

Land at Cresselly Arms, Pontargothi, Carmarthenshire

Geophysical Survey



By Dr Iestyn Jones ACIfA

Report No. 1298



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Archaeology Wales

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Geophysical Survey

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Summary

Archaeology Wales carried out a geophysical survey on land at the rear of the Cresselly Arms, Pontargothi, Carmarthensire. It has been proposed that a highway surface water attenuation pond and outfall are located within this field. The survey identified a number of features that are mainly located on the western and eastern limits of the survey area. It is possible that a 2m wide ditch aligned north-east to south-west runs towards the southern end of the proposed attenuation pond inlet. The survey also identified a circular structure and a series of narrow linear slots indicating the possible presence of a paddock or similar enclosure.

Although no definite evidence for a church structure was located within the survey area, further archaeological investigation would be needed in order to identify, date and further describe the survey anomalies.

1. Introduction

In November 2014 Archaeology Wales was commissioned by JCR Planning on behalf of GTJ Properties Ltd to carry out a geophysical survey on land to the rear of the Cresselly Arms, Pontargothi (centred on NGR SN 50614 21840; fig. 1). This work was carried out as part of a planning condition associated with the construction of a surface water attenuation pond and attenuated outfall to the river Cothi. The local authority is Carmarthenshire County Council and the planning application number is E/30985.

Dyfed Archaeological Trust Heritage Management and Planning in its capacity as the archaeological adviser to the local authority, recommended that a geophysical survey be carried out prior to the commencement of ground-works on the site, because of the possibility that buried archaeological remains may be present in the area. A previous appraisal (Ratty 2008) highlighted the possibility of archaeological features being present in this area.

The aim of the survey was to detect, identify, describe and record any buried archaeological features that may be located within the proposed development area. The work was carried out by Hywel Keen and Andy Shobbrook for Archaeology Wales on the 26th of November 2014 (AW Project Number: 2291). This report summarizes the survey's findings following completion of the work.

2. Site Description

Location, Topography, Geology

The application site lies on land to the rear of The Cresselly Arms on the eastern bank of the river Cothi at Pontargothi, approximately 16km east of Carmarthen and 12.5km west of Llandeilo. The field, which lies north of the A40, is approximately 316m north to south and varies in width between 80m and 160m (east to west) and slopes from south east (25m AOD) to north west (17.5m AOD). The north to south aligned course of the river Cothi is located beyond the eastern boundary of the field. This area is located in an area of riverside neutral or slightly acid pastureland with deciduous woodland along the river bank, whilst the on-site geology comprises Ordovician Mudstone underlying alluvium and undifferentiated river terrace deposits (BGS 2014).

3. Historical Background

The area lies within the Towy Valley Historic Landscape and specifically within area 191, Nantgaredig to Derwen Fawr. This large area on the northern side of the Tywi valley stretches eastwards from Nantgaredig in the west to beyond Llandeilo. The valley has been used as a historic routeway for millennia. The Roman road's course was followed by a Turnpike road in the mid-eighteenth-century, although the straighter sections of the road through Derwen Fawr and Pontargothi were constructed by Telford in the early nineteenth-century. It was the construction of this later section of the road that led to the development of two villages (HLC 191, 2014). The routeway is now followed by the A40 between Carmarthen and Llandeilo. Llanegwad, located 1.2km to the east, is a known early settlement in the area and consisted of a possible early medieval church and associated radial system of boundaries (Sambrook 1995, 59).

The site field, located north of the bridge over the river Cothi, has potential historical and archaeological significance as it is referred to as Cae'r Capel (Chapel Field) in the 1839 Llanegwad parish tithe map. It is recorded in the HER as the possible medieval site of St Mary's Chapel (PRN 49276), a grange chapel to Talley and chapel of ease of Llanegwad. Lewis (1833, 5) indicates that 'near Cothy bridge are the remains of an ancient and dilapidated edifice, formerly a chapel of ease to the mother church (Llanegwad), but now converted into a stable: there were anciently several other chapels in the parish'.

Ratty cites Ludlow's research into the chapel, which suggests that it was once located in the middle of the field on a level platform, on top of the river terrace that occupies the field (Ludlow cited by Ratty 2008, 7). No surface remains of the building, enclosure or burial ground are visible in the field today.

4. Geophysical Survey

4.1 Objectives, Methodology and Strategy

The primary objectives of the work was to locate and describe, by means of a geophysical survey, archaeological features that may be present within the development area. The proposed survey attempted to elucidate the presence or absence of archaeological material that might be affected by the scheme, in particular its character, distribution, extent and relative significance.

The on-site survey was undertaken in a single phase lasting one day using a Bartington Grad601 Gradiometer. This instrument detects variations in the earth's magnetic field. The survey area was divided into 30m square grids along a common alignment. The site was walked north to south along traverses 1m apart and

instrument readings were logged at 0.25m intervals (double density), with an average cycle of 4 using an ST1 internal sample trigger. Incomplete survey lines resulting from irregular area boundaries or obstacles were completed using the "dummy log" key.

All data was downloaded in the field into a laptop computer. The location of the grid corners were recorded so that the results could be accurately placed onto an OS map (see fig. 3).

A composite of each detailed survey area was created and processed using the software package Terrasurveyor. Filters were applied to correct small sampling errors and the data was clipped to +/- 10Nt in order to highlight any anomalies associated with archaeological deposits or features. The results are outlined and discussed below.

4.2 Survey Results

The grid base line was laid out east-northeast to west-southwest, 4m north of, and parallel with, an existing chain link fence located at the southern boundary of the site. The distance from the fence was maintained to minimize interference.

Although background magnetic interference was generally low, a moderate amount of metal spiking can be seen in the form of scatters of small dark spots on the processed plot (fig. 3). There were also a small number of very large metal spikes (white areas) which blot out sizable proportions of the survey area.

The annotated figure (4) shows an interpretation of the features as they were surveyed. The east to west feature (northern red line) located towards the northern end of the surveyed area can be conclusively interpreted as a relic field boundary. The boundary was present on the 1888 OS map (fig. 7) and subsequent editions, but is not shown on maps produced in the mid-twentieth century.

One or two of the possible linear features, highlighted in red on the south-western edge of the survey, may be associated with a small rectangular enclosure located next to a new east to west field boundary visible on the 1907 6 inch OS map (see fig. 8). The alignment of the anomalies, however, does not support this interpretation. The intercutting linear features (fig. 3 - red lines) in particular do not resemble major boundaries, but appear to be man-made and may possibly be the remains of enclosing structures or paddocks. One of these appears to head south-west from the large oval white anomaly at the southern end of the survey (interference from the telegraph pole).

The dotted red line visible on the north-western side of the area runs along a faint anomaly, which may be all that remains of a boundary, although is more likely to be the break in slope where the field drops from the old upper (20m AOD) flood plain to the lower flood plain (17.5m AOD) adjacent to the river Cothi.

On the eastern side of the survey area a dark linear feature (fig. 3 - yellow line), running for approximately 25m north-east to south-west, appears to run parallel

with the existing south-western boundary of Glan Cothi Farm field. The fact that this feature appears only in the south-eastern corner of the survey area makes it difficult to fully interpret. It is possibly a geological feature, although its linearity and consistent width suggests an approximately 2m wide ditch. The feature appears to be running towards Cwrt y Cresselly and may intersect with the southern end of the pipe work to the proposed highway surface water attenuation pond.

A linear, but irregularly sided, 20m long feature (fig. 3 – orange line) running broadly east to west, to the north of the possible ditch on the eastern side of the survey area, is possibly best interpreted as a natural drainage channel running down the slope towards the area of the river. A similar feature may be located on the western side of the survey area (fig. 3 - also orange line).

An enigmatic curvilinear feature located on the eastern edge of the survey area may either be the end of two unrelated anomalies or a partial gully located around a 15m diameter circular feature (fig. 3 - blue line). The gully seems to be too large and uneven for a round-house drip gully, but this interpretation cannot be ruled out at this stage.

5. Discussion and Conclusions

A number of features are present in the survey area and are mainly limited to the western and eastern side. An east to west anomaly can be identified as the field boundary visible on nineteenth and early twentieth-century maps. Several narrow linear features may be slots for a series of structures or drainage ditches; they are on a different alignment to the present field boundaries. A semi-circular feature on the eastern side of the area may be a round-house gully, but it could also be caused by the presence of two curving natural anomalies near the survey edge. Although the south-eastern linear feature could be shallow geology the regular sides and width suggests a ditch that could be in excess of 2m wide.

No definite indications of a church building were identified within the survey area, but if an associated ditch is present it may well relate to other features located further to the south. The alignment of the possible ditch crosses the surface water attenuation pond inlet (fig. 2). It is likely, therefore, that further archaeological investigations will need to be carried out during or prior to any development work in this area.

6. Bibliography

The following sources were consulted during the preparation of this report:

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BGS Geology Viewer http://www.bgs.ac.uk/discoveringGeology/geologyOfBritain/viewer.html (accessed 02/07/14)

HCL 191 Nant garedig – Derwen Fawr, Dyfed Archaeological Trust/ Cadw (Electronic resource) <u>http://www.dyfedarchaeology.org.uk</u> (accessed 02/12/14)

Ratty, S. 2008. Land at Pontargothi, Carmarthenshire: An Archaeological Appraisal. DAT Report No. 2008/109: Project 94526.

Sambrook, P, and Page, N, 1995. The Historic Settlements of Dinefwr: Parts 1& 2. Unpublished report by Dyfed Archaeological Trust.

Soilscapes viewer: <u>http://www.landis.org.uk/soilscapes2/</u> (accessed 02/07/14).

TRE (Thesaurus Rerum Ecclesiasticarum) 1754 cited in Arch Cam 1879, Volume 10 (No. 37) p. 165.

Cartographic Sources

1888 OS 6 inch Map: Carmathenshire, sheet XXXII SW 1907 OS 6 inch Map: Carmathenshire, sheet XXXII SW













Fig. 6 2010 Google Earth image showing survey area

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a. View of telegraph pole and tree at the southern end of the survey area (looking east)

b. Image of south-western end of survey area (loking west)

Fig. 9

Images of survey area

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a. View of field from south-east with raised remains of old field boundary visible in background (looking north-west)

b. Image of north-eastern survey area (looking north-east)

Fig.10

Images of survey area

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APPENDIX I:

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Written Scheme of Investigation

for a geophysical survey

on land at rear of The Cresselly Arms, Pontargothi, Carmarthenshire

Prepared for: JCR Planning

on behalf of

GTJ Properties Ltd, Whitemill, Carmarthen

Project No. 2291

18th November 2014

Archaeology Wales Limited Rhos Helyg, Cwm Belan, Llanidloes, Powys, SY18 6QF Tel: +44 (0) 1686 440319 Email: admin@arch-wales.co.uk



NON TECHNICAL SUMMARY

This Written Scheme of Investigations details a proposal for a geophysical survey on land at the rear of The Cresselly Arms, Pontargothi, Carmarthenshire (Planning Application no. E/30985). It has been prepared by Archaeology Wales for JCR Planning on behalf of GTJ Properties Ltd, Whitemill, Carmarthen.

1. Introduction

The proposed development is for an off-site water attenuation pond with ancillary infrastructure on land at the rear of The Cresselly Arms, Pontargothi, Carmarthenshire (Henceforth – the site). The development proposal has been submitted by GTJ Properties Ltd and the planning authority is Carmarthenshire County Council (planning application number is E/30985). The site is located at NGR SN 50614 21840 at 22m AOD (fig. 1)

This specification has been prepared by Dr Iestyn Jones (AIfA), Project Officer at Archaeology Wales Ltd (Henceforth - AW) at the request of JCR Planning on behalf of GTJ Properties Ltd. It provides information on the methodology which will be employed by AW during the geophysical survey.

The archaeological work has been recommended by the curatorial department of Dyfed Archaeological Trust (DAT) in its capacity as archaeological adviser to the planning authority (Ings 2014).

AW is a Registered Organisation with the Institute for Archaeologists (IfA). All work will be managed by Dr Iestyn Jones (AIfA) and undertaken by suitably qualified staff, in accordance with the standards and guidelines of the IfA.

2. Site description and background

The application site lies on land to the rear of The Cresselly Arms on the eastern bank of the river Cothi at Pontargothi, approximately 16km east of Carmarthen. The field is located in an area of riverside neutral or acid pastureland with deciduous woodland along the river bank whilst the on site geology comprises Ordovician Mudstone underlying alluvium and undifferentiated river terrace deposits (BGS 2014). The relatively level land appears to rise up on to a plateau on the eastern side of the site (Fig. 2).

Although there no visible archaeological remains within the field. The 1839 Llanegwad Parish tithe map appears to name the field Cae'r Capel and it is likely that the name may refer to the former location of St. Mary's Chapel (PRN 49276), a grange chapel to Talley Abbey, and chapel-of-ease to Llanegwad (PRN 726). It has been suggested that that the chapel was sited in the middle of the field on a level platform on top of the river terrace that occupies the field (Ings 2014).

3 Site Specific Objectives

The primary objectives will be to locate and describe, by means of geophysical survey,

all sub-surface archaeological features that may be present within the development area. The proposed work will attempt to elucidate the presence or absence of archaeological material that might be affected by the scheme, in particular its character, distribution, extent and relative significance.

A report will be produced that will provide information which is sufficiently detailed to allow informed planning decisions to be made that can safeguard the archaeological resource. The information could then be used to determine further archaeological investigation or appropriate mitigation strategies for any archaeological remains within the area to be implemented prior to or during the proposed development.

4 Method statement for geophysical survey (Stage 1)

The area to be surveyed will comprise most of the available development area (Fig. 2). DAT's Curatorial Department will be kept informed of any potential changes to the on site survey coverage as work progresses. All work will be undertaken in accordance with both the IFA's Standards and Guidance: for an archaeological geophysical survey and current Health and Safety legislation.

An area of approximately 100m by 90m will be surveyed in a series of grids (fig. 2, dotted line) that includes the proposed pond and outfall area. All grid points will be located with a total station and plotted onto an O.S. base map.

It is proposed that the on-site survey will be undertaken in a single phase lasting approximately 1 day. This will be followed by report production.

The survey will be carried out using a Bartington 601 Gradiometer.

Within each grid, parallel traverses 1m apart will be walked along the same orientation. Instrument readings will be logged at 0.25m intervals. Incomplete survey lines resulting from irregular area boundaries or obstacles will be completed using the 'dummy log' key.

Further survey information will be completed on the relevant pro-forma sheet. All data will be downloaded in the field into a laptop computer. The location of the grid corners will be recorded using a total station so that results can be accurately placed onto an OS map.

Following the completion of the on-site survey, processing and analysis of the survey data using the Geoplot V.3 software package. The most typical method of visualising the data is as a greyscale image. In a greyscale, each data point is represented as a shade of grey, from black to white at either extreme of the data range. A number of standard operations will be carried out to process the data.

The data will be analysed using a variety of parameters and styles and the most useful of these will be saved as JPEG images and displayed using Adobe Illustrator software.

The results of the survey will then be overlaid onto an appropriately scaled map tied into the Ordnance Survey National Grid

5 Monitoring

DAT's Curatorial Department will be contacted at least one week prior to the commencement of site works, and subsequently once the work is underway.

Any changes to this specification that AW may wish to make after approval will be communicated to DAT Curatorial for approval on behalf of the Planning Authority.

6 Stage 2 - Archiving and Reporting

Site archive

An ordered and integrated site archive will be prepared in accordance with: Management of Research Projects in the Historic Environment (MoRPHE) English Heritage 2006 upon completion of the work on site. It will include:

- All site records (fully cross-checked and catalogued)
- All digital survey data
- Digitised copies of all site plans
- An interim or summary report on the above.

A copy of the site archive will be supplied to JCR Planning and DAT Curatorial. The requirements for archive storage will be agreed with the appropriate organisation.

Final reporting

A draft report will be submitted to and to DAT-Curatorial for comments within 4 weeks of the survey being completed.

A full client report of the results of the archaeological work will be prepared within 6 months of the end of the project. Copies of the report will be sent to JCR Planning, DAT- Curatorial and for inclusion in the regional HER (Llandeilo). Digital copies will also be provided in pdf format.

Terminology will be consistent with the English Heritage Thesaurus.

The client report will contain, as a minimum, the following elements:

- Concise English non-technical summary of the results
- Detailed plans of the site
- Survey results, related to Ordnance Datum
- Written description
- Interpretations
- Conclusions as appropriate
- Bibliography
- A copy of the AW Written Scheme of Investigations

A summary of the work will be published in a national journal (i.e. *Archaeology In Wales*) no later than a year after its completion.

Final archive

Although there may be a period during which client confidentiality will be maintained, the report and the final (project) archive will be deposited in the appropriate repository not later than six months after completion of the work. The contents and location of the archive will be agreed with DAT (Curatorial) beforehand.

7 Resources and timetable

Standards

The fieldwork will be undertaken by AW staff using current best practice.

<u>Staff</u>

The project will be undertaken by suitably qualified AW staff. Overall management of will be undertaken by Dr Iestyn Jones (AIfA).

Equipment

The project will use a Bartington Grad601 Gradiometer set to standard specifications.

Timetable of archaeological works

A provisional date for the survey of a day during week commencing November 24th 2014 has been set if agreeable to the client. Any change from this week will be communicated to DAT, HM.

Insurance

Archaeology Wales Limited (AW) is an affiliated member of the CBA, and holds Insurance through the CBA insurance service.

Health and safety

All members of staff will adhere to the requirements of the *Health & Safety at Work Act*, 1974, and the AW Health and Safety Policy.

AW will produce a detailed Risk Assessment for approval by the client before any work is undertaken.

References

Ings, M. 2014. Dyfed Archaeological Trust (DAT) Heritage Management and Planning Archaeologist Recommendation Letter to Planning Department, Carmarthenshire County Council (17th October 2014)





Fig. 2

Development plan and survey area (dotted red outline)

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