

**Written Scheme of Investigation**

**for an Archaeological Geophysical Survey**

**at Land east of Llanrwst Road, Gyffin, Conwy LL32 8HZ**

**Project No: 3225**

**July 2025**

**Archaeology Wales Limited**

Main Office, Unit D11.6

Treforest Industrial Estate Pontypridd - CF37 5UR

**Tel: +44 (0) 2920 020 136**

Email: [admin@arch-wales.co.uk](mailto:admin@arch-wales.co.uk)

Web: [arch-wales.co.uk](http://arch-wales.co.uk)



## Contents

Summary.....	3
1. Introduction and Planning Background.....	3
2. Site Description .....	4
3. Archaeological and Historical Background .....	4
4. Objectives.....	5
5. Methodology for Geophysical Survey.....	6
6. Post-Fieldwork Programme .....	6
7. Site Archive .....	13
8. Staff and Timetable.....	14
9. Health and Safety .....	15
10. Insurance .....	15
11. Quality Control .....	15
12. Arbitration.....	16
13. References.....	16
Figures.....	18
Data Management Plan.....	21

## Figures

Figure 1. Location of site .....	19
Figure 2: Surveyed area.....	20

## ***Summary***

*This specification details the methodology for an archaeological geophysical survey at land east of Llanrwst Road Gyffin, Conwy, LL32 8HZ, centred on SH 77788 76525. This Written Scheme of Investigation has been prepared by Archaeology Wales Ltd. The area for survey measures approximately 4.6 ha.*

## **1. Introduction and Planning Background**

---

- 1.1.1 This Written Scheme of Investigation has been prepared by Jennifer Muller ACIfA, Archaeology Wales Ltd (henceforth – AW) for Beech Developments (NW) Ltd on behalf of Adra (Tai) Cyfyngedig (henceforth – ‘the Client’). It provides information on the methodology that will be employed by TerraDat on behalf of AW during a geophysical survey of the site.
- 1.1.2 The proposed development involves the creation of a residential development of 102 affordable homes and associated works, including new vehicular access from Llanrwst Road; footpath connection to Isgoed; drainage and landscaping works; and creation of public open spaces. The site is at land east of Llanrwst Road Gyffin, Conwy, LL32 8HZ – National Grid Reference (NGR) SH 77788 76525 (Figure 1-2). The Planning pre-application number is: DC/ENQ/32353.
- 1.1.3 At the request of Heneb Gwynedd Archaeology Planning Services (henceforth Heneb GAPS), a geophysical survey will be undertaken within the site boundary. The purpose of the geophysical survey is to identify any sub-surface archaeological features to inform an appropriate mitigation strategy should it be required (see Figure 1).
- 1.1.4 The survey will provide a better understanding of the nature and potential archaeological resource of the area, the requirements for which are set out in Planning Policy Wales (Ed.12, February 2024), Section 6, and Technical Advice Note 24.

- 1.1.5 All work will conform to the *Standard and Guidance for Geophysical Survey* (CIIfA, October 2020) and be undertaken by suitably qualified staff to the highest professional standards.

## 2. Site Description

---

- 2.1.1 The proposed development site is situated to the east of Llanrwst Road (B5106) in Gyffin, Conwy – NGR SH 77788 76525. It occupies four irregularly shaped parcels of land located on the southern edge of Conwy. The site lies within a semi-rural fringe, adjoining residential properties to the north and west and open countryside to the south.
- 2.1.2 The site is under 1km away from the medieval, walled town of Conwy, a UNESCO World Heritage Site, and falls just outside the Registered Historic Landscape of Creuddyn and Conwy (HLW (Gw)) (Figure 2).
- 2.1.3 The underlying geology of the site is defined by the Bettws Mudstone Formation, which was formed during the Silurian Period. Overlying this bedrock, the superficial deposits consist of Devensian Till (Diamicton), which was laid down during the Quaternary Period (BGS 2025).

## 3. Archaeological and Historical Background

---

- 3.1.1 Beyond finds spots, there is little information on any Prehistoric or Roman activity in the vicinity of the proposed development and the wider landscape. However, approximately 450m to the north-west of the site is an earthwork which is thought to be a prehistoric enclosure (PRN 112171).
- 3.1.2 The proposed site lies within the medieval township of Gyffin (PRN 7367). At the heart of Gyffin lies the parish church of St. Benedict (LB 3291; NPRNs

43691, 43692, and 43693; PRN 6934), which is located just 270m north-north-west of the northern-most part of the proposed site. The church is believed to have foundations from the 13<sup>th</sup> century, and built by the monks of Aberconwy (Roberts, 2008). It contains a painted celure, consisting of sixteen panels, that date from the late 15<sup>th</sup> to early 16<sup>th</sup> century (Jones & Rees, 2016a). There is also a record of a medieval mill near the church (ibid).

- 3.1.3 About 480m to the west of the southern-most part of the proposed site lies the medieval settlement of Hendre, with traces of ridge and furrow in fields to the south-west.
- 3.1.4 Notably, Castell Conwy (WHS 374; SM CN004; LB 3250; NPRN121; PRN 2851) and its medieval town walls are located just 800m north-west of the proposed site.
- 3.1.5 The post-medieval period shows evidence of the growth of the village of Gyffin and continuing agricultural activity.

## 4. Objectives

---

- 4.1.1 This WSI sets out the methodology to ensure that the geophysical survey will meet the standard required by The Chartered Institute for Archaeologists' *Standard and Guidance for Archaeological Geophysical Survey* (2020).
- 4.1.2 The primary objective of the work will be to locate and describe, by means of geophysical survey, archaeological features that may be present within the development area. The proposed archaeological work will attempt to elucidate the presence of absence of archaeological material that might be affected by the scheme, in particular its character, distribution, extent and relative significance within the agreed areas.
- 4.1.3 A report will be produced that will provide information which is sufficiently

detailed to help inform a planning decision or design solution. Together, the evaluative information could then be used to determine appropriate mitigation strategies for any archaeological remains within the area to be implemented prior to or during the proposed development if planning permission is given. The survey will also be carried out in accordance with the approved Specification.

## 5. Methodology for Geophysical Survey

---

### 5.1. Preliminary Work

- 5.1.1 The area to be surveyed will include all the accessible development area (Figure 2).
- 5.1.2 All landowners within the survey area will have been contacted to ensure permission for the survey work has been obtained. This contact will be maintained through the appropriate development liaison team.

### 5.2. Site Conditions Requirements and Constraints

- 5.2.1 A geophysical survey requires suitable ground conditions to produce reliable results. The following conditions must be met:

- The site must be clear of high vegetation, dense scrub or crops that would prevent good contact between instruments and the ground surface. Practically this requires vegetation to be <20cm high.
- The site should be as dry as possible, significantly soft or water-logged ground will be avoided.
- The ground surface should be relatively even, without deep rutting or severe undulations that would cause a danger to the operation of an ATV. Any significantly rough areas will be avoided.

- Areas of ferrous contamination, buried services, or modern disturbance will not identify archaeological features.
  - Any livestock should be removed from survey areas during the work.
- 5.2.2 If these conditions cannot be met, the survey results may be:
- Incomplete due to inaccessible areas
  - Distorted by ground conditions or interference
  - Of insufficient quality for reliable archaeological interpretation
  - Unable to detect subtle archaeological features
  - Not representative of the true archaeological potential
- 5.2.3 Preliminary site visits will assess conditions and identify any constraints that could affect survey methodology or results quality. Any areas deemed unsuitable will be identified and labelled on accompanying plans that will be sent to the relevant curator at the Leicestershire County Council prior the commencement of works.
- 5.2.4 A proposed start date of 21st July 2025 has been established, subject to agreement with all relevant parties.

### **5.3. Survey Technique: Magnetic Gradiometry**

5.3.1 The survey will be conducted using magnetic gradiometry. Magnetic gradiometry measures the subtle changes produced by variations in the magnetic properties of materials within the shallow subsurface. This method is particularly effective for archaeological prospection due to its ability to detect various types of magnetic variations:

- Ferromagnetism: This detects the presence of iron objects in the ground, indicating human activity or modern disturbances.
- Remanent magnetism: This identifies magnetic fields acquired by

heated objects as they cool, such as in situ materials like hearths or ex-situ materials like bricks. This can provide valuable information about past human habitation and activities.

- Magnetic susceptibility (MS): This is perhaps the most crucial aspect of archaeological surveys. MS is significantly enhanced by heating and some biological processes and slightly enhanced by natural weathering. Consequently, deposits altered by human activity and the fills of cut features tend to show enhanced MS, making them detectable by this technique.
- 5.3.2 The versatility of magnetic gradiometry makes it useful for detecting a wide range of archaeological features. However, it is important to note that the technique may be less effective for detecting stone structures not associated with occupation deposits, cut features at a distance from human occupation and burials.
- 5.3.3 One of the key advantages of magnetic gradiometry over simple magnetometry is its resistance to diurnal variations in the Earth's magnetic field. These variations, caused by the interaction of the magnetic field with the solar wind as the Earth rotates, can affect total field magnetometry readings. Measuring the field's gradient rather than its total strength eliminates the need for a base station to calibrate against these variations.

#### **5.4. Equipment and Configuration**

- 5.4.1 The survey will implement magnetic gradiometry, employing an array of multiple gradiometers deployed on a lightweight, non-magnetic cart. Cart-based systems have four great advantages over manually-deployed instruments:
- Firstly, the cart enables the use of up to 5 (for the Sensys Magneto MXPDA) or 8 (for the Sensys Magneto MXV3, Plate 3) sensors at 0.5m

spacing – producing double the traverse density compared with a standard manual instrument (e.g. the Bartington Grad601);

- The cart imposes a rigid alignment on the multiple sensors, which, together with the recording of location by GPS, eliminates the slight 'between traverse' locational errors in manually-acquired data across an effective swath width of 2m and 3.5m for the MPXDA and MXV3 respectively;
- The use of GPS for data location means there is no requirement for gridding fields as with conventional instruments, saving a considerable investment in field time;
- The sensors employed by these systems operate at up to 200Hz (although typically only up to 100Hz in the configuration to be used here), which permits data acquisition with the larger cart system to be at rates compatible with its towing by ATV speeds of up to 15km/h.

5.4.2 At no time will the equipment be used to survey any upstanding remains/elements of any monuments within the survey area.

5.4.3 The resultant data lie on 0.5m-spaced traverses, with sub-100mm spacing between readings along the traverses.

## **5.5. Field Activities and Data Processing**

5.5.1 The field activities for the magnetic gradiometry survey follow a structured process to ensure comprehensive and accurate data collection:

1. Equipment setup: The survey instrument is unpacked and carefully set up according to manufacturer specifications. This includes ensuring all sensors are properly aligned and calibrated.
2. Survey initiation: The instrument is moved to the start of the survey line or grid. Acquisition parameters are configured and recorded in a field

notebook for later reference

3. Data collection: The instrument is towed along the survey line. Data is acquired near continuously, with the instrument being triggered temporally under the control of the RTK GPS. This ensures the precise positioning of each data point.
4. Survey progression: Recording is paused at the end of each survey line, and the process is repeated for the next line. The survey line spacing is maintained at 3.5m to ensure comprehensive area coverage.
5. Data download: Upon completion of the survey, all data is downloaded to a laptop computer for initial processing and quality control checks.

#### 5.5.2 Data handling and processing involve several stages:

1. Initial acquisition: Data is collected using MONMX, the proprietary acquisition software from Sensys. This software interfaces directly with the magnetometer array and GPS to collect and correlate magnetic readings with precise location data.
2. GPS integration: The collected data is then processed using Sensys' DLMGPS software. This step uses the GPS feed to assign accurate xyz coordinates to each magnetic observation.
3. Data filtering: Now, with assigned coordinates, the raw data is filtered and processed using TerraDat's in-house magnetic processing software 'MagMerge'. This step removes extraneous data from overlaps and filters out substandard data, such as readings affected by excess sensor noise or external interference.
4. Gridding and interpolation: The filtered data is imported into Oasis Montaj, a powerful gridding and mapping software. Here, the data is interpolated to create a uniform grid, typically with a 0.2m node spacing.

This gridded data forms the basis for developing detailed magnetic maps of the surveyed area, exported as high-resolution GeoTiff images.

5. Visualisation and reporting: The GeoTiff images are brought into QGIS and combined with base map data to produce finalised data plots of the survey areas. These are then interpreted using a standard legend to produce archaeological interpretation maps, presented as part of the final factual report.

## **5.6. Method Constraints and Limitations**

- 5.6.1 While magnetic gradiometry is a powerful tool for archaeological prospection, it's important to be aware of its limitations and potential constraints:
1. Interference from metallic objects: Nearby ferrous materials can significantly mask the more subtle magnetic responses from archaeological features. This is why it's crucial to remove as many metallic objects from the survey area as possible.
  2. Magnetic solar storms: Occasionally, solar activity can cause fluctuations in the Earth's magnetic field, potentially affecting survey readings. While gradiometry is less susceptible to these variations than total field magnetometry, extreme events could still impact data quality.
  3. Feature size and depth: The detectability of archaeological features depends on their size and depth. Smaller or deeper features may produce weaker signals that are more difficult to distinguish from background noise.
  4. Ground conditions: Excess vegetation, extremely soft or waterlogged ground, or very rough terrain can hinder the smooth movement of the survey equipment, potentially affecting data quality.
  5. Modern disturbances: In areas with significant modern activity, the subtle

signals from archaeological features may be obscured by stronger magnetic anomalies from recent disturbances.

6. Geological variations: In some cases, natural geological features (particularly igneous rocks) can produce magnetic anomalies that obscure the more subtle response of shallow archaeology. Some geological settings do not allow for significant development of magnetically susceptible materials (peat, for instance).

### **5.7. Monitoring**

- 5.7.1 The client and the archaeological curator will be given access to the site so that they can monitor the progress of the work. They will be kept regularly informed about developments, both during the site works and subsequently during the post-fieldwork programme.
- 5.7.2 Any changes to this Method Statement that AW may wish to make after approval will be communicated to the archaeological curator for approval.

## **6. Post-Fieldwork Programme**

---

- 6.1.1 The post-fieldwork programme is a critical phase that transforms the raw survey data into meaningful archaeological information:
  - 1) Data processing and analysis: The collected data undergoes rigorous processing and analysis to identify potential archaeological features. This involves advanced filtering techniques to remove noise and enhance subtle signals and the application of various visualisation methods to highlight different aspects of the data.
  - 2) Report preparation: A comprehensive report will be produced, interpreting the geophysical anomalies in terms of their likely archaeological origin. This report will include:

- A concise, non-technical summary of the results
  - Introductory statements and project background
  - Aims and purposes of the survey
  - Detailed methodology description
  - Processed survey results with accompanying explanations
  - Written interpretation of results with illustrated site plans
  - Discussion of the local and regional archaeological context
  - Conclusions and recommendations for further investigation if appropriate
  - Index to and location of the digital archive
  - Relevant bibliography
- 3) Client consultation: Draft reports will be submitted to the Client and Heneb GAPS for review and approval. Any necessary revisions or clarifications will be made based on their feedback.
- 6.1.2 The report and all relevant information will be submitted to the relevant Historical Environment Record following the guidelines and procedures laid out in the Guidance for the Submission of Data to the Welsh Historic Environment Records (Heneb 2024).

## 7. Site Archive

---

- 7.1.1 An ordered and integrated site archive will be prepared in accordance with *The National Standard and Guidance to Best Practice for Collecting and Depositing Archaeological Archives in Wales 2017* (National Panel for Archaeological Archives in Wales), *EAC Guidelines for the Use of Geophysics*

*in Archaeology* (Schmidt et al., 2015) and the National Monuments Record (Wales) agreed structure and be deposited with the National Monuments Records, held and maintained by the RCAHMW, Aberystwyth, upon completion of the project.

- 7.1.2 This archive will include all raw data, processed data, field notes, and other relevant documentation. Copies of all reports, the digital archive and an archive index will be deposited with the National Monuments Record, RCAHMW, and will be uploaded to the ADS.
- 7.1.3 Although there may be a period during which client confidentiality will need to be maintained, copies of all reports and the final archive will be deposited no later than six months after completion of the work.
- 7.1.4 Wherever the archive is deposited, this information will be relayed to the HER. A summary of the contents of the archive will be supplied to the HER.

## 8. Staff and Timetable

---

- 8.1.1 The geophysical survey will be carried out by TerraDat on behalf of Archaeology Wales. The overall management of the project will be carried out by Irene Garcia Rovira, Archaeology Wales Project Manager.
- 8.1.2 The proposed works are scheduled to commence during the week beginning 21<sup>st</sup> July 2025. Heneb GAPS will be notified once a start date has been agreed. Initial data plots may be available during the survey work, and a draft report will be issued within five to ten working days from the completion of the survey work.

## 9. Health and Safety

---

### 9.1. Risk Assessment

- 9.1.1 Prior to the commencement of work, TerraDat will carry out and produce a formal Health and Safety Risk Assessment in accordance with The Management of Health and Safety Regulations 1999. A copy of the risk assessment will be kept on site and be available for inspection on request.
- 9.1.2 A copy will be sent to the client (or their agent as necessary) for their information. All members of TerraDat staff will adhere to the content of this document.

### 9.2. Other Guidelines

- 9.2.1 TerraDat will adhere to best practice with regard to Health and Safety in Archaeology as set out in the FAME (Federation of Archaeological Managers and Employers) health and safety manual Health and Safety in Field Archaeology (2002).

## 10. Insurance

---

- 10.1.1 TerraDat is fully insured for this type of work and holds Insurance with Caunce O'Hare Insurance Brokers Ltd and Royal & Sunlife Insurance Company Limited through Employers, Public and Products Liability Insurance. Full details of these and other relevant policies can be supplied on request.

## 11. Quality Control

---

### 11.1. Professional Standards

- 11.1.1 TerraDat maintains high standards of quality assurance in all its operations:
- 11.1.2 The company has attained BS EN ISO 9001:2015 and ISO 14001:2015

certifications, demonstrating commitment to quality management and environmental responsibility.

- 11.1.3 The geophysical survey will comply with guidelines outlined by English Heritage (now Historic England) (David et al. 2008), the Chartered Institute for Archaeologists (CIIfA 2020) and Europae Archaeologiae Consilium (EAC) (Schmidt et al. 2016).
- 11.1.4 Work is carried out in accordance with BS 5930:2015 for site investigation.
- 11.1.5 Daily records will be maintained throughout the project for quality audit purposes, ensuring that all procedures remain effective and appropriate for the work being conducted.

## **11.2. Project Tracking**

- 11.2.1 The designated AW manager will monitor all projects in order to ensure that agreed targets are met without reduction in quality of service.

## **12. Arbitration**

---

- 12.1.1 Disputes or differences arising in relation to this work shall be referred for a decision in accordance with the rules of The Chartered Institute of Arbitrators' Arbitration Scheme for the Institute for Archaeologists applying at the date of the agreement.

## **13. References**

---

British Geological Survey, Geology viewer: <https://www.bgs.ac.uk/> - Accessed 03/07/25.

Chartered Institute for Archaeologists. 2014. *Standards and guidance for the collection, documentation, conservation, and research of archaeological materials.*

Chartered Institute for Archaeologists. 2014. *Standards and guidance for the collection, compilation, transfer and deposition of archaeological archives*.

Chartered Institute for Archaeologists. 2020. *Standards and guidance for archaeological geophysical surveys*.

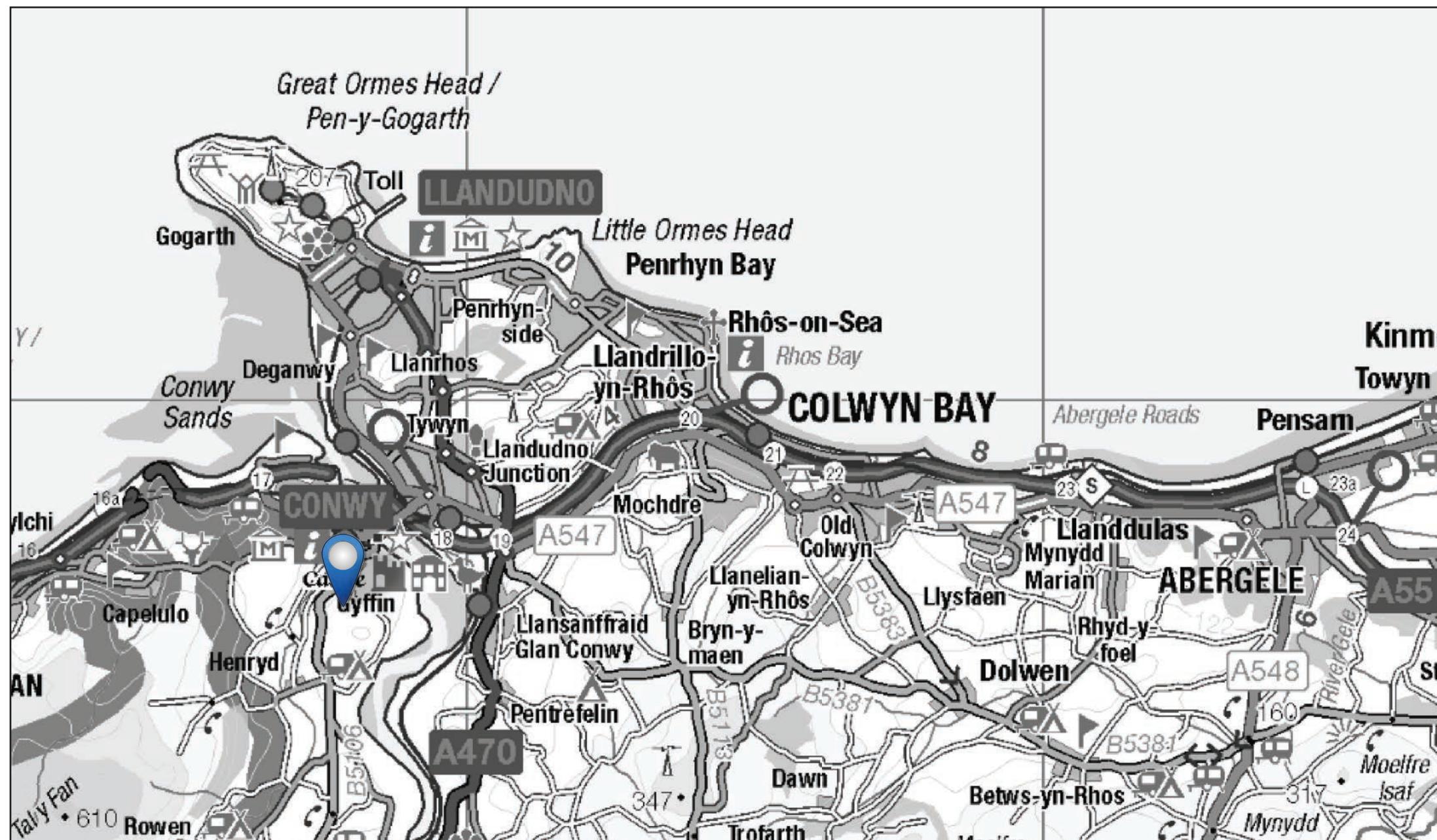
Jones, M. & Rees, C., 2016a. *Results of Archaeological Assessment at Proposed Development at Henryd Road, (Land at) Gyffin, Conwy*.

Jones, M., & Rees, C., 2016b. *Results of Further Archaeological Works (Evaluation Trenching) at Proposed Development at Henryd Road, (Land at) Gyffin, Conwy*

Schmidt AR, Linford P, Linford N, David A, Gaffney CF, Sarris A and Fassbinder J. 2015. *EAC Guidelines for the use of Geophysics in Archaeology: Questions to Ask and Points to Consider. EAC Guidelines 2*. Namur, Belgium: Europae Archaeologia Consilium (EAC), Association Internationale sans But Lucratif (AISBL). ISBN 978-963-9911-73-4. 135p.

## Figures

---



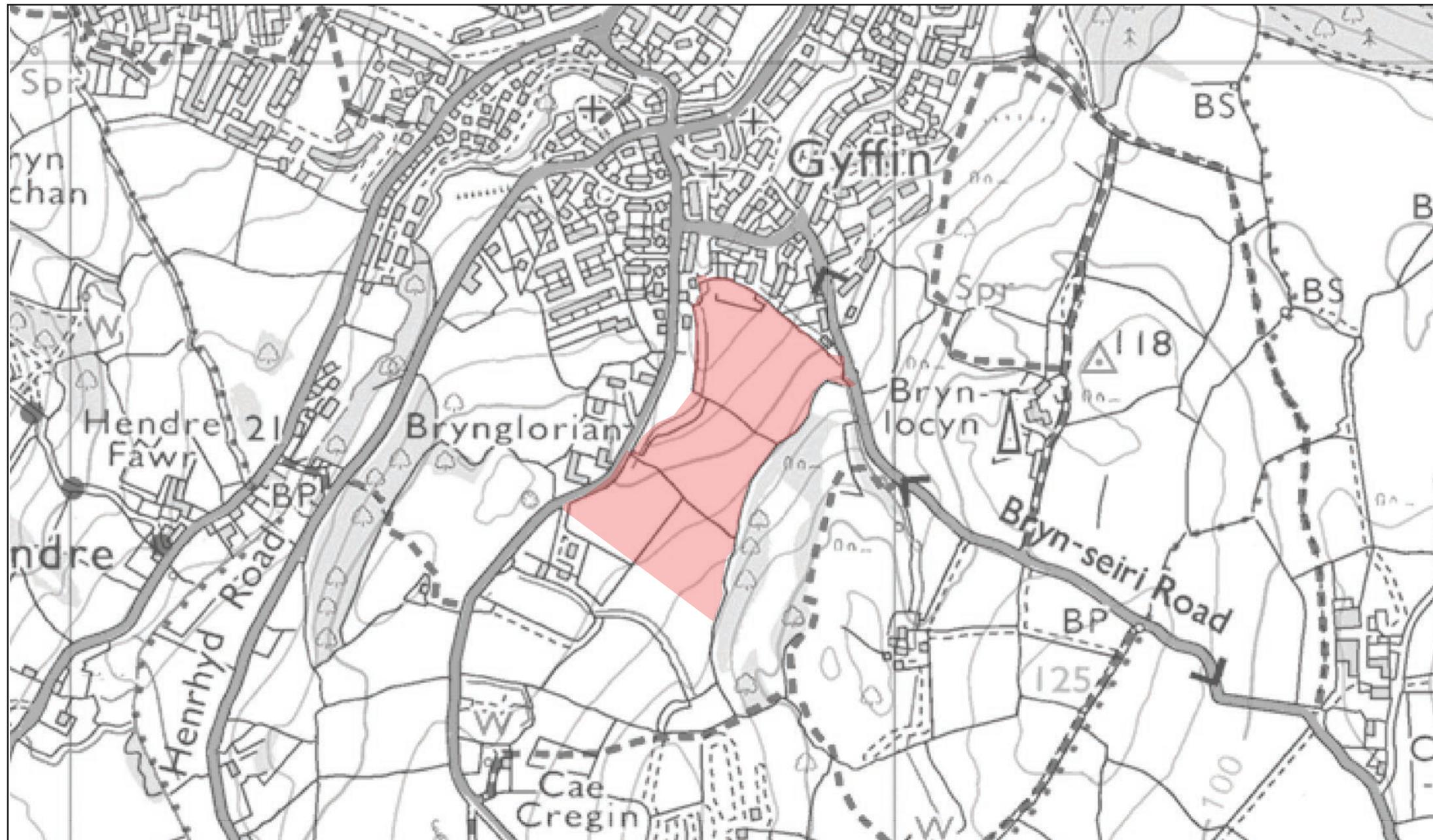


Figure 2. Area to be surveyed.

Site boundary



0 100 200 m



ARCHAEOLOGY WALES

## Data Management Plan

### Section 1: Project Administration

<b>Project ID / OASIS ID</b>
3225
<b>Project Name</b>
Land east of Llanrwst Road Gyffin, Conwy
<b>Project Description</b>
Geophysical survey on land east of Llanrwst Road Gyffin, Conwy, centred on NGR SH 77788 76525.
<b>Project Funder / Grant reference</b>
<b>Project Manager</b>
Irene Garcia Rovira – AW project manager <a href="mailto:irene@arch-wales.co.uk">irene@arch-wales.co.uk</a>
<b>Principal Investigator / Researcher</b>
TerraDat on behalf of Archaeology Wales Ltd.
<b>Data Contact Person</b>
Rhiannon Philp, AW Post-excavation Manager <a href="mailto:rhiannon.philp@arch-wales.co.uk">rhiannon.philp@arch-wales.co.uk</a>
<b>Date DMP created</b>
03/07/25
<b>Date DMP last updated</b>
As above
<b>Version</b>
1
<b>Related data management policies</b>
This DMP is guided by the Project Brief, CIIfA Standards and guidance, trusted digital repository guidelines (RCAHMW) or other best practice guidance (see brief for details)

## Section 2: Data Collection

### What data will you collect or create?

The table below provides a summary of the data types, formats and estimated archive volume for data collected / created as part of this project. As the project progresses, more detail regarding files will be added to this DMP.

Type	Format	Estimated volume (Data Archived)
Spreadsheets	Excel (.xlsx)	TBC
Text/documents	PDF (.pdf and .pdf/a)	TBC
Images	Photographs (.jpg) Scanned drawings (.pdf)	TBC TBC
GIS	Shapefiles (.shp plus associated files)	TBC
Geophysics data	.csv .xyz .tif .docx	TBC TBC TBC TBC

### How will the data be collected or created?

#### Data Standards / Methods

- Standard methods of data collection will be applied throughout the project, working to best practice guidance where applicable / available. In general, data acquisition standards are defined against RCAHMW Guidelines. Specific or additional guidance relevant to this project are listed below, and will
  - Methods of collection are specified within the Project Design (see Archaeology Wales 2025) and will meet the requirement set out in the Project Brief, the organisation recording manual and relevant CIIfA Standards and guidance.
  - Where appropriate, project contributors external to the organisation will be required to include data standards, collection methodology and metadata with individual reports and data.
  - Specific guidance:
    - Standard and Guidance for Geophysical Survey (CIIfA, October 2020)

#### Data storage / file naming

- The data produced will be uploaded at regular intervals during the project as a way of backing up the information.
- The working project archive will be stored in a project specific folder on the internal organisational server. The internal organisation server is backed up to a cloud-based storage system to maintain an up to date security copy of the organisation wide data.
- Project folders are named following established organisational procedures and the folder hierarchy and organisation devised will be understood by all members of staff involved in the project.
- Data collected will be downloaded and raw data will be stored in the appropriate folder.

- File naming conventions following established organisational procedures, based on RCAHMW file naming guidance, and include version control management.
- The data stored will be checked by the project manager regularly as a means of quality assurance.

### **Section 3: Documentation and metadata**

#### **What documentation and metadata will accompany the data?**

- Data collected will include standard formats which maximise opportunities for use and reuse in the future (see Section 2, above).
- A RCAHMW metadata document will be included with the digital archive and include all data types included within the archive. A working copy will be kept on the organisational server in the Project Folder. A copy of the form containing HER required data will also be created.
- Data documentation will meet the requirement of the Project Brief, Museum Deposition Guidelines, Digital Repository Guidelines and the methodology described in the Project Design methodology.
- An archive catalogue documenting both physical and digital archive products will be maintained and submitted with both the Museum and Trusted Digital Repository

### **Section 4: Ethics and legal compliance**

#### **How will you manage any ethical, copyright and Intellectual Property Rights (IPR) issues?**

- The project archive will include the names and contact details of individuals who intend to volunteer or participate in the excavation and post excavation stages. We have a GDPR compliant Privacy Policy which underpins the management of personal data; any personal data is managed through a secure cloud-based database and not retained on the project specific folders.
- Personal data will be removed from the archaeological project archive and permission to include individual's names in any reporting is gained prior to use.
- Copyright for all data collected by the project team belongs to the organisation, and formal permission to include data from external specialists and contractors is secured on the engagement of the specialist or contractor.
- Where formal permissions and/or license agreements are linked to data sharing, they will be included in the project documentation folders and will accompany the archaeological project archive.

### **Section 5: Data Security: Storage and Backup**

#### **How will the data be stored, accessed and backed up during the research?**

- Organisational IT is managed by an external data management provider, who is also responsible for the management and verification of our daily back-ups and who supports access to security copies as needed
- Sufficient data storage space is available via the organisational server, which includes permissions-based access. The server is accessible by staff on and offsite through a secure log-in

- Off-site access to the project files on the organisation's server is provided to support back-up of raw data while fieldwork is ongoing. Where internet access for data back up is not possible, the raw data will be backed up to a separate media device (such as laptop and portable external hard drive).
- Project files will be shared with external specialists and contractors directly using the same system, with the wider project team gaining access to only the files needed using permissions-based access

## Section 6: Selection and Preservation

### Which data should be retained, shared, and/or preserved?

- The Selection Strategy and DMP will be reviewed and updated following the fieldwork. Updated documentation will be included in all reporting stages.
- Prior to deposition, the Selection Strategy and DMP will be updated and finalised in agreement with all project stakeholders (including the Local Planning Archaeologist, Client, Museum, RCAHMW).
- Selection will be informed by the Project Design, defined against the research aims, regional and national research frameworks, specialist advice and the significance of the project results.
- The project will be published as an online technical report (accessible via RCAHMW and as part of this the archive), with full access to research data.
- The data archive will be ordered, with files named and structured in a logical manner, and accompanied by relevant documentation and metadata, as outlined in Sections 2 and 3 of this DMP.
- Deselection will be undertaken automatically on any duplicate or unusable files, such as blurry or superfluous photographs.

### What is the long-term preservation plan for the dataset?

- The digital archive will be deposited with the RCAHMW, which is working towards becoming a certified repository with Core Trust Seal.
- The archive will be prepared for deposition by the project team and the costs for the time needed for preparation, and the cost of deposition have been included in the project budget.

### Have you contacted the data repository?

- RCAHMW have also been contacted as the intended repository for digital data.

### Have the costs of archiving been fully considered?

- A costing estimate has been produced to allow for the preparation of the archive and has been included in the project budget.

## Section 7: Data Sharing

### How will you share the data and make it accessible?

- The digital archive repository, and will be updated as the project progresses.
- The investigations are likely to result in a number of documents: Project Design and Geophysical Report

- The final report is expected to be completed within three months of the completion of fieldwork.
- A final version of the project report will be supplied to the Historic Environment Record, and any data which they request can also be provided directly.
- The location (s) of the final Archaeological Archive will be included in the final report

#### **Are any restrictions on data sharing required?**

- A temporary embargo may be required on the sharing of the project results. If this is the case, specific details once agreed will be included in the updated version of this DMP and will be documented in the overarching Project Collection Metadata.
- Data specific requirements, ethical issues or embargos which are linked to particular data formats will be documented within the relevant metadata tables accompanying the project archive

### **Section 8: Responsibilities**

#### **Who will be responsible for implementing the data management plan?**

- The Project Manager and Post Excavation Manager will be responsible for implementing the DMP, and ensuring it is reviewed and revised at each stage of the project.
- Data capture, metadata production and data quality is the responsibility of the Project Team, assured by the Project Manager and Post Excavation Manager.
- Storage and backup of data in the field is the responsibility of the field team.
- Once data is incorporated into the organisations project server, storage and backup is managed by an external company.
- Data archiving is undertaken by the project team under the guidance of the Post Excavation Manager, who is responsible for the transfer of the Archaeological Project Archive to the agreed repository.
- Details of the core project team can be found in the Project Design.