



GeoSurveys



**PROJECT DESIGN
& RISK ASSESSMENT METHOD STATEMENTS
FOR GEOPHYSICAL SURVEY**

Stevenage Road, Hitchin

Client
Tetra Tech

For
Bugler Homes Ltd

Ref. No.
SUMO-25079

OASIS Ref. No.
Sumogeop1- 538261

Date
10/11/2025

SUMO GeoSurveys
Suite 1, Deer Park Business Centre
Woollas Hill
Eckington, Pershore
Worcestershire
WR10 3DN
T: 01684 592266

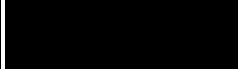
geosurveys@sumoservices.com
www.sumoservices.com

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Surveyors:

	Signature
	Signature
	Signature
	Signature

Prepared By	Signature	Date	Approved By	Signature	Date
<i>Fiona Sidley</i>		<i>18.11.2025</i>	<i>Simon Haddrell</i>		<i>18.11.2025</i>
Updated by	Signature	Date	Approved By	Signature	Date

1 INTRODUCTION, SITE LOCATION

- 1.1 **SUMO GeoSurveys** on behalf of **SUMO Services Ltd** has been contracted to carry out a geophysical survey.
- 1.2 This survey forms part of the programme of pre-determination archaeological works.
- 1.3 The site consists of 4ha of land at Stevenage Road, Hitchin (See Figure 1).
- 1.4 The site work will take place 28/11/2025.
- 1.5 Preliminary results will be available within a couple of days after completion of fieldwork.
- 1.6 Final report is typically available 1 week after completion of fieldwork.

2 SURVEY OBJECTIVE (S)

- 2.1 To determine the presence/absence of archaeological features. The results of the survey will inform the requirement and scope for further archaeological investigation.

3 CRITERIA FOR THE SELECTION OF THE GEOPHYSICAL METHOD

- 3.1 Bedrock geology: Holywell Nodular Chalk Formation and New Pit Chalk Formation - Chalk. Superficial geology: Glaciofluvial Deposits, Mid Pleistocene - Sand and gravel (BGS 2025).
- 3.2 Archaeology: Extract from Archaeological Desk Based Assessment. Land North of Stevenage Road, Hitchin, SG4 7JY. November 2025. Tetra Tech Consulting Limited.

The study site is considered likely to have an archaeological potential for the later prehistoric periods, together with the Roman, Saxon and Medieval periods, for remains deemed most likely to be of low (i.e. local) significance.

The study site has remained undeveloped farmland throughout its documented history. Impacts as a result of agricultural and/or horticultural activities may be considered likely to have had a moderate, widespread negative archaeological impact.

- 3.3 Detailed magnetic survey has been selected as the most suitable technique for this site as it can detect a wide range of features including those that may be associated with later prehistoric occupation, roman activities and medieval settlement such as ditches, land boundaries and agricultural features, including ridge and furrow. It is also fast and more suited to prospection over large survey areas.
- 3.4 There are no Scheduled Monuments on the site thus Scheduled Monument Consent is not required.

4 SITE METHODOLOGY

- 4.1 Before traveling to site, ensure that all equipment is full charged and serviceable, include checking all cables and replacing any that show signs of wear and tear. Any operatives who have medical conditions/allergies or require medication are to inform their line manager and site supervisor and ensure they have the medication with them.
- 4.2 Ensure you wear appropriate clothing and Company Issue PPE for the site conditions. If weather conditions are poor before commencing work, speak with your line manager and if conditions deteriorate whilst on site to a point where it will affect the equipment/results or make working uncomfortable/unsafe, stop work and find safe shelter and speak to your line manager.
- 4.3 Upon arrival at site all Operatives will report to the clients representative to sign in and undertake site induction and orientation as necessary.
- 4.4 The whole survey team will “walk” the site to confirm the survey area and identify any additional risks which may not have been present at the time of initial quoting the works. These will be added into this document on the Dynamic Risk Assessment page. The Lead Surveyor will conduct a toolbox talk on the RAMS (including additions) and all team members will sign off the front of this document.
- 4.5 A temporary grid system will be established over the site and marked out using wooden pegs or canes. The location of the grid will be set out using an RTK GPS system theoretically accurate to some 0.01m and referenced to OS co-ordinates.

Dependent upon access agreements and ground conditions, either a cart or hand-held system will be employed.

- 4.6 **Cart System:** Data will be collected using a cart carrying four Bartington magnetic sensors (see below) or Foerster sensors. Each data point is geographically referenced using an on-board Trimble RTK survey grade GPS system. Readings will be taken at 0.125m centres along traverses 1.0m apart.
- 4.7 **Hand-Held:** Data will be collected using a Bartington Grad 601-2. The instrument consists of two paired sensors (see below) and readings are logged at 0.25m centres along traverses 1.0m apart across 30m grids. The collection of data at 0.25m centres provides an appropriate methodology balancing cost and time with resolution as per Historic England guidelines.
- 4.8 **Sensors:** Four sensors mounted 1m horizontally apart and very accurately aligned to nullify the effects of the earth's magnetic field. Readings relate to the difference in localised magnetic anomalies compared with the general magnetic background.
- 4.9 **Cart System:** The readings are logged directly onto a laptop and stored on cloud based backup daily.
- 4.10 **Hand-held:** The readings are logged consecutively into the data logger which in turn is daily downloaded into a portable computer whilst on site. At the end of each job, data are transferred to the office for processing and presentation.

5 REPORTING AND ARCHIVING

- 5.1 The report for the survey will comprise a written section describing the background to the survey, the methodologies used and a discussion of the results. The text will be illustrated using plots of the results using CAD to overlay the results and interpretations over the base mapping. The format for these drawings will either be A3 or A1 depending on the size and configuration of the survey areas.
- 5.2 Processing of the data will be carried out using the specialist software **Anomaly**. This can emphasise various aspects contained within the data, but which are often not easily seen in the raw data. Basic processing of the magnetic data involves 'equalising' the background levels with respect to adjacent traverses (Zero mean traverse). 'Despiking' is very occasionally performed to remove the anomalies resulting from small iron objects often found on agricultural land but this practice is not favoured as it creates a 'false' dataset. Once the basic processing has levelled the background it is then possible to carry out further processing including de-stagger and interpolation to emphasise the archaeological or man-made anomalies.
- 5.3 The presentation of the CAD drawings will include:
- a general location plan
 - detailed site location showing the grid position
 - grey scale plots of the minimally processed and processed data
 - Interpretation plot showing anomalies identified
- 5.4 As a minimum the report will contain;
- Non-technical summary
 - Introductory statement
 - Aims and purposes of the evaluation
 - Methodology
 - Results, including a confidence rating for the results and their interpretation
 - Conclusion
 - Plans/plots, including interpretive plans of the results
 - References
- 5.5 The archaeological DBA will be consulted, along with historic mapping of the survey area to inform the interpretation of anomalies located during the survey. The degree of uncertainty pertaining to influences drawn from the results will also be discussed.
- 5.6 The full report will be uploaded to the OASIS database with a 12-month release delay unless informed otherwise.
- 5.7 The minimally processed data, data images, XY traces and a copy of this report are stored in SUMO GeoSurveys' digital archive, on an internal RAID configured NAS drive in the Midlands Office. These data are also backed up to the Cloud for off-site storage.

5.8 Data Management plan

Project ID / OASIS ID

SUMO-25079 / sumogeop1- 538261

Project Name

Stevenage Road, Hitchin

Project Description

Detailed magnetic survey over approx. 4ha

Client

Tetra Tech

Project Manager

Darcy Hooper

Field Leader

TBC

Date DMP created

10/11/2025

Date DMP last updated

10/11/2025

Version

1

Technique - data

Detailed Magnetometry

Manual – cart - other

ATV/Cart Handheld magnetometers.

Documentation and metadata

All documentation and data produced so far are stored on SUMO servers in a specific job file.

Data storage, access and back-up

- SUMO Secure server during the project life set up in a RAID configuration (a RAID configuration incorporates a level of data redundancy meaning if a single hard drive in fails data can still be restored).
- Snap shots of the data will be made at several intervals during the day to allow data to be restored for up to 30 days if changed / deleted.
- Once the final report has been completed data will be moved onto NAS drive set up in a RAID configuration.
- All data is backed up to an off-site location (Cloud storage).

ADS or other depository - Costs

ADS has not been requested, all data, reports and corresponding documentation are securely stored by SUMO.

Digital files and data to be selected for archiving

- Raw data in XYZ format .csv and .png plus .pgw world file
- Processed data as .png plus .pgw world file
- Survey written report .pdf
- Survey photos .png
- CAD and Vector graphics (interpretations) in .dwg format

Notes

6 STAFFING

- 6.1 Site work will be carried out by an appropriate number of field teams (led by an Experienced Team Leader) to complete the work within the given timescale. The Team will be co-ordinated from designated offices personnel, where the first point of contact for the client and site team will be:

Project Officer Darcy Hooper 01684 592266 darcy.hooper@sumoservices.com

Team Leader TBC

7 WORKING PRACTICES AND STANDARDS

- 7.1 All site work and reporting will be carried out in accordance with the latest guidance documents issued by Historic England (EH 2008) (then English Heritage), the Chartered Institute for Archaeologists (CIfA 2014, updated 2022), the European Archaeological Council (EAC 2016)
- 7.2 **SUMO GeoSurveys** is a trading name of **SUMO Geophysics Limited** which is a **Registered Organisation** and as such is committed to upholding the standards and policies set out by the **Chartered Institute for Archaeologists**.
- 7.3 **SUMO GeoSurveys** (through its parent company **SUMO Services Ltd**) is a member of the **EuroGPR Association**
- 7.4 **SUMO** adheres to the following legislation and guidance:
- The Health and Safety at Work etc. Act 1974
 - The Management of Health and Safety at Work Regulations 1999 (as amended)
 - The Construction (Design and Management) Regulations 2015 (CDM)
 - Provision and Use of Work Equipment Regulations 1998 (PUWER)

- RIDDOR – Reporting of Injuries, Diseases and Dangerous Occurrences Regulations 2013
- GS6 Avoiding danger from overhead powerlines 2013 (Fourth Edition)
- The Control of Substances Hazardous to Health (COSHH) Regulations 2002 (as amended)
- The Health and Safety (First Aid) Regulations 1981
- The Personal Protective Equipment at Work (Amendment) Regulations 2022
- Manual Handling Operations Regulations 1992
- The Health and Safety (Consultation with Employees) Regulations 1996

8 HEALTH AND SAFETY

- 8.1 Colin Carnachan, Managing Director is the responsible post holder for Health & Safety matters; **SUMO** also employs an external Health & Safety advisor who can be consulted if necessary.
- 8.2 All **SUMO** team leaders are first-aid trained, with all of our field operatives being part of a rolling programme of first-aid training.

The priorities for First Aid are:

- Access the situation and identify the injury or illness.
- Call the First Aider or the Appointed Person or the Emergency Services if necessary
- Check for dangers e.g. fire, falling objects, electricity. Do not put yourself at risk.
- Remain with the casualty, give emergency aid and assure the patient that help is on the way.
- Do not move the patient or offer drinks as this could make the injuries worse

First Aiders:

HSE First Aiders: Sean Bristow

All site personnel are Appointed Persons First Aid trained

Each SUMO Group van is equipped with a First Aid Box and it is the responsibility of all SUMO Group Employees using the van to ensure it is adequately stocked and items have not expired.

- 8.3 All **SUMO** team leaders are first-aid trained, with all of our field operatives being part of a rolling programme of first-aid training.
- 8.4 All **SUMO** field teams are equipped with mobile phones for use in an emergency.
- 8.5 In the event of an emergency the team will immediately stop work and report the incident to the relevant emergency services and **SUMO** head office. If it is safe to do so they will administer first-aid and render assistance to any emergency teams on site.
- 8.6 **SUMO** will monitor the general safety arrangements and will communicate any further requirements / short falls to the client.

- 8.7 **SUMO** site personnel will be equipped with full Personal Protective Equipment (PPE).
- 8.8 In the event of an Accident: all **SUMO** site operatives are trained to Appointed Persons standard and all vehicles carry first aid kits. In the event of a serious injury/accident dial 999.
- 8.9 In case of minor injury, the closest **A & E Hospital** – see Figure 2.
- 8.10 **Welfare Facilities** – see Figure 3.
- 8.11 **Emergency Contacts**
In the event of an accident staff to report in accordance with Sumo Ltd's Health and Safety Policy and in accordance with RIDDOR.

Name	Company	Role	Telephone
Colin Carnachan	SUMO Services Ltd	Managing Director	02392 415020
Simon Haddrell	SUMO GeoSurveys	Operations Director	01684 592266
Darcy Hooper	SUMO GeoSurveys	Project Officer	01684 592266
TBC	SUMO GeoSurveys	On site Team Leader	
Richard von Kalinowski-Meager	Tetra Tech	Client	0207 832 1487 07764830956

9 PPE

Issued personal protective equipment

	Hi Vis Trousers (Yellow & Orange) to EN471
	White Safety Helmet to EN397
	Safety Boots to EN 345 or EN ISO 20345
	Safety Specs/Goggles to EN166 B349
	Ear Plugs to EN 352-2

	Builders Grip Gloves to EN 388
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Hi Vis Trousers, Hi Vis Waistcoats, Safety Boots and Gloves, Safety Helmet, Specs/Goggles and ear plugs are to be worn as and when site conditions or client's requirements necessitate them.

10 INSURANCES

- 10.1 **SUMO** carries a limit of £10 million Employers liability insurance.
- 10.2 **SUMO** carries a limit of £15 million Public liability insurance and Products liability insurance.
- 10.3 **SUMO** carries a limit of £5 million Professional Indemnity insurance

11 References

- BGS 2025 *Geology of Britain Viewer*, British Geological Survey, website:
<http://www.bgs.ac.uk/opengeoscience/home.html?Accordion1=1#maps>
- ClfA 2020 *Standard and Guidance for Archaeological Geophysical Survey*. 2014 amended 2020. ClfA Guidance note. Chartered Institute for Archaeologists, Reading
https://www.archaeologists.net/sites/default/files/ClfAS%26GGeophysics_3.pdf
- CU 2025 *The Soils Guide*. www.landis.org.uk. Cranfield University, UK. website:
<http://mapapps2.bgs.ac.uk/ukso/home.html>
- EAC 2016 *EAC Guidelines for the Use of Geophysics in Archaeology*, European Archaeological Council, Guidelines 2.
- EH 2008 *Geophysical Survey in Archaeological Field Evaluation*. English Heritage, Swindon (now withdrawn, but used for evaluating suitability of soil types)
- HG 2025 *Heritage Gateway Online Viewer*, website:
<https://www.heritagegateway.org.uk/gateway/>

Figure 1
Site Location



Figure 2 Nearest Hospital

Lister Hospital Emergency Department, Lister Hospital East Hall Block, Lister Hospital, Coreys Mill Lane, Stevenage, SG1 4AB.
Tel: 01438 314333.

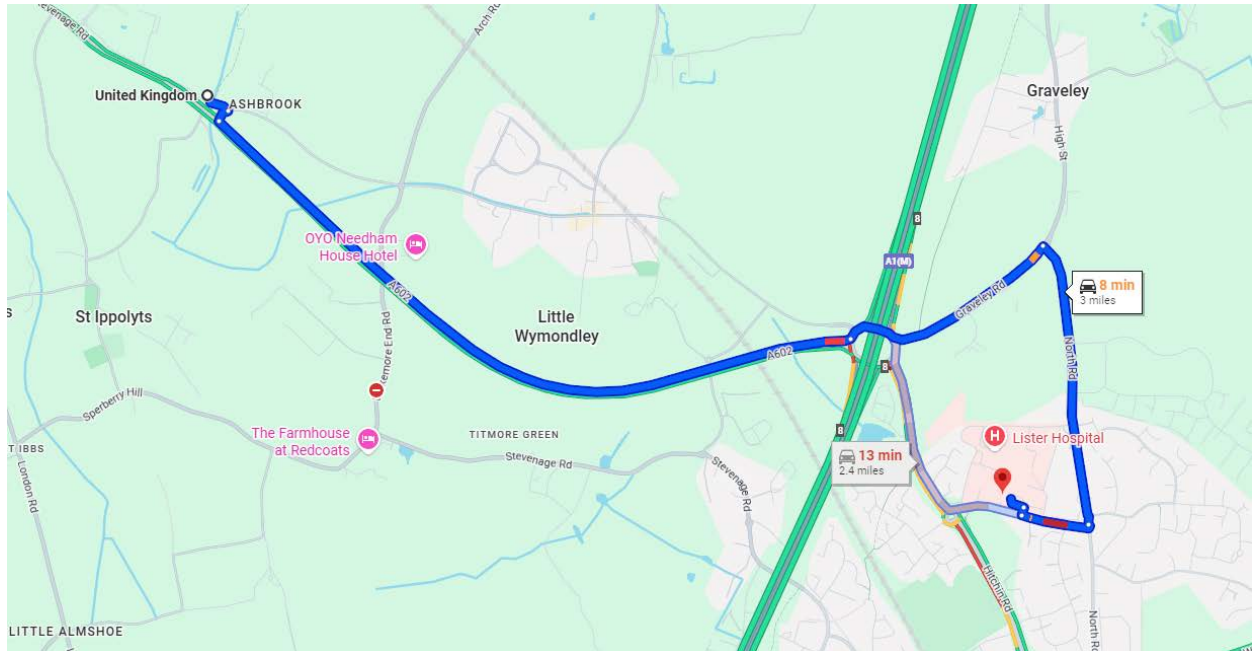


Figure 3 Welfare Facilities

Surveyors will use client site facilities only with prior permission. In the event that welfare facilities are not available at the site, then staff will use local public amenities.

Hand gel / wipes / water carrier for hand washing at remote locations must be carried at all time. The team Leader is responsible for re-stocking these when away from the office.

The closest public amenities are at:
BP, Stevenage Road, Hitchin, SG4 9DT.

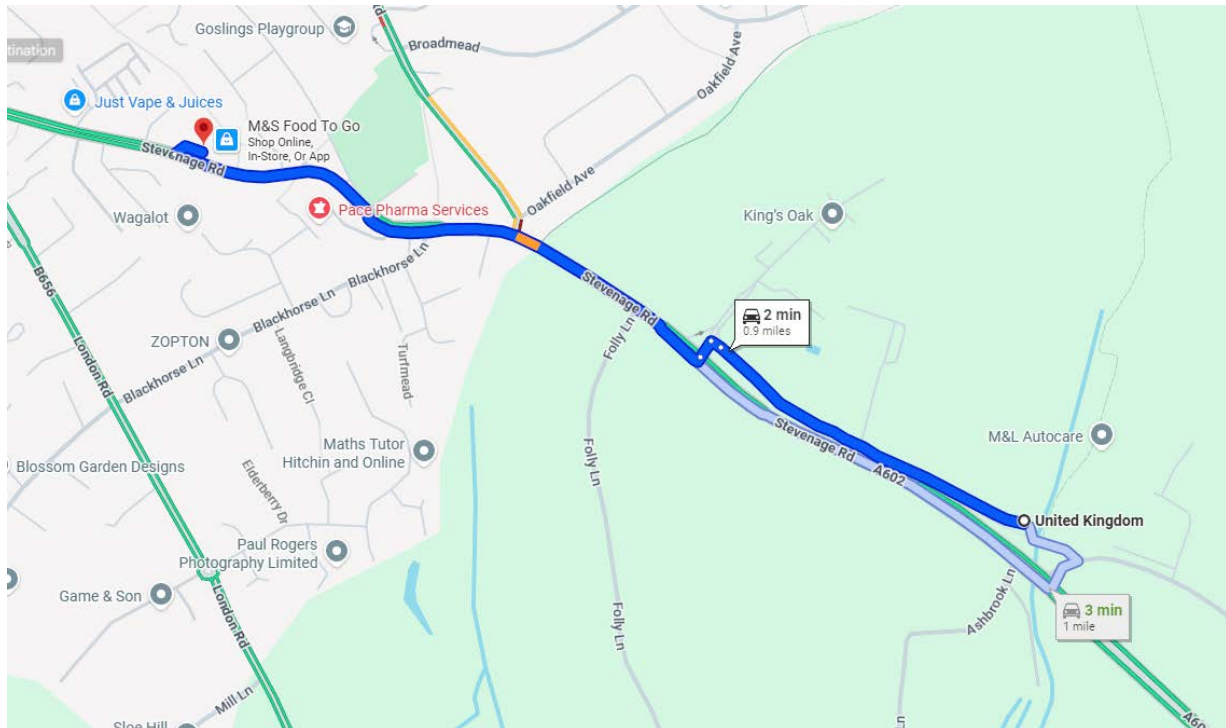


Figure 4
Public Rights of Way



Figure 5
Overhead power cables running through the site shown in red.

