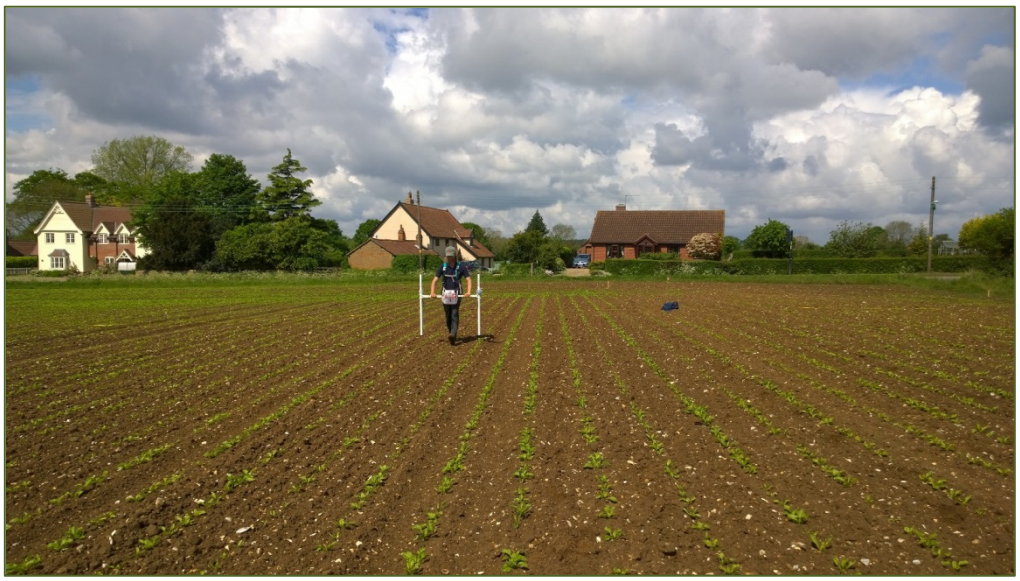
LAND OFF THELNETHAM ROAD, HOPTON, SUFFOLK

DETAILED MAGNETOMETER SURVEY



Report Number: 1057

May 2014

LAND OFF THELNETHAM ROAD, HOPTON, SUFFOLK

DETAILED MAGNETOMETER SURVEY

Prepared for:
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May 2014

Site Code	HPN 026	**NGR**	TL 993 789
Planning Ref.	-	**OASIS**	britanni1-178345
Approved By	Matt Adams	**DATE**	May 2014

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ABSTRACT

Detailed fluxgate gradiometer survey was undertaken by Britannia Archaeology Ltd over two fields (3.29 hectares) on the 12th - 13th May 2014. Despite the sites potential for encountering anomalies of possible prehistoric origin, only a relatively narrow range may be of an archaeological derivation.

Isolated dipolar responses were most numerous throughout the dataset and have probably been caused by the presence of modern ferrous cultural debris introduced into the topsoil through manuring and loss, rather than resulting from the presence of buried archaeological artefacts. Six areas of magnetic disturbance were recorded in the dataset, predominantly located in the north-eastern part of the larger field and within the football pitch to the north, caused by the presence of extant ferrous football posts and by the location of ferrous material and fences along the boundaries.

A series of weak positive linear trends have been recorded in both fields orientated north-east to south-west, they are potentially indicative of agricultural strip fields. Further recorded in the dataset were two negative linear trends that are likely to delineate the location of non-ferrous service runs, present near to the eastern and western boundaries of the larger field.

Sixteen positive discrete anomalies present predominantly within the northern half of the agricultural field are indicative of archaeological rubbish pits, however this area has been used for bonfires and quarrying which may explain the readings.

One weak positive curvilinear anomaly present in the north-western corner of the agricultural field may be indicative of a ring ditch, however equally this anomaly may have been caused by a natural change in the superficial geology.

Further targeted trial trenching to ground- test the hypotheses given in this report would be prudent.

1.0 INTRODUCTION

On the 12th and 13th May 2014 Britannia Archaeology Ltd (BA) undertook a detailed fluxgate gradiometer survey over 3.29 hectares of one agricultural field and land used by the school as a football pitch, in advance of a proposed residential development off Thelnetham Road, Hopton, Suffolk (TL 993 789).

The survey was commissioned by Mr John Craven of Suffolk County Council Archaeological Service Field Team in response to a design brief issued by Suffolk County Council Archaeology Service/Conservation Team (SCCAS/CT), (Brudenell. M, dated 03/04/2014).

2.0 SITE DESCRIPTION

The site is located to the south of Thelnetham Road and to the east of Bury Road in Hopton, Suffolk, in one agricultural field and a football pitch to the south and east of Hopton Primary VCP School. It lies at a height of *c*.30m AOD, bordered to the north by the school and a housing estate, to the east by a bowling green and to the south by an agricultural field.

Bedrock geology is described as Lewes Nodular Chalk, Seaford Chalk, Newhaven Chalk, and Culver Chalk Formation, deposited approximately 71 to 94 million years ago in the Cretaceous Period when the local environment was dominated by warm chalk seas (BGS, 2014).

Superficial geology is described as Lowestoft Formation Diamicton formed up to 2 million years ago in the Quaternary Period when the local environment was dominated by ice age glaciers, scouring the landscape depositing moraines of till with outwash sand and gravel from seasonal and post glacial meltwaters (BGS 2014).

3.0 PLANNING POLICIES

The geophysical survey is to be carried out on the recommendation of the county council (SCCAS/CT), following guidance laid down by the *National Planning and Policy Framework* (NPPF, DCLD 2012) which replaced *Planning Policy Statement 5: Planning for the Historic Environment* (PPS5, DCLG 2010) in March 2012. The relevant local development framework is *The Replacement St Edmundsbury Borough Local Plan (2016)*.

3.1 National Planning Policy Framework (NPPF, DCLG March 2012)

The NPPF recognises that 'heritage assets' are an irreplaceable resource and planning authorities should conserve them in a manner appropriate to their significance when considering development. It requires developers to record and advance understanding of the significance of any heritage assets to be lost (wholly or in part) in a manner

proportionate to their importance and the impact, and to make this evidence (and any archive generated) publicly accessible. The key areas for consideration are:

- The significance of the heritage asset and its setting in relation to the proposed development;
- The level of detail should be proportionate to the assets' importance and no more than is sufficient to understand the potential impact of the proposal on their significance;
- Significance (of the heritage asset) can be harmed or lost through alteration or destruction, or development within its setting. As heritage assets are irreplaceable, any harm or loss should require clear and convincing justification;
- Local planning authorities should not permit loss of the whole or part of a heritage asset without taking all reasonable steps to ensure the new development will proceed after the loss has occurred; and
- Non-designated heritage assets of archaeological interest that are demonstrably of equivalent significance to scheduled monuments, should be considered subject to the policies for designated heritage assets.

3.2 The Replacement St Edmundsbury Borough Local Plan (2016).

The relevant section in the local plan (9. Heritage and Conservation) states the following aims and objectives:

9.1 To maintain and improve the quality of the built environment

9.2 To achieve this aim, the objectives are to:

a) retain and enhance the character and appearance of the historic environment and ensure that new development is sensitive to the character of the locality;

b) safeguard listed buildings, conservation areas and parks and gardens of special historic or design interest and their settings from inappropriate development;

c) protect and conserve the fabric of historic buildings, structures and other features, and the archaeological remains related to them; and

d) protect and conserve sites of archaeological importance and their settings.

4.0 ARCHAEOLOGICAL BACKGROUND

This site is present within an area of high archaeological potential as recorded in the Suffolk County Historic Environment Record (SHER). It is located in the Little Ouse Valley overlooking Hopton Fen, an area that was topographically favourable for early occupation from all periods. Extensive pottery scatters of Prehistoric, Saxon, Roman and Medieval date have been recorded in fields immediately to the west (HER no. HPN 10-

11). There is also the potential for locating anomalies associated with Medieval roadside settlement because a proportion of the northern part of site is present within the historic core of the village (HPN 023).

5.0 PROJECT AIMS

A non-intrusive field survey by geophysical prospection is required of the area to determine the extent and significance of subsurface anomalies, followed by a subsequent trial trench evaluation, the aims and objectives are laid out as follows in Section 4 of the brief:

4.1 A geophysical survey and preliminary trenched evaluation is required of the development area to enable the archaeological resource, both in quality and extent, to be assessed prior to the determination of the planning application.

4.2 Trial Trenching is required to:

- 'Ground-truth' the geophysical results.

- Identify the date, approximate form and purpose of any archaeological deposit, together with its likely extent, localised depth and quality of preservation.

- Evaluate the likely impact of past land uses, and the possible presence of masking colluvial/alluvial deposits.

- Establish the potential for the survival of environmental evidence.

- Establish the suitability of the area for development.

The trial trench evaluation phase of site work is to be undertaken by the SCCAS Field Team who will prepare a Written Scheme and trench design informed by the results of the geophysical survey.

6.0 METHODOLOGY

6.1 Instrument Type Justification

Britannia Archaeology Ltd employed a Bartington Dual Grad 601-2 fluxgate gradiometer to undertake the survey, because of its high sensitivity and rapid ground coverage. The surveyors noted that that the background magnetic susceptibility was relatively low, and therefore it was relatively simple to locate a suitable zero station.

6.2 Instrument Calibration

One hour was allowed in the morning for the magnetometers sensors to settle before the start of the first grid. The instrument was zeroed after every three to five grids to minimise the effect of sensor drift. An area with a relatively low magnetic reading was chosen to calibrate the instrument; this same point was used to zero the sensors throughout the survey providing a common zero point. The survey was undertaken in overcast conditions interspersed with occasional rain and long periods of sunshine over the two days which caused a degree of sensor drift, and the characteristic parallel traverse 'striping' in the raw dataset (Figure 2) that is prevalent throughout the raw dataset.

6.3 Sampling Interval and Grid Size

The sampling interval was set at 0.25m along 1m traverse intervals, providing 4 readings a metre, the magnetometer survey was undertaken on 20 x 20m grids.

6.4 Survey Grid Location

The survey grid was set out to the Ordnance Survey OSGB36 datum to an accuracy of ±0.1m employing a Leica Viva Glonnass Smart Rover GS08 real time kinetic (RTK) survey system. Data were converted to the National Grid Transformation OSTN02 and the instrument was regularly tested using stations with known ETRS89 coordinates. The grids were positioned on a north-west to south-east alignment (Figure 1).

6.5 Data Capture

Instrument readings were recorded on an internal data logger that were downloaded to a laptop at lunchtime and then also at the end of the day. The grid order was recorded on a BA pro-forma to aid in the creation of the data composites. Data were filed in job specific folders. These data composites were checked for quality on site by BA, allowing grids to be re-surveyed if necessary. The data were backed up onto an external storage device in the office and finally a remote server at the end of the day. A five metre exclusion zone was left between the boundaries and the survey area to reduce the amount of field boundary magnetic disturbance, which slightly reduced the area available.

6.6 Data Presentation and Processing

Data are presented in both raw and processed data plots in greyscale format (Figures 2 and 3). An XY trace plot of the processed data has also been included (Figure 4).

The raw data is presented with no processing, and was clipped to produce a uniform greyscale plot, processed data schedules are also displayed below.

Raw Data:
Data Clipping: 1.00 standard deviation.
Display Clipping: +/- 3 standard deviations.

Processed Data:

De-spike: X diameter = 3, Y diameter = 3, Threshold = 1, centre value=mean, replace with = mean;
De-stripe: Median Traverse: All;
Data Clipping: 1.00 standard deviation;
Display Clipping: +/- 3 standard deviations.

An interpretation plan characterising the anomalies recorded can be found at Figure 5, drawing together the evidence collated from both greyscale and XY trace plots (Figures 2, 3 and 4). All figures are tied into the National Grid and printed at an appropriate scale.

6.7 Software

Raw data were downloaded using DW Consulting's Archeosurveyor v2.0 and will be stored in this format as raw data. The software used to process the data and produce the composites was also DW Consulting's Archeosurveyor v2.0. Datasets were exported into AutoCAD and placed onto the local survey grid. Interpretation plots were then produced using AutoCAD.

6.8 Grid Restoration

Britannia Archaeology Ltd positioned no reference stations within the field however the grids can be relocated using the geo-referenced stations presented in Figure 1; these co-ordinates can also enable the accurate targeting of geophysical anomalies.

7.0 RESULTS & DISCUSSION

Isolated dipolar ('iron spike') responses were most numerous throughout the dataset and have probably been caused by the presence of modern ferrous cultural debris introduced into the topsoil through manuring and loss, rather than resulting from the presence of buried archaeological artefacts. These responses (yellow hatched circles) seem to be fairly evenly spaced throughout the field with no apparent concentration.

Six areas of magnetic disturbance (yellow/magenta hatching) were recorded in the dataset, predominantly located in the north-eastern part of the field and within the football pitch to the north. The two magenta areas record the presence of extant ferrous football posts. Those present on the sites periphery are caused by the location of ferrous material and fences along the boundaries.

Two negative linear trends (blue lines) located near to the eastern and western boundaries of the agricultural field are likely to delineate the location of non-ferrous service runs. Caution should be exercised when excavating below ground level in these areas.

A series of weak positive linear trends (green lines) have been recorded in both fields, all of which are orientated north-east to south-west, potentially indicative of agricultural strip fields. Further targeting of these anomalies would be prudent to test this hypothesis.

Sixteen positive discrete anomalies (orange hatching) are present predominantly within the northern half of the agricultural field. A cluster of ten are recorded in the north-eastern corner and are indicative of archaeological rubbish pits. However the landowner believes that this area has been used for bonfires, and that quarrying has also occurred here in the recent past, which may also explain the readings. Two weak positive discrete anomalies have been recorded towards the centre of the plot in the eastern half of the field, they may be indicative of archaeological pits however a geological origin cannot be ruled out. Further archaeological investigations would enable these anomalies to be quantified.

One weak positive curvilinear anomaly (cyan hatching) present in the north-western corner of the agricultural field may be indicative of a ring ditch, however it may have been caused by a natural change in the superficial geology. Targeted trenching to further evaluate this anomaly would be prudent.

8.0 CONCLUSION

The site has a relatively low background magnetic susceptibility, due to the nature of the underlying superficial geology, this provided good clarity between the magnetic background and the more magnetically susceptible readings of the anomalies. Despite the potential for recording anomalies of a potential archaeological origin, only a small degree of those recorded within the dataset are worthy of further archaeological investigation.

9.0 PROJECT ARCHIVE AND DEPOSITION

A full archive will be prepared for all work undertaken in accordance with guidance from the *Selection, Retention and Dispersion of Archaeological Collections,* Archaeological Society for Museum Archaeologists, 1993. Arrangements will be made for the archive to be deposited with the relevant museum/HER Office.

10.0 ACKNOWLEDGEMENTS

Britannia Archaeology Ltd would like to thank Mr John Craven of Suffolk County Council Archaeological Service Field Team for commissioning the project, and to Dr Mr Matthew Brudenell of Suffolk County Council Archaeological Service/Conservation Team for his advice throughout.

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APPENDIX 1 METADATA SHEETS

Raw Data

Filename	HOP Raw.xcp
Description	
Instrument Type	Grad 601-2 (Gradiometer)
Units	nT
Surveyed by	MB/TPS on 5/13/2014
Assembled by	TPS on 5/13/2014
Direction of 1st Traverse	45 deg
Collection Method	ZigZag
Sensors	2 @ 1.00 m spacing.
Dummy Value	32702.00
Dimensions	
Composite Size (readings)	880 x 240
Survey Size (meters)	220.00m x 240.00 m
Grid Size	20.00 m x 20.00 m
X Interval	0.25 m
Y Interval	1.00 m
Stats	
Max	9.32
Min	-5.84
Std Dev	2.87
Mean	2.03
Median	2.00
Composite Area	5.28 ha
Surveyed Area	2.30 ha
Program	
Name	ArcheoSurveyor
Version	2.5.16.0

Processed Data

Filename	HOP Pro.xcp
Description	
Instrument Type	Grad 601-2 (Gradiometer)
Units	nT
Surveyed by	MB/TPS on 5/13/2014
Assembled by	TPS on 5/13/2014
Direction of 1st Traverse	45 deg
Collection Method	ZigZag
Sensors	2 @ 1.00 m spacing.
Dummy Value	32702.00
Dimensions	
Composite Size (readings)	880 x 240
Survey Size (meters)	220.00m x 240.00 m
Grid Size	20.00 m x 20.00 m
X Interval	0.25 m
Y Interval	1.00 m
Stats	
Max	5.53
Min	-5.79
Std Dev	1.89
Mean	0.05
Median	0.00
Composite Area	5.28 ha
Surveyed Area	2.30 ha
Program	
Name	ArcheoSurveyor

Version	2.5.16.0

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APPENDIX 2 – TECHNICAL DETAILS

Magnetometer Survey

The magnetometer differs from the 'active' magnetic susceptibility meter by being a 'passive' instrument. Rather than injecting a signal into the ground it detects slight variations in the Earth's magnetic field caused by cultural and natural disturbance (Clark).

Thermoremanent magnetism is produced when a material containing iron oxides is strongly heated. Clay for example has a high iron oxide content that in a natural state is weakly magnetic, when heated these weakly magnetic compounds become highly magnetic oxides that a magnetometer can detect.

The demagnetisation of iron oxides occurs above a temperature known as the Curie point; for example haematite has a Curie point of 675 Celsius and magnetite 565C. At the time of cooling the iron oxides become permanently re-magnetised with their magnetic properties re-aligned in the direction of the Earth's magnetic field (Gaffney and Gater). The direction of the Earth's magnetic field shifts over time and these subtle alignment differences can be recorded. Kilns, hearths, baked clay and ovens can reach Curie point temperatures, and are the strongest responses apart from large iron objects that can be detected. Other cultural anomalies that can be prospected include occupation areas, pits, ditches, furnaces, sunken feature buildings, ridge and furrow field systems and ritual activity (David, 2011). Commonly recorded anomalies include modern ferrous service pipes, field drainage pipes, removed field boundaries, perimeter fences and field boundaries.

Fluxgate Gradiometers

Fluxgate gradiometers are sensitive instruments that utilise two sensors placed in a vertical plane, spaced 1 metre apart. The sensor above reads the Earth's magnetic (background) response while the sensor below records the local magnetic field. Both sensors are carefully adjusted to read zero before survey commences at a 'zeroing' point, selected for its relatively 'quiet' magnetic background reading. When differences in the magnetic field strength occur between the two sensors a positive or negative reading is logged. Positive anomalies have a positive magnetic value and conversely negative anomalies have a negative magnetic value relative to the site's magnetic background. Examples of positive magnetic anomalies include hearths, kilns, baked clay, areas of burning, ferrous material, ditches, sunken feature buildings, furrows, ferrous service pipes, perimeter fences and field boundaries. Negative magnetic anomalies include earthwork embankments, plastic water pipes and geological features.

The instruments are usually held approximately 0.30m to 0.50m above the ground surface and can detect to a depth of between 1-2metres. Best practice dictates that the optimal direction of traverse in Britain is east to west.

Magnetic Anomalies

Linear trends

Linear trends can be both positive and negative magnetic responses. If they are broad, relatively weak or negative in nature they may be of agricultural or geological origin, for example periglacial channels, land drains or ploughing furrows. If the responses are strong positive trends they are more likely to be of archaeological origin. Archaeological settlement ditches tend to be rich in highly magnetic iron oxides that accumulate in them via anthropogenic activity and humic backfills. Conversely surviving banks will be negative in nature, the material is derived from subsoil deposits that is less likely to be positively magnetic. Curvilinear trends can also be recorded and are indicative of archaeological structures such as drip-gullies.

Discrete anomalies

Discrete anomalies appear as increased positive responses present within a localised area. They are caused by a general increase in the amount of magnetic iron oxides present within the humic back-fill of for example a rubbish pit.

'Iron spike' anomalies

These strong isolated dipolar responses are usually caused by ferrous material present in the topsoil horizon. They can have an archaeological origin but are usually introduced into the topsoil during manuring.

Areas of magnetic disturbance

An area of magnetic disturbance is usually associated with material that has been fired. For example areas of burning, demolition (brick) rubble or slag waste spreads. They can also be caused by ferrous material, e.g. close proximity to barbwire or metal fences and field boundaries, buried services, pylons and modern rubbish deposits.

APPENDIX 3 – OASIS FORM

OASIS ID: britanni1-178345

Project details

Project name	Land Off Thelnetham Road, Hopton, Suffolk: Detailed Magnetometer Survey.
Short description of the project	Detailed fluxgate gradiometer survey was undertaken by Britannia Archaeology Ltd over two fields (3.29 hectares) on the 12th - 13th May 2014. Despite the sites potential for encountering anomalies of possible prehistoric origin, only a relatively narrow range may be of an archaeological derivation. Isolated dipolar responses were most numerous throughout the dataset and have probably been caused by the presence of modern ferrous cultural debris introduced into the topsoil through manuring and loss, rather than resulting from the presence of buried archaeological artefacts. Six areas of magnetic disturbance were recorded in the dataset, predominantly located in the north-eastern part of the larger field and within the football pitch to the north, caused by the presence of extant ferrous football posts and by the location of ferrous material and fences along the boundaries. A series of weak positive linear trends have been recorded in both fields orientated north-east to south-west, they are potentially indicative of agricultural strip fields. Further recorded in the dataset were two negative linear trends that are likely to delineate the location of non-ferrous service runs, present near to the eastern and western boundaries of the larger field. Sixteen positive discrete anomalies present predominantly within the northern half of the agricultural field are indicative of archaeological rubbish pits, however this area has been used for bonfires and quarrying which may explain the readings. One weak positive curvilinear anomaly present in the north-western corner of the agricultural field may be indicative of a ring ditch, however equally this anomaly may have been caused by a natural change in the superficial geology. Further targeted trial trenching to ground- test the hypotheses given in this report would be prudent.
Project dates	**Start:** 12-05-2014 **End:** 13-05-2014
Previous/future work	No / Yes
Any associated project reference codes	P1060 - Contracting Unit No. R1057 - Contracting Unit No. HPN 026 - Sitecode
Type of project	Field evaluation
Site status	None
Current Land use	Cultivated Land 3 - Operations to a depth more than 0.25m
Monument type	NONE None
Significant Finds	NONE None
Methods & techniques	"Geophysical Survey"
Development type	Housing estate
Prompt	National Planning Policy Framework - NPPF
Position in the planning process	Pre-application
Solid geology (other)	Lewes Nodular, Seaford, Newhaven and Culver Chalk Formations
Drift geology (other)	Lowestoft Formation Sand and Gravel
Techniques	Magnetometry

Project location

Country	England
Site location	SUFFOLK ST EDMUNDSBURY THELNETHAM Land off Thelnetham Road, Hopton, Suffolk
Study area	3.29 Hectares
Site coordinates	TL 993 789 52.3713620835 0.928007399572 52 22 16 N 000 55 40 E Point
Height OD / Depth	**Min:** 30.00m **Max:** 30.00m

Project creators

Name of Organisation	Britannia Archaeology Ltd
Project brief originator	Local Planning Authority (with/without advice from County/District Archaeologist)
Project design originator	Timothy Schofield
Project director/manager	Timothy Schofield

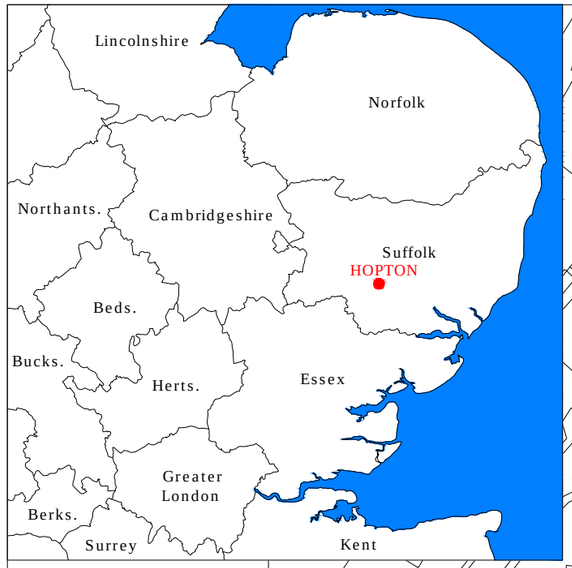
Project supervisor	Timothy Schofield
Type of sponsor/funding body	Archaeological Contractor
Name of sponsor/funding body	Suffolk County Council Archaeological Service

Project archives

Physical Archive Exists?	No
Digital Archive recipient	Suffolk HER
Digital Contents	"Survey"
Digital Media available	"Geophysics", "Images raster / digital photography", "Images vector", "Survey", "Text"
Paper Archive recipient	Suffolk HER
Paper Contents	"Survey"
Paper Media available	"Plan", "Report", "Survey ", "Unpublished Text"

Project bibliography 1

Publication type	Grey literature (unpublished document/manuscript)
Title	Land off Thelnetham Road, Hopton, Suffolk; Detailed Magnetometer Survey.
Author(s)/Editor(s)	Schofield, T.P
Other bibliographic details	R1057
Date	2014
Issuer or publisher	Britannia Archaeology Ltd
Place of issue or publication	Stowmarket
Description	A4 Bound Report with A3 fold-out Figures.
URL	www.britannia-archaeology.com
Entered by	Tim Schofield (tim@britannia-archaeology.com)
Entered on	4 June 2014



STATION	EASTING	NORTHING
01	599181.866	278788.035
02	599328.054	278723.006

Survey Grid

Site Boundary

NGR: TL 993 789

REPORT NUMBER: 1057

PROJECT:
LAND OFF THELNETHAM ROAD, HOPTON, SUFFOLK

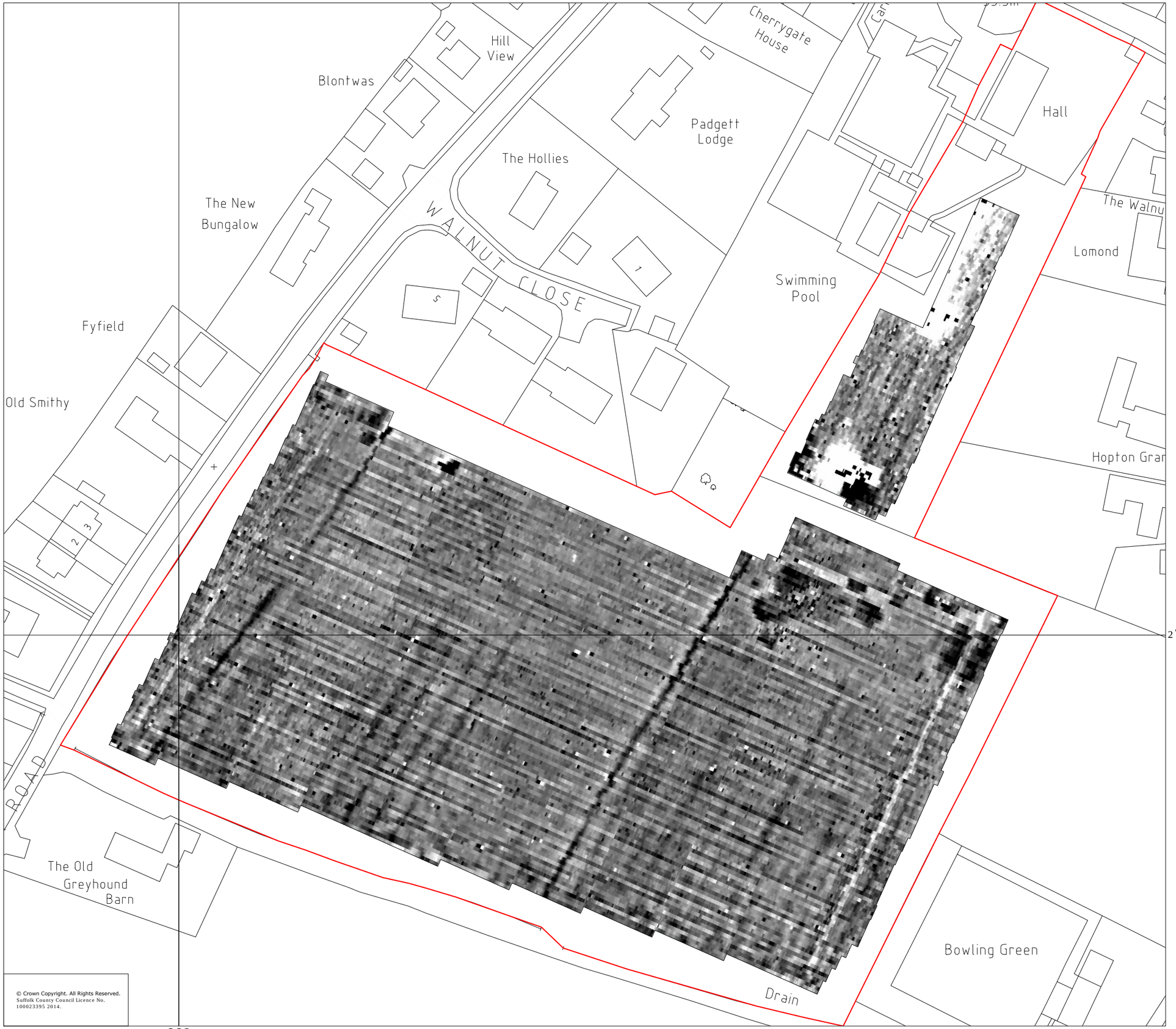
CLIENT:
Suffolk County Council

DESCRIPTION:
SITE, SURVEY GRID & REFERENCING INFORMATION PLAN

BRITANNIA ARCHAEOLOGY LTD
115 OSPREY DRIVE, STOWMARKET, SUFFOLK IP14 5UX
T: 01449 763034
E: info@britannia-archaeology.com
W: www.britannia-archaeology.com

SCALE: 1:1250 (0 – 50m)

PLOT:	APPROVED:	VERSION:
A3	MB	01
DATE:	AUTHOR:	FIGURE:
MAY 2014	TPS	01



N

+9.32nT

-5.84nT

Site Boundary

NGR: TL 993 789

REPORT NUMBER: 1057

PROJECT:
LAND OFF THELNETHAM ROAD,
HOPTON, SUFFOLK

CLIENT: Suffolk County Council

DESCRIPTION:
RAW MAGNETOMETER
GREYSCALE PLOT

BRITANNIA ARCHAEOLOGY LTD

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IP14 5UX

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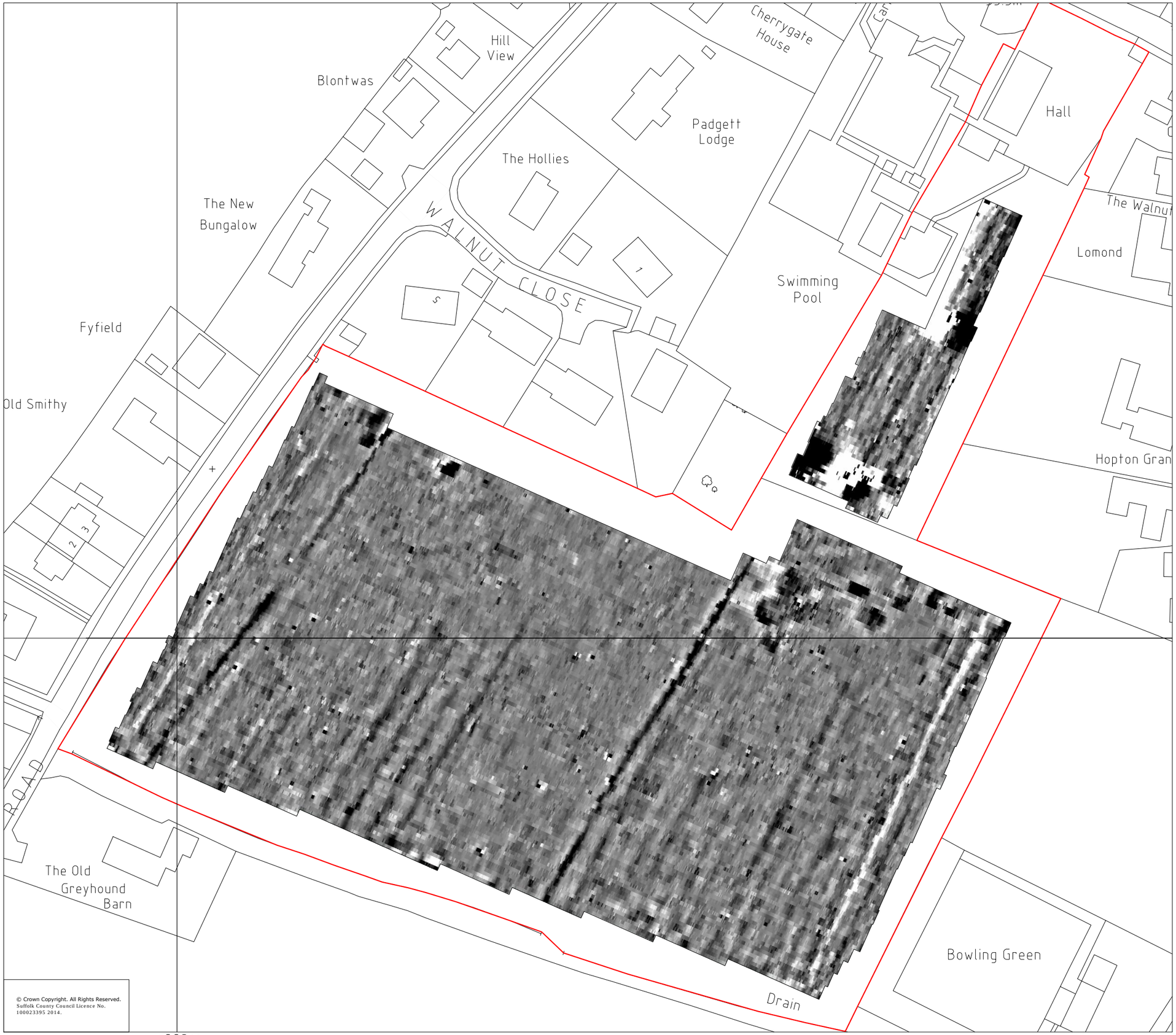
W: www.britannia-archaeology.com

SCALE: 1:1000 (0 – 50m)

PLOT:	APPROVED:	VERSION:
A3	MB	01
DATE:	AUTHOR:	FIGURE:
MAY 2014	TPS	02



N

+5.53nT

-5.79nT

Site Boundary

NGR: TL 993 789

REPORT NUMBER: 1057

PROJECT:
LAND OFF THELNETHAM ROAD,
HOPTON, SUFFOLK

CLIENT: Suffolk County Council

DESCRIPTION:
PROCESSED MAGNETOMETER
GREYSCALE PLOT

BRITANNIA ARCHAEOLOGY LTD

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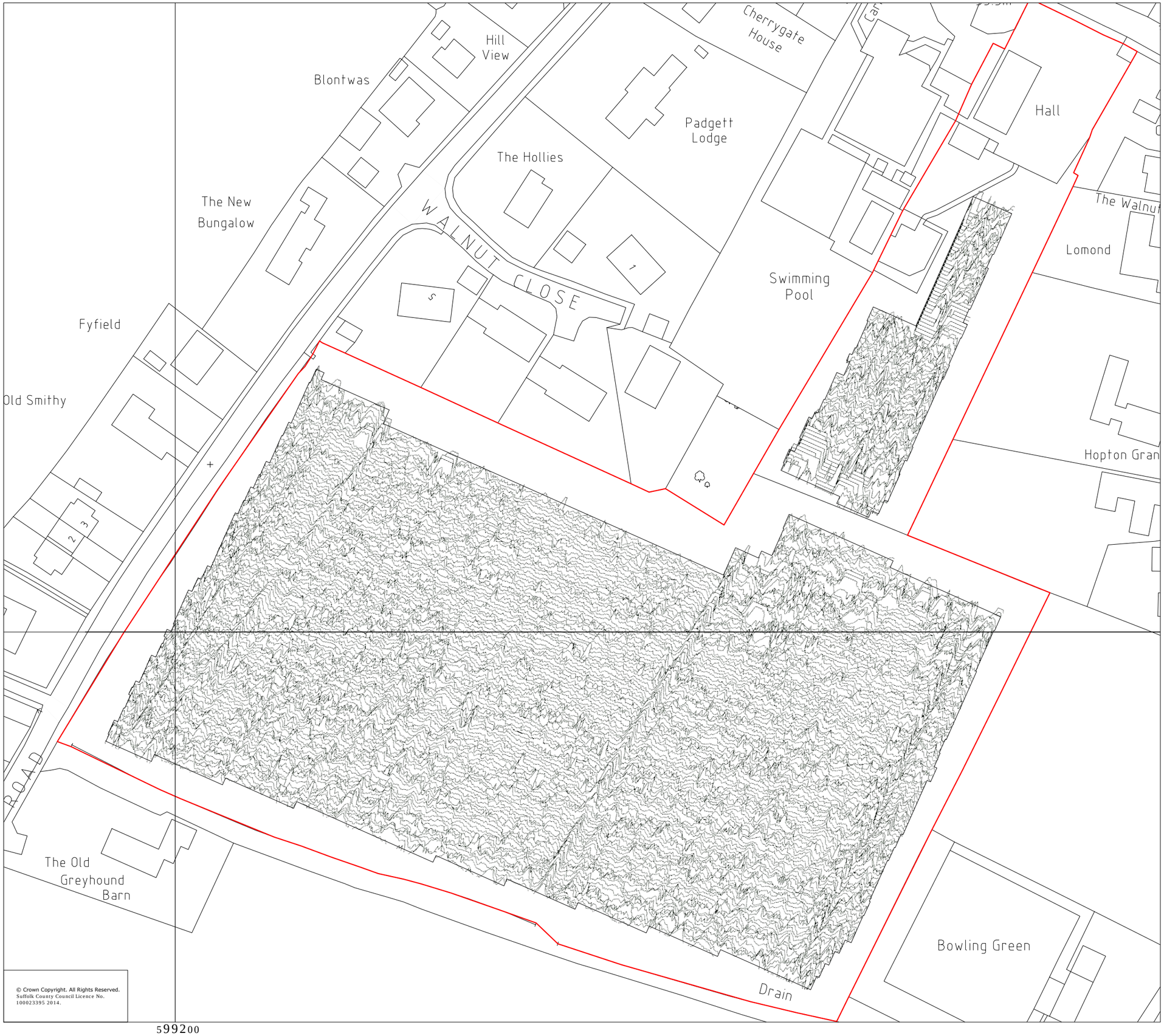
W: www.britannia-archaeology.com

SCALE: 1:1000 (0 – 50m)

PLOT:	APPROVED:	VERSION:
A3	MB	01
DATE:	AUTHOR:	FIGURE:
MAY 2014	TPS	03



N

40nT/cm	Scale Interval
	Site Boundary

NGR: TL 993 789

REPORT NUMBER: 1057

PROJECT:

LAND OFF THELNETHAM ROAD, HOPTON, SUFFOLK

CLIENT: Suffolk County Council

DESCRIPTION:

PROCESSED MAGNETOMETER XY TRACE PLOT

BRITANNIA ARCHAEOLOGY LTD

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IP14 5UX

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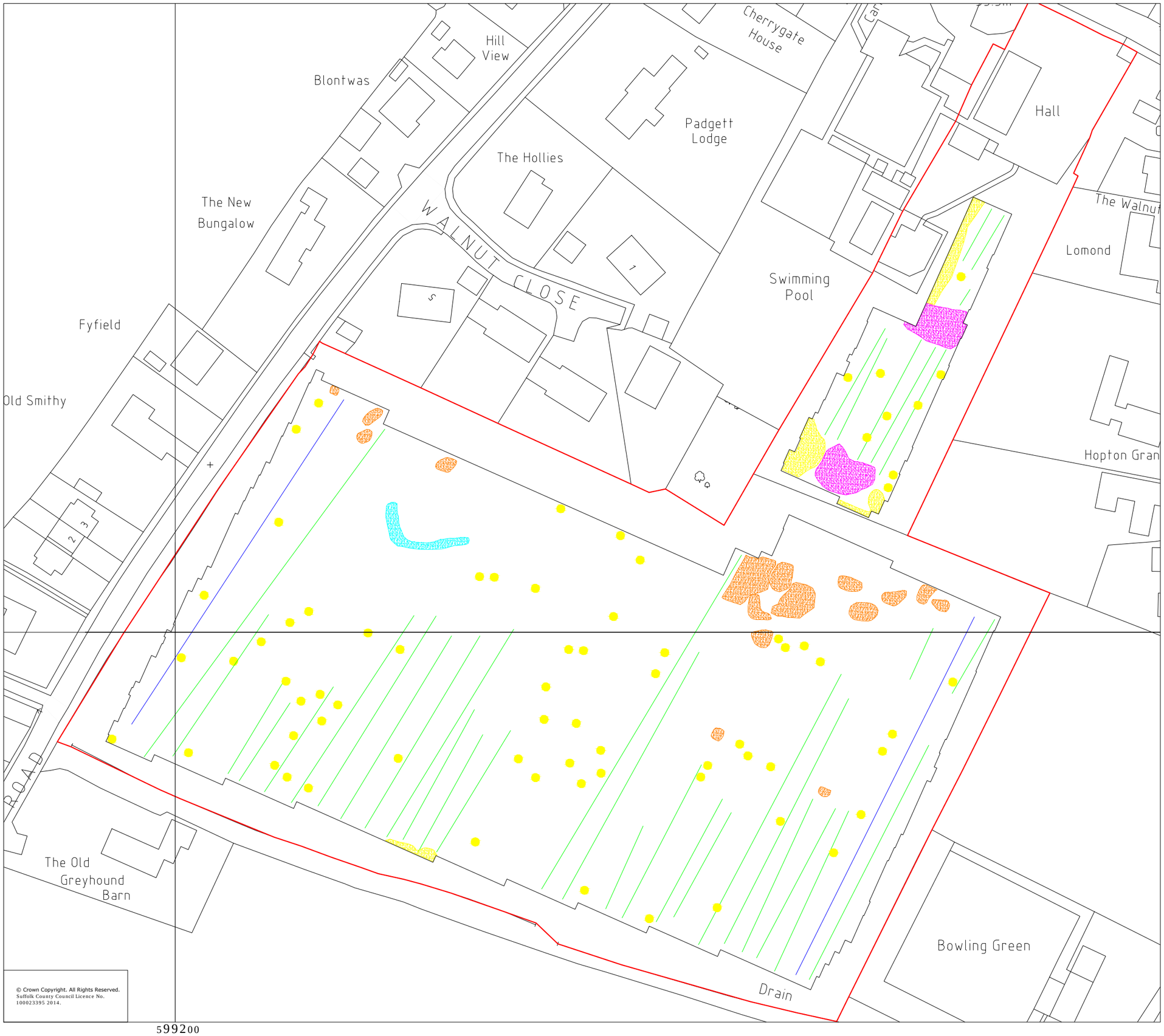
W: www.britannia-archaeology.com

SCALE: 1:1000 (0 – 50m)

PLOT:	APPROVED:	VERSION:
A3	MB	01
DATE:	AUTHOR:	FIGURE:
MAY 2014	TPS	04



N

	Positive Discrete Anomaly, Archaeology?
	Weak Positive Curvilinear Anomaly, Geology?
	Positive Linear Trend, Agricultural.
	Negative Linear Trend, Service Trench Run
	Area of Magnetic Disturbance
	Isolated Dipolar Response
	Site Boundary

NGR: TL 993 789

REPORT NUMBER: 1057

PROJECT:
LAND OFF THELNETHAM ROAD, HOPTON, SUFFOLK

CLIENT: Suffolk County Council

DESCRIPTION:
INTERPRETATION PLOT OF MAGNETOMETER ANOMALIES

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SCALE: 1:1000 (0 – 50m)

PLOT:	APPROVED:	VERSION:
A3	MB	01
DATE:	AUTHOR:	FIGURE:
MAY 2014	TPS	05