreted as geological although those in F7 are fairly close to the medieval core of the village and might be assumed to have some archaeological potential.

4.4 POSSIBLE ARCHAEOLOGICAL ANOMALIES

A single linear anomaly (Illus 8 – D1) has been interpreted as of possible archaeological origin on the basis that it is on a different alignment to any current boundaries. However, this interpretation is tentative and a modern agricultural origin cannot be ruled out.

5 CONCLUSION

The survey has not identified any anomalies of probable archaeological origin. Waste material comprising rock, subsoil and topsoil has been spread across more than 50% of the PDA, to an unknown depth, during the construction of the bypass. The magnitude of the disturbance is such that any archaeological features, if present, would not be detectable under these circumstances. Therefore, the presence of any archaeological remains in this area cannot be discounted. However, elsewhere anomalies indicative of post-medieval and modern activity have been identified. No anomalies indicative of medieval settlement have been identified, even where adjacent to the Archaeological Alert Area, although the part of the PDA closest to the medieval village core was overgrown and not suitable for survey. The archaeological potential of the PDA is considered to be low where the survey returned usable data.

6 REFERENCES

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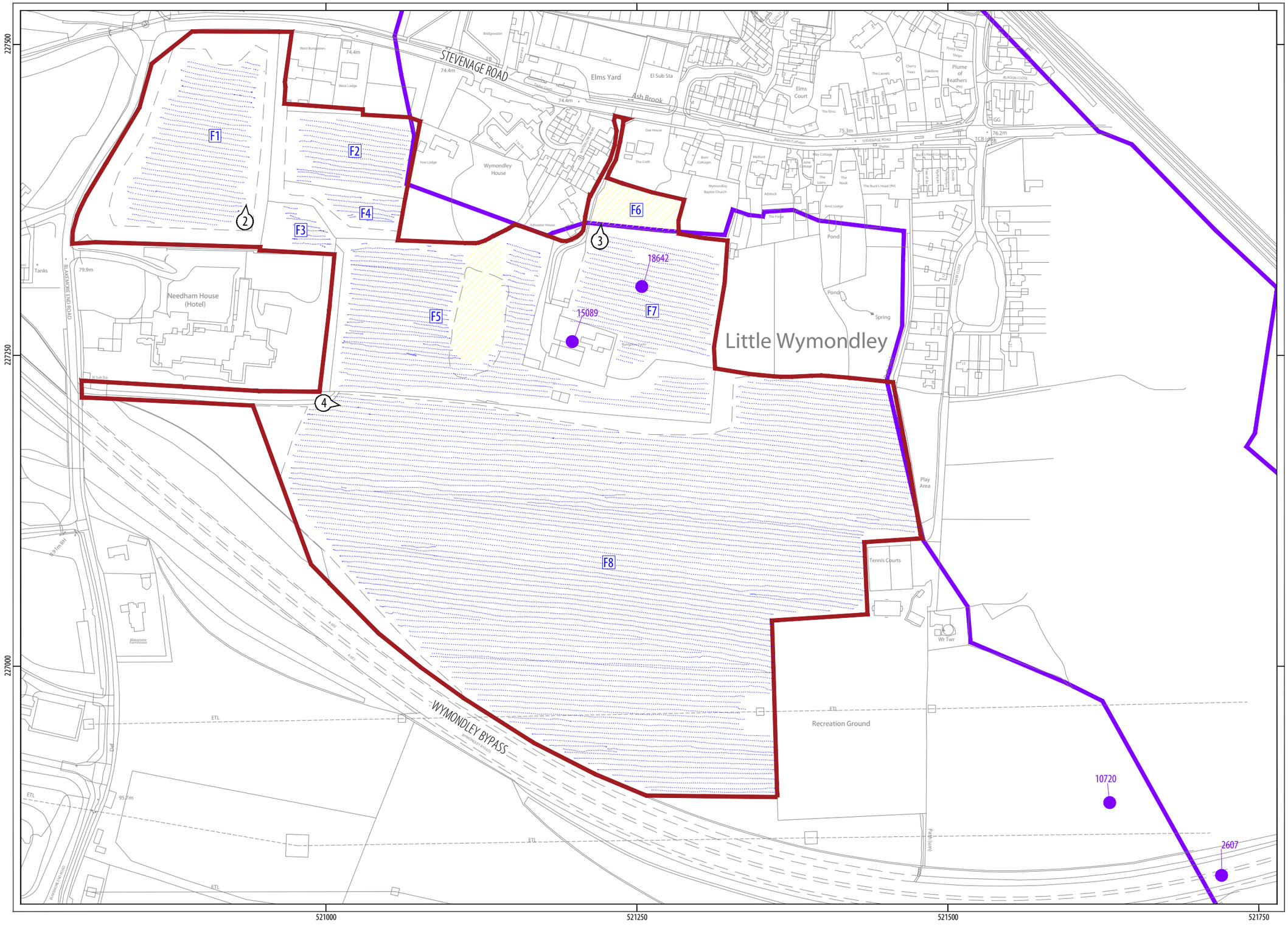

proposed development area
archaeological alert area
HER entry
GPS swaths
area unsuitable for survey
location and direction of ILLUS 2-4

0 50m
1:3,000 @ A3

PROJECT SRLW20
Land south of Stevenage Road
Little Wymondley
North Hertfordshire
CLIENT Welbeck Strategic Land LLP

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ILLUS 5 Survey location showing GPS swaths (1:3,000)

proposed development area

-1.0 nT 2.0

0 50m

1:2,500 @ A3

PROJECT SRLW20
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North Hertfordshire

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ILLUS 6 Processed greyscale magnetometer data (1:2,500)

proposed development area

88.0nT/cm

0 50m

1:2,500 @ A3

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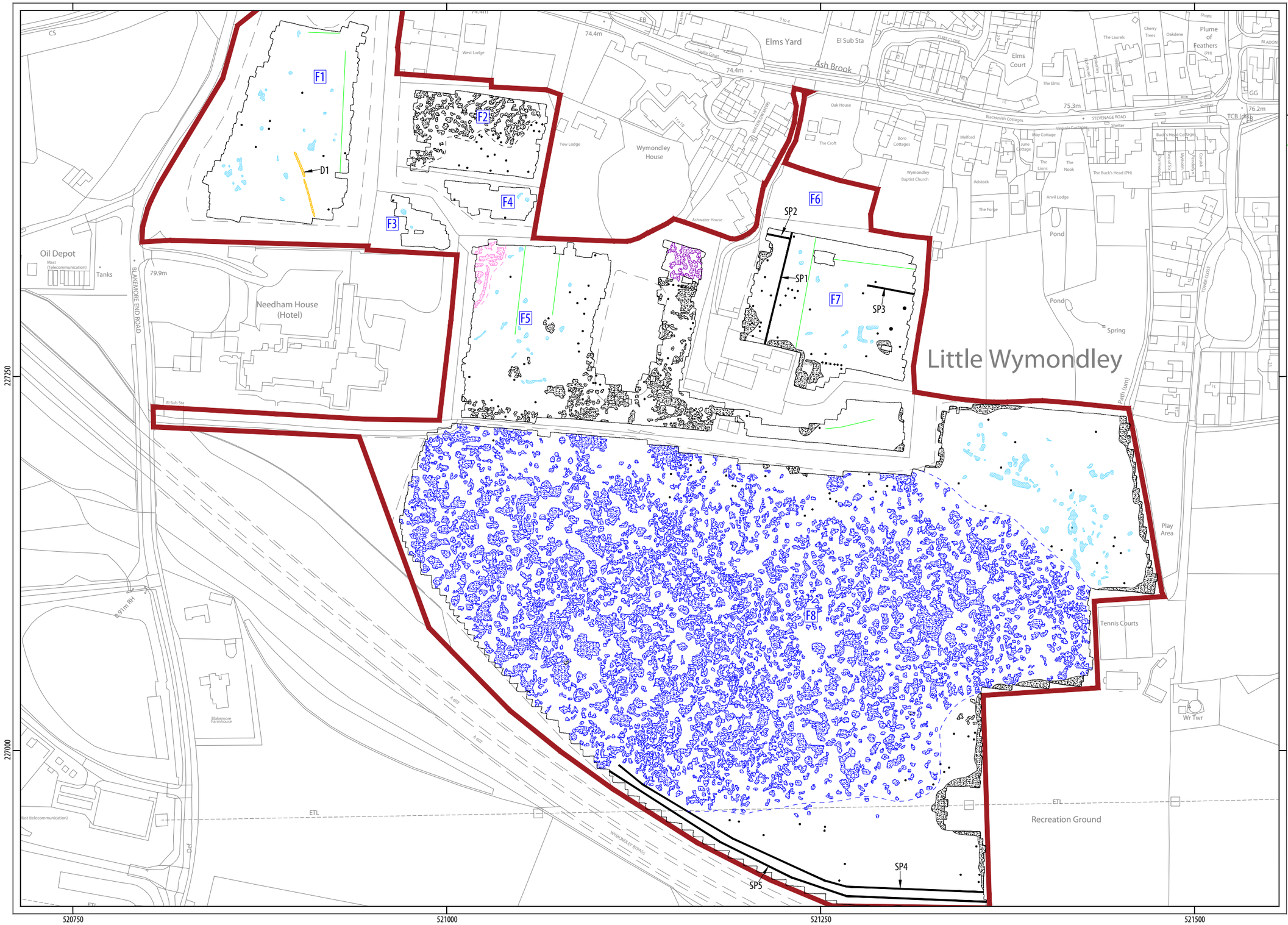
ILLUS 7 XY trace plot of minimally processed magnetometer data (1:2,500)



proposed development area

TYPE OF ANOMALY	INTERPRETATION
dipolar isolated	ferrous material
magnetic disturbance	ferrous material
magnetic disturbance	former building
magnetic disturbance	modern infill/tipping
dipolar linear	service pipe
magnetic disturbance	quarrying
linear trend	agricultural
magnetic enhancement	geology
magnetic enhancement	archaeology?

ABBREVIATIONS

D	ditch
SP	service pipe

0 50m
1:2,500 @ A3

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Little Wymondley
North Hertfordshire
CLIENT Welbeck Strategic Land LLP

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ILLUS 7 XY trace plot of minimally processed magnetometer data

ILLUS 8 Interpretation of magnetometer data (1:2,500)

7 APPENDICES

APPENDIX 1 MAGNETOMETER SURVEY

Magnetic susceptibility and soil magnetism

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

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

The magnetic susceptibility of a soil can also be enhanced by the application of heat. This effect can lead to the detection of features such as hearths, kilns or areas of burning.

Types of magnetic anomaly

In the majority of instances anomalies are termed 'positive'. This means that they have a positive magnetic value relative to the magnetic background on any given site. However, some features can manifest themselves as 'negative' anomalies that, conversely, means that the response is negative relative to the mean magnetic background.

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

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

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

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

Areas of magnetic disturbance These responses can have several causes often being associated with burnt material, such as slag waste or brick rubble or other strongly magnetised/fired material. Ferrous structures such as pylons, mesh or barbed wire fencing and buried pipes can also cause the same disturbed response. A modern origin is usually assumed unless there is other supporting information.

Lightning-induced remnant magnetisation (LIRM) LIRM anomalies are thought to be caused in the near surface soil horizons by the flow of an electrical currents associated with lightning strikes. These observed anomalies have a strong bipolar signal which decreases with distance from the spike point and often appear as linear or radial in shape.

Linear trend This is usually a weak or broad linear anomaly of unknown cause or date. These anomalies are often caused by agricultural activity, either ploughing or land drains being a common cause.

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

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

APPENDIX 2 SURVEY LOCATION INFORMATION

An initial survey base station was established using a Trimble VRS differential Global Positioning System (dGPS). The magnetometer data was georeferenced using a Trimble RTK differential Global Positioning System (Trimble R8s model).

Temporary sight markers were laid out using a Trimble VRS differential Global Positioning System (Trimble R8s model) to guide the operator and ensure full coverage. The accuracy of this dGPS equipment is better than 0.01m.

The survey data were then super-imposed onto a base map provided by the client to produce the displayed block locations. However, it should be noted that Ordnance Survey positional accuracy for digital map data has an error of 0.5m for urban and floodplain areas, 1.0m for rural areas and 2.5m for mountain and moorland areas. This potential error must be considered if coordinates are measured off hard copies of the mapping rather than using the digital coordinates.

Headland Archaeology cannot accept responsibility for errors of fact or opinion resulting from data supplied by a third party.

APPENDIX 3 GEOPHYSICAL SURVEY ARCHIVE

The geophysical archive comprises an archive disk containing the raw data in XYZ format, a raster image of each greyscale plot with associate world file, and a PDF of the report.

The project will be archived in-house in accordance with recent good practice guidelines (http://guides.archaeologydataservice.ac.uk/g2gp/Geophysics_3). The data will be stored in an indexed archive and migrated to new formats when necessary.

APPENDIX 4 DATA PROCESSING

The gradiometer data has been presented in this report in processed greyscale and minimally processed XY trace plot format.

Data collected using RTK GPS-based methods cannot be produced without minimal processing of the data. The minimally processed data has been interpolated to project the data onto a regular grid and de-striped to correct for slight variations in instrument calibration drift and any other artificial data.

A high pass filter has been applied to the greyscale plots to remove low frequency anomalies (relating to survey tracks and modern agricultural features) in order to maximise the clarity and interpretability of the archaeological anomalies.

The data has also been clipped to remove extreme values and to improve data contrast.

APPENDIX 5 OASIS DATA COLLECTION FORM: ENGLAND

OASIS ID: headland5-386687

PROJECT DETAILS	
Project name	Land south of Stevenage Road, Little Wymondley, North Hertfordshire
Short description of the project	Headland Archaeology (UK) Ltd undertook a geophysical (magnetometer) survey covering approximately 16 hectares on land south of Stevenage Road, Little Wymondley, prior to the submission of a planning application for a proposed housing development. No anomalies of probable archaeological origin have been identified by the survey. The survey has, however, confirmed that spoil from the construction of Wymondley Bypass has been spread across the southern half of the site effectively 'masking' the response from any archaeological features that may be present in that area; albeit that this does not affect the entire site. The archaeological potential of this part of the site therefore remains uncertain but is assumed to be low based on the conclusions of a recent desk-based assessment. In the northern half of the site anomalies indicative of post-medieval and modern activity, mostly small-scale mineral extraction, are identified. No anomalies consistent with medieval activity have been identified suggesting that the medieval village did not extend to the northern limits of the survey area; the most northerly part of the site, comprising a single small field, was overgrown and unsuitable for survey and therefore remains unevaluated. The archaeological potential of the PDA is considered to be low where the survey returned usable data.
Project dates	Start: 27-01-2020 End: 29-01-2020
Previous/future work	No / Not known
Any associated project reference codes	SRLW20 - Contracting Unit No
Type of project	Field evaluation
Site status	N/A
Current Land use	Grassland Heathland 5 – Character undetermined
Current Land use	Cultivated Land 4 – Character Undetermined
Monument type	N/A
Monument type	N/A
Significant Finds	N/A
Significant Finds	N/A
Methods & techniques	"Geophysical Survey"
Development type	Housing estate
Prompt	National Planning Policy Framework - NPPF
Position in the planning process	Pre-application
Solid geology	Chalk (including red chalk)
Drift geology	Glacial sand and gravel
Techniques	Magnetometry
PROJECT LOCATION	
Country	England
Site location	Hertfordshire North Hertfordshire Wymondley; Land south of Stevenage Road, Little Wymondley
Study area	16 Hectares
Site coordinates	TL 2123 2709 51.928660700197 -0.236664457179 51 55 43 N 000 14 11 W Point
PROJECT CREATORS	
Name of Organisation	Headland Archaeology
Project brief originator	The Environmental Dimension Partnership
Project design originator	Headland Archaeology
Project director/manager	David Harrison

Project supervisor	Ross Bishop
Type of sponsor/funding body	Developer
PROJECT ARCHIVES	
Physical Archive Exists?	No
Digital Archive recipient	In house
Digital Contents	"none"
Digital Media available	"Geophysics"
Paper Archive Exists?	No
PROJECT BIBLIOGRAPHY 1	
Publication type	Grey literature (unpublished document/manuscript)
Title	Land south of Stevenage Road, Little Wymondley, North Hertfordshire; Geophysical Survey Report
Author(s)/Editor(s)	Alistair Webb
Date	2020
Issuer or publisher	Headland Archaeology
Place of issue or publication	Leeds
Description	PDF[A]
Entered by	David Harrison (david.harrison@headlandarchaeology.com)
Entered on	27 February 2020

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