Land to the north east of 29 The Green, Great Staughton, St Neots, Cambridgeshire

Archaeological Evaluation Report

January 2021

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Land to the north east of 29 The Green, Great Staughton, St Neots, Cambridgeshire

Archaeological Evaluation Report

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Summary

Between the 14th and 18th December 2020, Oxford Archaeology East undertook a trial trench evaluation, comprising five trenches on a small parcel of land to the north-east of 29 The Green, Great Staughton, St Neots, Cambridgeshire. The development area is cited for the erection of twelve residential dwellings with associated infrastructure and landscaping.

Three ephemeral ditches were observed in Trench 1, closest to the road, adjacent to the north-western boundary of the site. These corresponded closely with the results of a geophysical survey conducted prior to the evaluation.

The remaining trenches contained no archaeological features or deposits. A scattering of possible features within them was, upon investigation, found to be either root disturbance or natural discolouration of the superficial deposits.

The site was notable only for its sterility. Not a single find was recovered from either the aforementioned features or the overlying soils.

Acknowledgements

Oxford Archaeology East would like to thank Chorus Homes Group Ltd for commissioning this project. Thanks are also extended to Kasia Gdaniec who monitored the work on behalf of Cambridgeshire County Council's Historic Environment Team.

The project was managed for Oxford Archaeology by Aileen Connor. The fieldwork was directed by Chris Thatcher, who was supported by Anne-Laure Bollen. Survey and digitising was carried out by Tom Houghton. Thanks are also extended to the team of OA staff that prepared the archive under the supervision of Katherine Hamilton.

1 INTRODUCTION

1.1 Scope of work

1.1.1 Oxford Archaeology East (OAE) was commissioned by Chorus Homes Group Ltd to undertake a trial trench evaluation to the north-east of 29 The Green, Great Staughton, St Neots, Cambridgeshire (centred on TL 513100 265125; Fig. 1). This comprised a 0.42ha parcel of land cited for the erection of twelve residential dwellings with associated infrastructure and landscaping.

1.1.2 The work was undertaken to inform the Planning Authority in advance of the submission of a Planning Application. A brief was set by Andy Thomas of the Cambridgeshire County Council Historic Environment Team (CHET; Thomas 2020), detailing the Local Authority's requirements for work necessary to inform the planning process. A written scheme of investigation produced in response to this document by OAE (Lord 2020) outlined how OAE would implement the specified requirements.

1.1.3 Prior to the trial trenching evaluation, a geophysical survey of the site was undertaken by Magnitude Surveys. This indicated the possible presence of archaeological remains in the north-western part of the site. The full results of this survey are included as Appendix B.

1.2 Location, topography and geology

1.2.1 The site is located 8km south-west of Huntingdon and to the north of the historic core of Great Staughton, Cambridgeshire (Fig. 1). It is currently used as arable farmland and lies *c*.0.6km north of the River Kym, at a height of *c.*80m AOD.

1.2.2 It overlies a bedrock of Oxford Clay Formation with loamy and gravelly soils predominantly to the south (http://www.bgs.ac.uk/discoveringGeology/geologyOfBritain/viewer.html, viewed 22nd October 2020).

1.3 Archaeological and historical background

1.3.1 A full search of the Cambridgeshire Historic Environment Record (CHER) of a 1km radius centred on the evaluation site was commissioned from CHET (under licence number 20-4346). The following is a summary based on the results of the CHER search, with records shown on Fig. 2.

Iron Age and Roman

1.3.2 Two enclosures believed to be of Iron Age to early Roman date (MCBs 28217 & 28216) lie approximately 1km west of the site. A cropmark of an enclosure (MCB 20200, not illustrated) 1km to the north-east is also thought to be of Iron Age or Roman origin.

1.3.3 A single unstratified findspot of a Roman quern stone (MCB 16093) is recorded 0.2km to the south-west.

Medieval and Post-medieval

1.3.4 The village of Great Staughton grew up as largely a roadside settlement along the main route between St Neots and Kimbolton. From the 16th century onwards the main thoroughfare through the village has been known as Staughton Highway.

1.3.5 Several Grade two listed buildings lie within the historic centre, in addition to those associated with Place house (00441a). These include St Andrews Chapel (10347), a Baptist church (CB14876) and barn (00443). To the south-west of the site (*c.*0.7km) lie the remains of the vicarage botanical garden (12101).

1.3.6 A single, moated site (00346), 0.25km to the north-east, is believed to be the remains of the former manor house of the Beaufoys, which burnt down in the mid-14th century. This is now a Scheduled Ancient Monument of national importance. Also to the north-east are two findspots of medieval pottery and a cobbled surface uncovered by agricultural activity (MCB 16094, 00466).

1.3.7 Place House, also a moated manor (00441a), lies 0.9km to the south-west and includes earthworks, a barn and garden walls (00441b, 00441c & 00441d). It dates from the 16th to 17th century and was built on the site of a moated grange of the Charterhouse by Sir Oliver Leader, when he acquired the Rectory Manor in *c.*1539.

1.3.8 There is also evidence of agricultural activity in open land on both sides of The Green. Here, medieval and post-medieval ridge and furrow cultivation and earthworks are visible as cropmarks on aerial imagery (MCBs 28218, 21300, 28829, 18733 and entries 00467, 00465, 00473). This is consistent with written records from census data and the Domesday book of 1086.

2 AIMS AND METHODOLOGY

2.1 Aims

2.1.1 This evaluation sought to establish the character, date and state of preservation of archaeological remains within the proposed development area. The scheme of works detailed below aimed to:

• ground truth geophysical results, by testing a range of anomalies of likely archaeological origin, and areas where no anomalies were registered;

• establish the presence or absence of archaeological remains on the site, characterise where they were found (location, depth and extent), and establish the quality of preservation of any archaeology and environmental remains;

• provide sufficient coverage to establish the character, condition, date and purpose of any archaeological deposits;

• provide sufficient coverage to evaluate the likely impact of past land uses, and the possible presence of masking deposits;

• set the results in the local, regional, and national archaeological context – and, in particular, its wider cultural landscape and past environmental conditions; and

• provide – in the event that archaeological remains were found – sufficient information to construct an archaeological mitigation strategy, dealing with preservation, the recording of archaeological deposits, working practices, timetables, and orders of cost.

Research frameworks

2.1.2 The trial trenching evaluation took place within, and contributed to the goals of Regional Research Frameworks relevant to this area:

Glazebrook J. (1997). *Research and Archaeology: A Framework for the Eastern counties: 1. Resource Assessment*. East Anglian Archaeology Occasional Papers 3.

Brown, N. & Glazebrook, J. (2000). *Research and Archaeology: A Framework for the Eastern counties: 2. Research Agenda and Strategy.* East Anglian Archaeology Occasional Papers 8.

Medlycott, M. (2011). *Research and Archaeology Revisited: A Revised Framework for the East of England*. East Anglian Archaeology Occasional Papers 24.

2.2 Methodology

2.2.1 A total of five trenches (one 30m x 2m, two 25m x 2m and two measuring 20m x 2m) were excavated, providing a 4% sample of the development area (Fig. 3).

2.2.2 Service plans were checked before work commenced on site. The trenches were set out by a survey-grade differential GPS (Leica CS10/GS08 fitted with "smartnet" technology with an accuracy of 5mm horizontal and 10mm vertical.

2.2.3 The footprint of each trench was scanned prior to excavation by a qualified and experienced operator using a CAT and Genny with a valid calibration certificate.

2.2.4 All machine excavation took place under the supervision of a suitably qualified and experienced archaeologist. All trenches were excavated by a tracked mechanical excavator using a toothless ditching bucket. Exposed archaeological deposits were cleaned by hand to clarify features and deposits.

2.2.5 All archaeological features encountered were investigated and recorded to adequately characterise the remains on site and allow decisions to be made regarding future mitigation. Apparently natural features (such as tree throws) were sampled sufficiently to establish their character.

3 RESULTS

3.1 Introduction and presentation of results

3.1.1 The results of the evaluation are presented below and include a stratigraphic description of the trenches that contained archaeological remains. The full details of all trenches with dimensions and depths of all deposits can be found in Appendix A.

3.2 General soils and ground conditions

3.2.1 The soil sequence in the trenches was uniform. The natural geology comprised mottled light grey brown clay with occasional chalk inclusions and darker, siltier banding. This was overlain by a mid grey brown silty clay subsoil, which in turn was sealed by dark grey brown topsoil (Fig. 4, Section 4 (Trench 5) & Section 5 (Trench 1)).

3.2.2 Ground conditions throughout the evaluation were mixed with the trenches in the eastern part of the site becoming waterlogged soon after excavation. The remaining trenches also contained small patches of standing water. Archaeological features, where present, were easy to identify against the underlying natural geology.

3.3 General distribution of archaeological deposits

3.3.1 The site was notable for its sterility. Not a single find was recovered from the overlying soils nor was there much evidence for cut features or deposits within the development site, where encountered, these too were devoid of finds or dating evidence. Only a small number of linear features were observed in Trench 1, closest to the road (Fig. 3).

3.4 Trench 1

3.4.1 Trench 1 lay adjacent to the north-western boundary of the site (Fig. 3; Plate 1). The features within the trench corresponded closely with those identified by the geophysical survey (App. B), specifically ditches **100** and **102**.

3.4.2 Ditches **100** and **102** were aligned parallel with one another and the extant road (The Green), to the west. They were spaced 4.1m apart and continued beyond the edges of the trench in both directions. Both were on average 0.60m wide by 0.15m deep, with shallow sloped sides and concave bases. Each contained single, homogeneous silty clay deposits (101 & 103) that were mid grey brown in colour and from which no finds were recovered (Fig. 4, Sections 1 & 2; Plates 2 & 3).

3.4.3 Although no dating evidence was recovered from these features it seems most likely that they related to plots fronting The Green and as such dated to no earlier than the post-medieval period.

3.4.4 Lying between these linear features was ditch **104**. This feature extended across the trench for 2m on a south-easterly alignment before terminating. Ditch **104** was 0.43m wide by 0.24m deep. It had a steep sided, U-shaped profile with a mottled dark grey to orange brown silt clay fill (105) that contained no finds (Fig. 4, Section 3; Plate 4).

3.4.5 Although no direct stratigraphic relationship could be established, it is possible that, based on its divergent alignment, this minor feature pre-dated ditches **100** and **102**.

3.5 Trenches 2 -5

3.5.1 The remaining trenches contained no archaeological features or deposits. A scattering of possible features was observed throughout. However, upon investigation these were revealed to be either root disturbance or natural discolouration of the superficial deposits (Fig. 3; Plates 5-8). The latter was likely the result of groundwater, as pooling of water was observed throughout the development area at between 0.40-0.50m below ground level.

3.6 Finds summary

3.6.1 As noted above, no finds were recovered from the site.

4 DISCUSSION

4.1 Reliability of field investigation

4.1.1 The results of the evaluation are deemed reliable. The activity identified by these works largely corroborated the results of the geophysical survey (App. B), successfully identifying minor linear features in the western part of the site.

4.1.2 Despite the wet ground conditions, it was possible to fully investigate all putative features and determine their veracity or that they were naturally derived.

4.2 Interpretation

4.2.1 Overall, it appears that little, if any, determined or intrusive activity had ever taken place within the development site. This would suggest that the vicinity lay in the agricultural hinterland of both the village to the south, and the moated site (00346), some 250m to the north.

4.3 Significance

4.3.1 Based upon the results of this evaluation it can be determined that the site is of little archaeological significance.

APPENDIX A TRENCH DESCRIPTIONS AND CONTEXT INVENTORY

Trench 1						
General description					**Orientation**	NW-SE
Trench devoid of archaeology. Consists of topsoil and subsoil overlying natural geology of silty sand.					**Length (m)**	25
					Width (m)	2
					Avg. depth (m)	0.40
Context No.	**Type**	**Width (m)**	**Depth (m)**	**Description**	**Finds**	**Date**
100	Cut			Ditch	-	-
101	fill	100		Secondary Fill	-	-
102	cut			Ditch	-	-
103	fill	102		Secondary Fill	-	-
104	cut			Ditch		
105	fill	104		Secondary Fill		
106	Layer	-	0.20	Topsoil	-	-
107	Layer	-	0.20	Subsoil	-	-

Trench 2						
General description					**Orientation**	NE-SW
Trench devoid of archaeology. Consists of topsoil and subsoil overlying natural geology of silty sand.					**Length (m)**	20
					Width (m)	2
					Avg. depth (m)	0.40
Context No.	**Type**	**Width (m)**	**Depth (m)**	**Description**	**Finds**	**Date**
200	Layer	-	0.20	Topsoil	-	-
201	Layer	-	0.20	Subsoil	-	-

Trench 3						
General description					**Orientation**	NE-SW
Trench devoid of archaeology. Consists of topsoil and subsoil overlying natural geology of silty sand.					**Length (m)**	30
					Width (m)	2
					Avg. depth (m)	0.40
Context No.	**Type**	**Width (m)**	**Depth (m)**	**Description**	**Finds**	**Date**
300	Layer	-	0.20	Topsoil	-	-
301	Layer	-	0.20	Subsoil	-	-

Trench 4

General description					Orientation	NE-SW
Trench devoid of archaeology. Consists of topsoil and subsoil overlying natural geology of silty sand.					Length (m)	20
					Width (m)	2
					Avg. depth (m)	0.45
Context No.	**Type**	**Width (m)**	**Depth (m)**	**Description**	**Finds**	**Date**
400	Layer	-	0.20	Topsoil	-	-
401	Layer	-	0.25	Subsoil	-	-

Trench 5						
General description					**Orientation**	NW-SE
Trench devoid of archaeology. Consists of topsoil and subsoil overlying natural geology of silty sand.					**Length (m)**	30
					Width (m)	2
					Avg. depth (m)	0.50
Context No.	**Type**	**Width (m)**	**Depth (m)**	**Description**	**Finds**	**Date**
500	Layer	-	0.20	Topsoil	-	-
501	Layer	-	0.30	Subsoil	-	-

APPENDIX B GEOPHYSICAL SURVEY REPORT

B.1.1

Geophysical Survey Report

Great Staughton,

Cambridgeshire

For

Oxford Archaeology

On Behalf Of

[CLIENT'S CLIENT]

Magnitude Surveys Ref: MSTL800

HER Event Number: ECB6359

November 2020

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Issue Date:

18 November 2020

Abstract

Magnitude Surveys Ltd was commissioned to assess the subsurface archaeological potential of a c.0.42ha area of land at Great Staughton, Cambridgeshire. A fluxgate gradiometer survey was successfully completed across the survey area, which has identified anomalies of agricultural origin interpreted as drains and ploughing trends. Modern interference is limited to a spread of ferrous debris and magnetic disturbance related to the site perimeters as well as a possible service line. No anomalies suggestive of significant archaeological features were identified; however, two small linear anomalies have been classified as undetermined. Although an archaeological origin could not be ruled out for these, they are more likely to be of recent origin.

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1. Introduction

1.1. Magnitude Surveys Ltd (MS) was commissioned by Oxford Archaeology on behalf of CLIENT'S CLIENT to undertake a geophysical survey on a c.0.42ha area of land near the Great Staughton, Cambridgeshire (TL 13100 65125).

1.2. The geophysical survey comprised hand-carried GNSS-positioned fluxgate gradiometer survey. Magnetic survey is the standard primary geophysical method for archaeological applications in the UK for its ability to detect a range of different features. The technique is particularly suited for detecting fired or magnetically enhanced features, such as ditches, pits, kilns, sunken earth houses, and industrial activity (David *et al*., 2008).

1.3. The survey was conducted in line with the current best practice guidelines produced by Historic England (David et al., 2008), the Chartered Institute for Archaeologists (CIfA, 2014) and the European Archaeological Council (Schmidt et al., 2015).

1.4. It was conducted in line with a WSI produced by MS (Magnitude Surveys Ltd, 2020).

1.5. The survey commenced on 11 November 2020 and took one day to complete.

2. Quality Assurance

2.1. Magnitude Surveys is a Registered Organisation of the Chartered Institute for Archaeologists (CIfA), the chartered UK body for archaeologists, and a corporate member of ISAP (International Society of Archaeological Prospection).

2.2. The directors of MS are involved in the cutting edge of research and the development of guidance/policy. Specifically, Dr. Chrys Harris has a PhD in archaeological geophysics from the University of Bradford, is a Member of CIfA and is the Vice-Chair of the International Society for Archaeological Prospection (ISAP); Finnegan Pope-Carter has an MSc in archaeological geophysics and is a Fellow of the London Geological Society, as well as a member of GeoSIG (CIfA Geophysics Special Interest Group); Dr. Kayt Armstrong has a PhD in archaeological geophysics from Bournemouth University, is a Member of CIfA, the Editor of ISAP News, and is the UK Management Committee representative for the COST Action SAGA; Dr. Paul Johnson has a PhD in archaeology from the University of Southampton, has been a member of the ISAP Management Committee since 2015, and is currently the nominated representative for the EAA Archaeological Prospection Community to the board of the European Archaeological Association.

2.3. All MS managers have relevant degree qualifications to archaeology or geophysics. All MS field and office staff have relevant archaeology or geophysics degrees and/or field experience.

3. Objectives

3.1. The objective of this geophysical survey was to assess the subsurface archaeological potential of the survey area.

4. Geographic Background

4.1. The survey area was located c.400m north from the centre of Great Staughton (Figure 1). Gradiometer survey was undertaken across one field under pasture. The survey area was bounded by the B661 road to the west, a hedge line separating further pasture fields and housing to both the north and south and 'The Green' road to the northeast (Figure 2).

4.2. Survey considerations:

Survey Area	Ground Conditions	Further Notes
1	The survey area comprised un-mown grassland	Bounded on all sides by a tall tree hedgerow. Conditions were uneven underfoot, with areas of tall grass across the survey area.

4.1. The bedrock geology comprises mudstone of the Oxford Clay Formation. No superficial deposits are recorded within the site boundary (British Geological Survey, 2020).

4.2. The soils comprise lime-rich loamy and clayey soils with impeded drainage (Soilscapes, 2020).

5. Archaeological Background

5.1. The following is a summary of a Written Scheme of Investigation produced and provided by Oxford Archaeology (Oxford Archaeology, 2020).

5.2. Records of Iron Age and Romano-British activity within the wider 1km search radius surrounding the survey area comprise two enclosures dated between Iron Are and Early Romano-British periods. They were identified c.700m and c.1km west of the survey area (MCB 28217, 28216). A single, unstratified quernstone was recorded c.200m south east of the survey area and is believed to be of Romano-British origin (MCB 16093).

5.3. Evidence of Medieval activity is attributed to the historic settlement of Staughton – a roadside settlement between St. Neots and Kimbolton. A single moated site (scheduled monument 1013311) c.750m north east of the survey area is thought to be the remains of a former manor house. Nearby to this scheduled monument two findspots occur, consisting of medieval pottery and a cobbled surface uncovered during agricultural works in the area. Either side of 'The Green' in Great Staughton evidence for medieval and post-medieval ridge and furrow can be seen from satellite imagery (MCB 18706, 18708 and 18707).

6. Methodology

6.1. Magnetometer surveys are generally the most cost effective and suitable geophysical technique for the detection of archaeology in England. Therefore, a magnetometer survey should be the preferred geophysical technique unless its use is precluded by any specific survey objectives or the site environment. For this site, no factors precluded the recommendation of a standard magnetometer survey. Geophysical survey therefore comprised the magnetic method as described in the following section.

6.2. Data Collection

6.2.1. Geophysical prospection comprised the magnetic method as described in the following table.

6.2.2. Table of survey strategies:

Method	Instrument	Traverse Interval	Sample Interval
Magnetic	Bartington Instruments Grad-13 Digital Three-Axis Gradiometer	1m	200Hz reprojected to 0.125m

6.2.3. The magnetic data were collected using MS' bespoke hand-carried GNSS-positioned system.

6.2.3.1. MS' hand-carried system was comprised of Bartington Instruments Grad 13 Digital Three-Axis Gradiometers. Positional referencing was through a multi-channel, multi-constellation GNSS Smart Antenna RTK GPS outputting in NMEA mode to ensure high positional accuracy of collected measurements. The RTK GPS is accurate to 0.008m + 1ppm in the horizontal and 0.015m + 1ppm in the vertical.

6.2.3.2. Magnetic and GPS data were stored on an SD card within MS' bespoke datalogger. The datalogger was continuously synced, via an in-field Wi-Fi unit, to servers within MS' offices. This allowed for data collection, processing and visualisation to be monitored in real-time as fieldwork was ongoing.

6.2.3.3. A navigation system was integrated with the RTK GPS, which was used to guide the surveyor. Data were collected by traversing the survey area along the longest possible lines, ensuring efficient collection and processing.

6.3. Data Processing

6.3.1. Magnetic data were processed in bespoke in-house software produced by MS. Processing steps conform to Historic England's standards for "raw or minimally processed data" (see sect 4.2 in David et al., 2008: 11).

Sensor Calibration – The sensors were calibrated using a bespoke in-house algorithm, which conforms to Olsen et al. (2003).

Zero Median Traverse – The median of each sensor traverse is calculated within a specified range and subtracted from the collected data. This removes striping effects caused by small variations in sensor electronics.

Projection to a Regular Grid – Data collected using RTK GPS positioning requires a uniform grid projection to visualise data. Data are rotated to best fit an orthogonal grid projection and are resampled onto the grid using an inverse distance-weighting algorithm.

Interpolation to Square Pixels – Data are interpolated using a bicubic algorithm to increase the pixel density between sensor traverses. This produces images with square pixels for ease of visualisation.

6.4. Data Visualisation and Interpretation

6.4.1. This report presents the gradient of the sensors' total field data as greyscale images, as well as the total field data from the lower sensors. The gradient of the sensors minimises external interferences and reduces the blown-out responses from ferrous and other high contrast material. However, the contrast of weak or ephemeral anomalies can be reduced through the process of calculating the gradient. Consequently, some features can be clearer in the respective gradient or total field datasets. Multiple greyscale images of the gradient and total field at different plotting ranges have been used for data interpretation. Greyscale images should be viewed alongside the XY trace plot (Figure 7). XY trace plots visualise the magnitude and form of the geophysical response, aiding in anomaly interpretation.

6.4.2. Geophysical results have been interpreted using greyscale images and XY traces in a layered environment, overlaid against open street maps, satellite imagery, historic maps, LiDAR data, and soil and geology maps. Google Earth (2020) was consulted as well, to compare the results with recent land usages.

6.4.3. Geodetic position of results - All vector and raster data have been projected into OSGB36 (ESPG27700) and can be provided upon request in ESRI Shapefile (.SHP) and Geotiff (.TIF) respectively.

7. Results

7.1. Qualification

7.1.1. Geophysical results are not a map of the ground and are instead a direct measurement of subsurface properties. Detecting and mapping features requires that said features have properties that can be measured by the chosen technique(s) and that these properties have sufficient contrast with the background to be identifiable. The interpretation of any identified anomalies is inherently subjective. While the scrutiny of the results is undertaken by qualified, experienced individuals and rigorously checked for quality and consistency, it is often not possible to classify all anomaly sources. Where possible an anomaly source will be identified along with the certainty of the interpretation. The only way to improve the interpretation of results is through a process of comparing excavated results with the geophysical reports. MS actively seek feedback on their reports as well as reports of further work in order to constantly improve our knowledge and service.

7.2. Discussion

7.2.1. The geophysical results are presented in consideration with historical mapping and satellite imagery (Figure 6).

7.2.2. The geophysical survey was successfully completed across the survey area. The magnetic background is generally quiet, and the small extent of the survey area has not prevented the identification of anomalies of agricultural and modern origin. A spread of ferrous debris has been identified in the southeast of the survey area and further modern interference has been detected in the northwest of the survey area in the form of magnetic disturbance related to the field perimeter and a service line.

7.2.3. Drainage features have been identified in the northwest and southeast of the survey area. A distinct small area of magnetic disturbance in the southeast may be related to the drainage features, thought it could equally have been produced by another modern source. Two possible agricultural trends (commonly a result of ploughing) have been detected which may relate to a former arable use of the survey area.

7.2.4. No anomalies suggestive of significant archaeological features were identified; however, two small linear anomalies have been classified as undetermined. An archaeological origin could not be ruled out for these; however, nearby drainage features appear to terminate at, or respect the extent of this anomaly, which may suggest it is contemporary with the drains. Given the nearby magnetic disturbances surrounding this anomaly, it is difficult to be more certain of an origin.

7.3. Interpretation

7.3.1. General Statements

7.3.1.1. Geophysical anomalies will be discussed broadly as classification types across the survey area. Only anomalies that are distinctive or unusual will be discussed individually.

7.3.1.2. **Ferrous (Spike)** – Discrete ferrous-like, dipolar anomalies are likely to be the result of isolated modern metallic debris on or near the ground surface.

7.3.1.3. **Ferrous/Debris (Spread)** – A ferrous/debris spread refers to a concentrated deposition of discrete, dipolar ferrous anomalies and other highly magnetic material.

7.3.1.4. **Magnetic Disturbance** – The strong anomalies produced by extant metallic structures along the edges of the field have been classified as 'Magnetic Disturbance'. These magnetic 'haloes' will obscure the response of any weaker underlying features, should they be present, often over a greater footprint than the structure they are being caused by.

7.3.1.5. **Undetermined** – Anomalies are classified as Undetermined when the anomaly origin is ambiguous through the geophysical results and there is no supporting or correlative evidence to warrant a more certain classification. These anomalies are likely to be the result of geological, pedological or agricultural processes, although an archaeological origin cannot be entirely ruled out. Undetermined anomalies are generally not ferrous in nature.

7.3.2. Magnetic Results - Specific Anomalies

7.3.2.1. **Possible Agricultural (Trend) –** An east – west possible agricultural trend has been detected within the survey area. These are commonly associated with ploughing and occur along the line of recent ploughing regimes. These trends are also parallel with the former field boundaries to the north and south as seen on historical mapping (Figure 6) and are suggestive of a former, possible arable land use.

7.3.2.2. **Service –** A strong dipolar linear anomaly has been detected (Figure 3) running through the west of the survey area in a northeast to southwest orientation. This suggests the path of a buried service (Figure 5); however, given the small width of the survey area, an alignment of strong dipolar buried objects cannot be ruled out.

7.3.2.3. **Drainage Feature –** Linear anomalies have been detected across the survey area (Figure 5). Their magnetic enhancement and shape suggest a plastic or fired clay pipe, or other domestic drainage. The surrounding disturbances around these features has possibly obscured their full extent.

7.3.2.4. **Undetermined (Strong) –** In the north of the survey area two small linear magnetically enhanced anomalies have been detected. A confident interpretation of these anomalies is limited given the nearby magnetic disturbance obscuring any further context or evidence. Given the shape, enhancement and co-location with nearby drainage features a recent anthropogenic origin is considered likely; however an archaeological origin should not be ruled out.

8. Conclusions

8.1. A fluxgate gradiometer survey was successfully completed across the survey area. The magnetic background is generally quiet and the small extent of the survey area has not prevented the identification anomalies of agricultural origin. Modern interference has been detected to the northwest perimeter of the survey area in the form of magnetic disturbance related to the adjacent field edge and a service line. A spread of ferrous debris was also identified in the southeast of the survey area.

8.2. No anomalies suggestive of significant archaeological features were identified; however, two small linear anomalies have been classified as ‘undetermined’ because an archaeological origin could not be ruled out, however they are more likely to be of modern origin.

9. Archiving

9.1. MS maintains an in-house digital archive, which is based on Schmidt and Ernenwein (2013). This stores the collected measurements, minimally processed data, georeferenced and un-georeferenced images, XY traces and a copy of the final report.

9.2. MS contributes reports to the ADS Grey Literature Library upon permission from the client, subject to the any dictated time embargoes.

10. Copyright

10.1. Copyright and the intellectual property pertaining to all reports, figures, and datasets produced by Magnitude Services Ltd. is retained by MS. The client is given full licence to use such material for their own purposes. Permission must be sought by any third party wishing to use or reproduce any IP owned by MS.

11. References

British Geological Survey, 2020. Geology of Britain. Great Staughton, Cambridgeshire http://mapapps.bgs.ac.uk/geologyofbritain/home.html/]. [Accessed 16/11/2020].

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Written Scheme of Investigation for Geophysical Survey at Great Staughton, Magnitude Surveys 2020.

12. Project Metadata

MS Job Code	MSTL800
Project Name	Great Staughton, Cambridgeshire
Client	Oxford Archaeology
Grid Reference	Grid Ref
Survey Techniques	Magnetometry
Survey Size (ha)	0.42ha
Survey Dates	11/11/2020
Project Lead	Julia Cantarano Ingenieur PCIfA
Project Officer	Julia Cantarano Ingenieur PCIfA
HER Event No	ECB6359
OASIS No	N/A
S42 Licence No	N/A
Report Version	0.2

13. Document History

Version	Comments	Author	Checked By	Date
0.1	Initial draft for Project Lead to Review	FS	JC	17 November 2020
0.2	Draft for Director Approval	FS	KA	18 November 2020

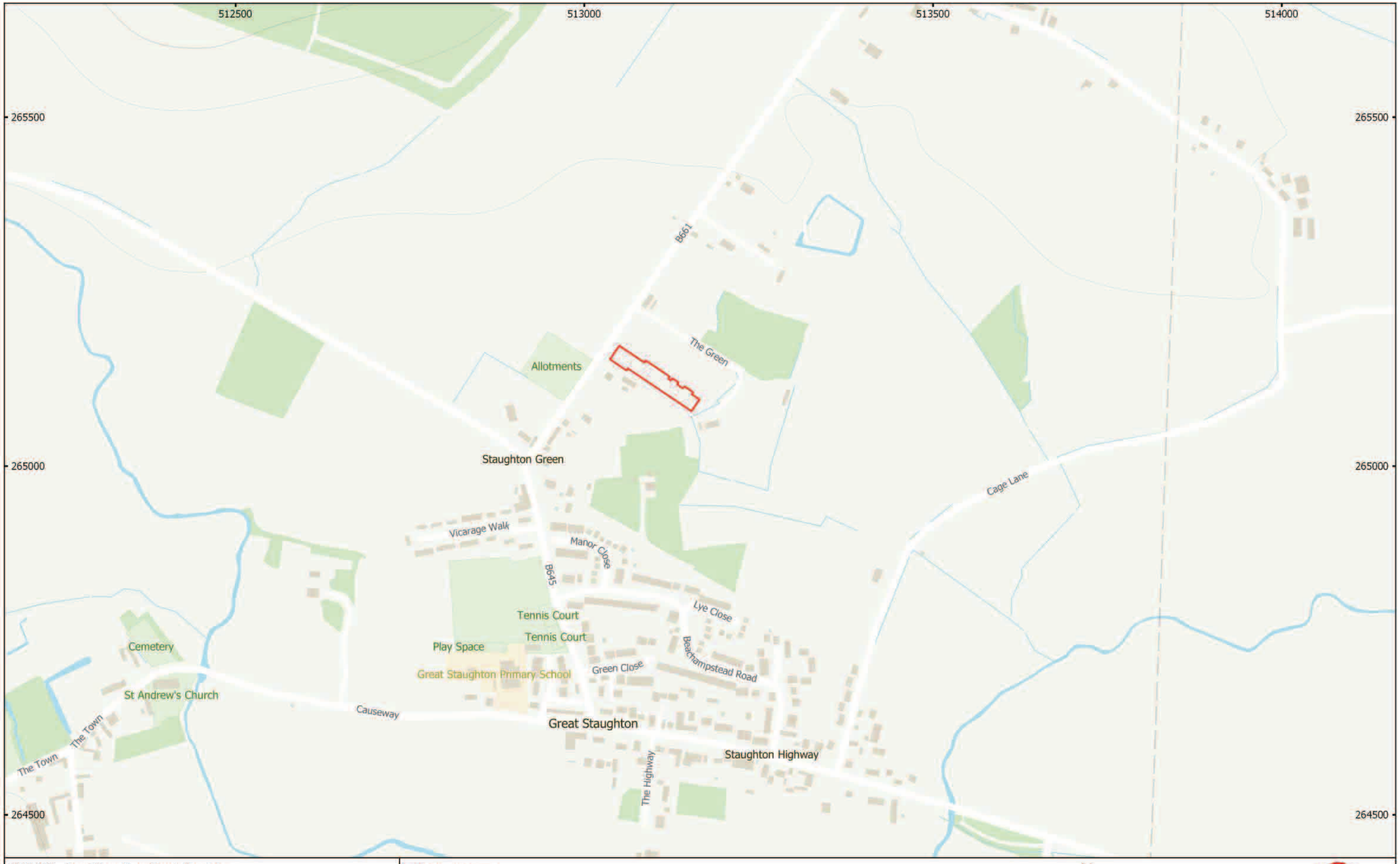
MSTL800 - Great Staughton, Cambridgeshire
Figure 1 - Site Location
1:25,000 @ A4

Site Boundary

N

0 0.5 1 km

magnitude surveys



MSTL800 - Great Staughton, Cambridgeshire
Figure 2 - Location of Survey Area
1:5,000 @ A3

513000

513100

B661

The Green

265100

265100

MSTL800 - Great Staughton, Cambridgeshire
Figure 3 - Magnetic Total Field (Lower Sensor)
1:500 @ A3

48,998 nT 49,003

N

0 10 20 30 m

magnitude surveys

513000

513100

B661

The Green

265100

265100

MSTL800 - Great Staughton, Cambridgeshire
Figure 4 - Magnetic Gradient
1:500 @ A3

-1 nT 2

N

0 10 20 30 m

magnitude surveys

513000

513100

B661

The Green

265100

265100

MSTL800 - Great Staughton, Cambridgeshire
Figure 5 - Magnetic Interpretation
1:500 @ A3

Magnetic Disturbance
Ferrous/Debris (Spread)
Undetermined (Strong)
Possible Agricultural (Trend)
Service
Drainage Feature
Ferrous (Spike)

N

0 10 20 30 m

magnitude surveys

513000
513100
513200
265200
265100

MSTL800 - Great Staughton, Cambridgeshire
Figure 6 - Magnetic Interpretation over combined Historical Mapping and Satellite Imagery
1:750 @ A3

Magnetic Disturbance
Ferrous/Debris (Spread)
Undetermined (Strong)
Possible Agricultural (Trend)
Service
Drainage Feature
Ferrous (Spike)

N

0 10 20 30 m

magnitude surveys

513000

513100

B661

The Green

265100

265100

MSTL800 - Great Staughton, Cambridgeshire
Figure 7 - XY Trace Plot
10nT/cm at 1:500 @ A3

N

0 10 20 30 m

magnitude surveys

APPENDIX C BIBLIOGRAPHY

Lord, A, 2020, Land north-east of No. 29 The Green, Great Staughton, Cambs, OA East, dated 22nd October 2020

Thomas, A, 2020, Brief for an Archaeological Evaluation at Land North East of 29 The Green, Great Staughton. CHET, dated 11th August 2020

APPENDIX D OASIS REPORT FORM

Project Details

OASIS Number	oxfordar3-413766
Project Name	land at The Green, Great Staughton, St Neots, Cambridgeshire

Start of Fieldwork	14/12/2020	End of Fieldwork	18/12/2020
Previous Work	No	Future Work	no

Project Reference Codes

Site Code	SGHGRN20	Planning App. No.	
HER Number	ECB6359	Related Numbers	

Prompt	NPPF
Development Type	Rural residential
Place in Planning Process	Pre-application

Techniques used (tick all that apply)

☐ Aerial Photography – interpretation	☐ Grab-sampling	☐ Remote Operated Vehicle Survey
☐ Aerial Photography – new	☐ Gravity-core	☐ Sample Trenches
☐ Annotated Sketch	☐ Laser Scanning	☐ Survey/Recording of Fabric/Structure
☐ Augering	☐ Measured Survey	☒ Targeted Trenches
☐ Dendrochonological Survey	☐ Metal Detectors	☐ Test Pits
☐ Documentary Search	☐ Phosphate Survey	☐ Topographic Survey
☐ Environmental Sampling	☐ Photogrammetric Survey	☐ Vibro-core
☐ Fieldwalking	☐ Photographic Survey	☐ Visual Inspection (Initial Site Visit)
☒ Geophysical Survey	☐ Rectified Photography	

Monument	Period	Object	Period
none	None	none	None
	Choose an item.		Choose an item.
	Choose an item.		Choose an item.

Insert more lines as appropriate.

Project Location

County	Cambridgeshire
District	Huntingdonshire
Parish	Great Staughton
HER office	Cambridgeshire
Size of Study Area	0.42ha
National Grid Ref	TL 13100 65125

Address (including Postcode)

Land north-east of No. 29 The Green, Great Staughton, St Neots,

Project Originators

Organisation	CCC CHET
Project Brief Originator	Kasia Gdaniec
Project Design Originator	Adele Lord
Project Manager	Aileen Connor

Project Supervisor	Chris Thatcher

Project Archives

	Location	ID
Physical Archive (Finds)	n/a	n/a
Digital Archive	OA East	
Paper Archive	OA East	

Physical Contents	Present?	Digital files associated with Finds	Paperwork associated with Finds
Animal Bones	☐	☐	☐
Ceramics	☐	☐	☐
Environmental	☐	☐	☐
Glass	☐	☐	☐
Human Remains	☐	☐	☐
Industrial	☐	☐	☐
Leather	☐	☐	☐
Metal	☐	☐	☐
Stratigraphic		☐	☐
Survey		☐	☐
Textiles	☐	☐	☐
Wood	☐	☐	☐
Worked Bone	☐	☐	☐
Worked Stone/Lithic	☐	☐	☐
None	☒	☒	☒
Other	☐	☐	☐

Digital Media		Paper Media	
Database	☒	Aerial Photos	☐
GIS	☒	Context Sheets	☒
Geophysics	☒	Correspondence	☐
Images (Digital photos)	☒	Diary	☐
Illustrations (Figures/Plates)	☒	Drawing	☒
Moving Image	☐	Manuscript	☐
Spreadsheets	☒	Map	☐
Survey	☒	Matrices	☐
Text	☒	Microfiche	☐
Virtual Reality	☐	Miscellaneous	☐
		Research/Notes	☐
		Photos (negatives/prints/slides)	☐
		Plans	☒
		Report	☒
		Sections	☒
		Survey	☒

Further Comments

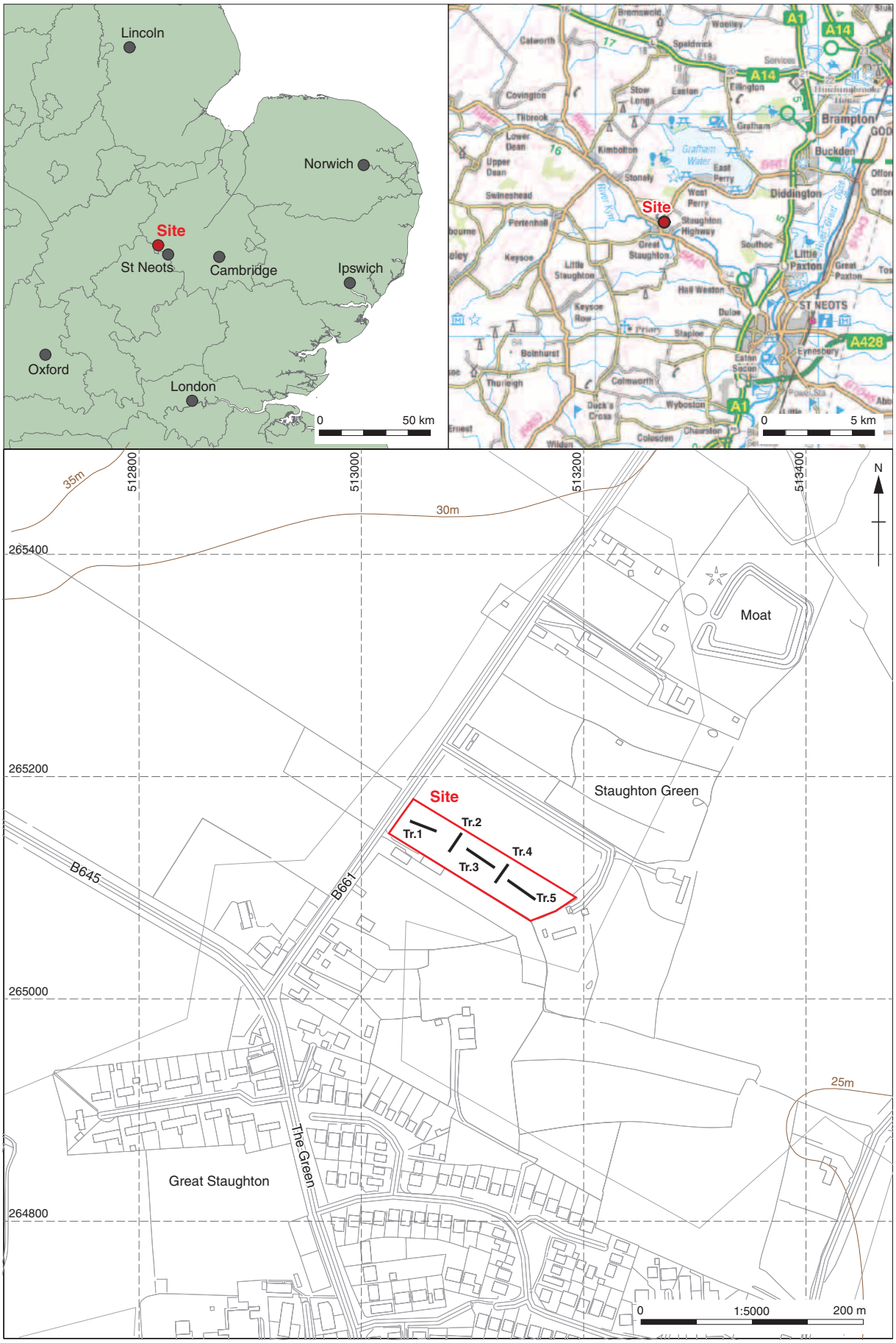


Figure 1: Site location showing archaeological trenches (black) in development area (red)

Figure 2: Site with HER entries (blue)

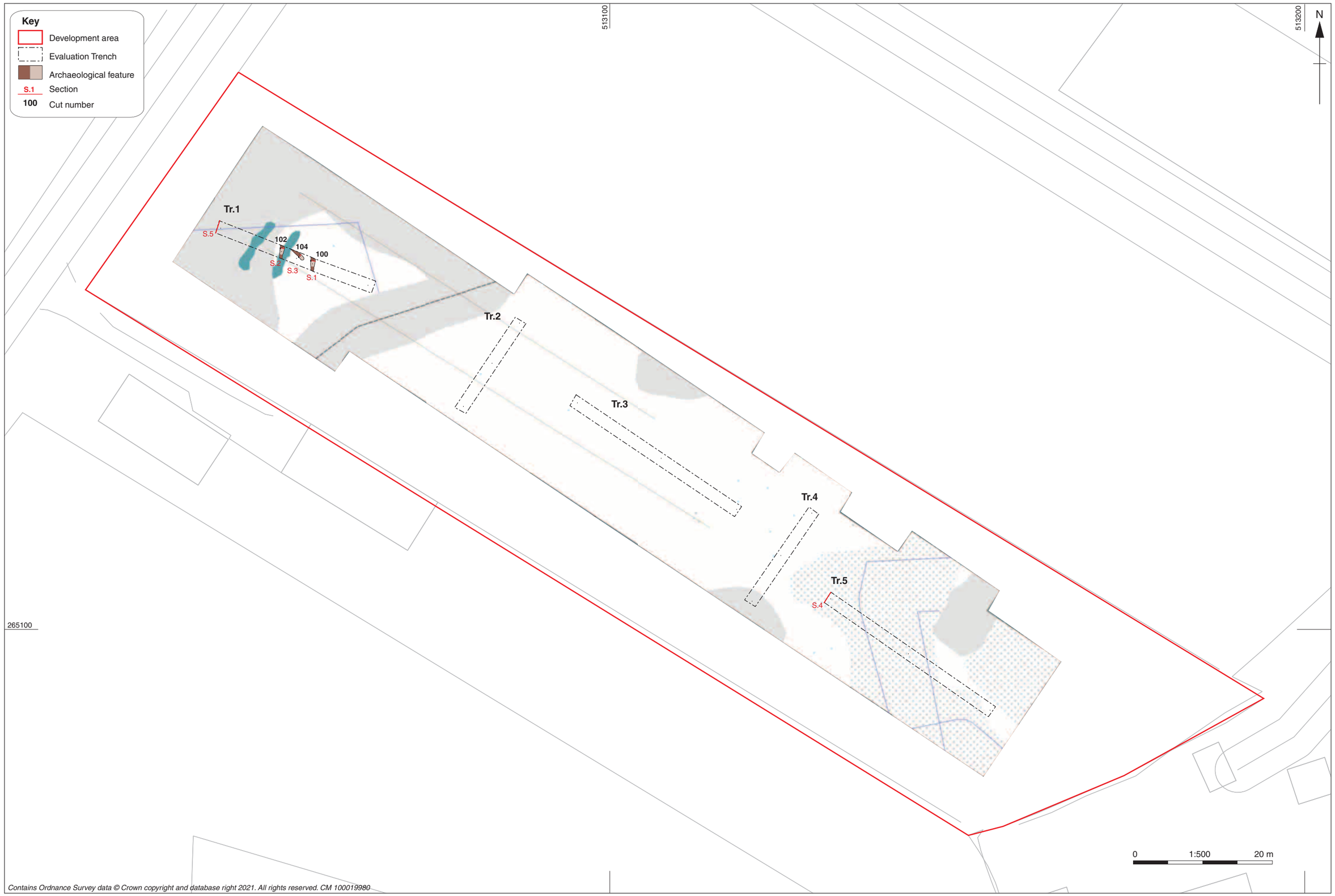


Figure 3: Trench plan with geophysical interpretation

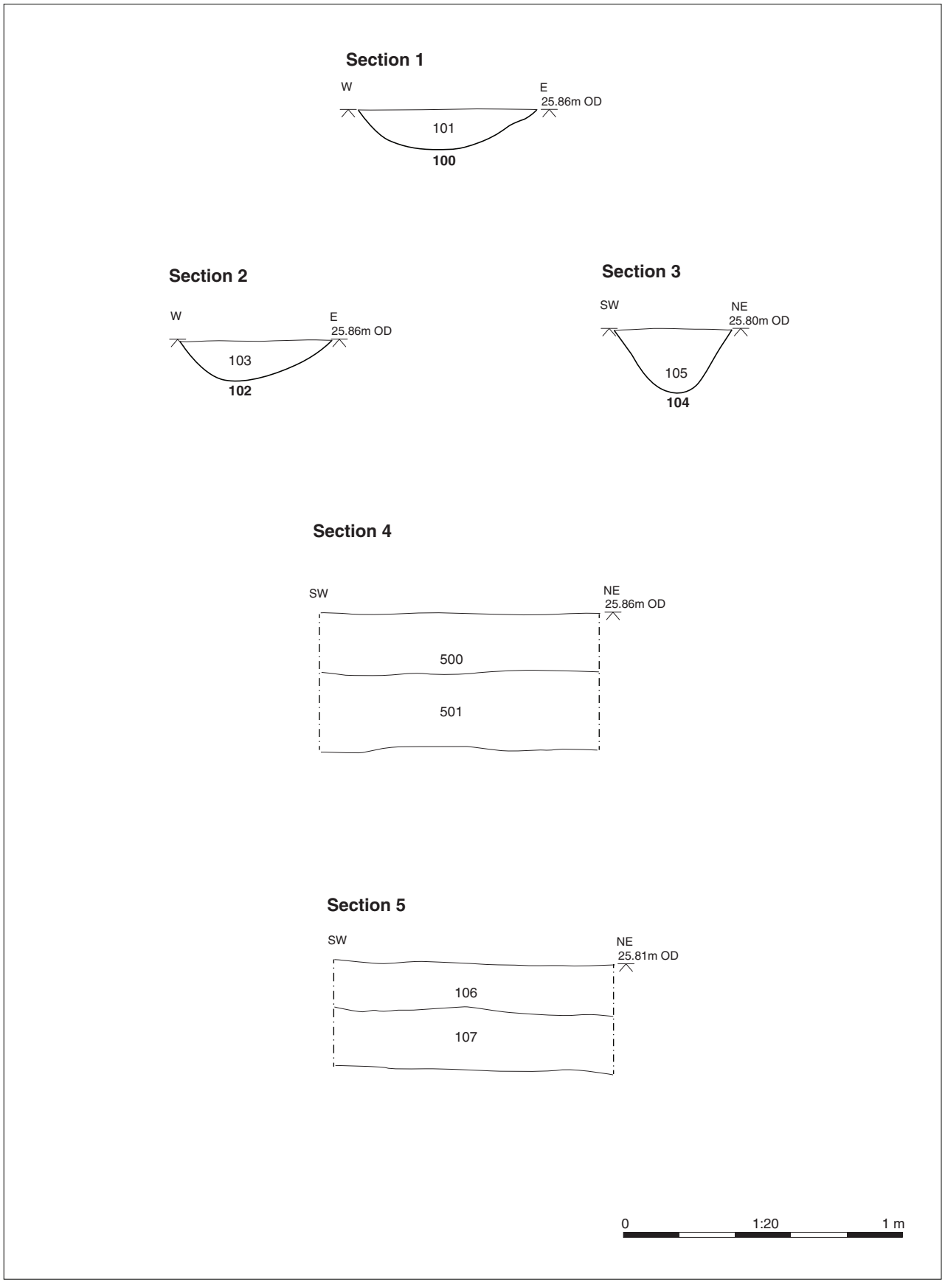


Figure 4 : Selected sections

Plate 1: Trench 1 (from north-west)

Plate 2: Ditch **100** (from south)

Plate 3: Ditch 102 (from south)

Plate 4: Ditch 104 (from south-east)

Plate 5: Trench 2 (from north-east)

Plate 6: Trench 3 (from north-west)

Plate 7: Trench 4 (from north-east)

Plate 8: Trench 5 (from north-west)

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