

Results of Archaeological Works at

**Proposed Site for Ysgol y Llannau,
Llanfaethlu**

NGR SH 31389 87108



Report Number CR82-2014



C.R Archaeology

Compiled by C. Rees, M. Jones & T. Wellicome
on Behalf of Isle of Anglesey County Council

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Geophysical Survey Interpretation Written by Thomas Wellicome

Historical Research Conducted by Matthew Jones

Report Written by Catherine Rees, Matthew Jones & Thomas Wellicome

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Proposed Site for Ysgol y Llannau, Llanfaethlu

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1.0 Introduction

C.R Archaeology were instructed by Isle of Anglesey County Council to conduct an archaeological desk based assessment and geophysical survey (gradiometer) at the proposed site of a new primary school - Ysgol y Llannau, Llanfaethlu (figure 1). At this initial consultation phase details of the proposed works the building design has yet to be finalised and the site plan included as figure 2 is provisional only. It may be the case that the results of the archaeological works will have an influence upon the design and siting of the buildings within the plot.

This document has been prepared to supply the Local Planning Authority Archaeologist with information as to the potential archaeological impacts of the aforementioned scheme.

A specification (CR81-2014 included as appendix A) was written detailing the methodology for this initial programme of works. It is intended that the results of this work will inform decisions as to the nature of any further archaeological mitigation strategies or evaluation methodologies which may be required.

The site is located to the rear of St. Maethlu's Church, along the A5025 in the north of the village of Llanfaethlu, on the Isle of Anglesey. The site is currently in use as grazing within an enclosed field boundary system which includes the site of a small stone quarry. The site lies within the Anglesey Area of Outstanding Natural Beauty (AONB). The south-eastern site boundary is located adjacent to the limits of the Carreglwyd Historic Park & Gardens (ID 690). The site limits are within 500m of an area of restored ancient woodland and 650m of the Garreg-Lwyd Site of Special Scientific Interest (see figure 3).

Within the vicinity of the proposed development area there are known sites of archaeological interest, and in addition to the aforementioned St. Maethlu's Church (which has Medieval origins) and Carreglwyd Estate there are known to be Medieval cist cemeteries and Roman remains both at parish level and within 500m of the proposed site.

The geophysical survey revealed an large array of buried features including an extensive field system and possible settlement site. This cannot be conclusively dated at this stage although it is possible that they are of prehistoric or medieval date.

Based on the evidence from both the desk based assessment and the geophysical survey this site is considered to be of very high archaeological potential and further evaluation and archaeological mitigation is recommended.

In addition to the below ground archaeological remains the site will also have a limited impact on the wider setting of both the Carreglwyd Historic Park & Gardens and the Grade II* Listed St. Maethlu's Church. The negative impact of the proposed scheme on these designated sites is not however considered to be significant given its peripheral location and the limiting of the building height to a single storey.

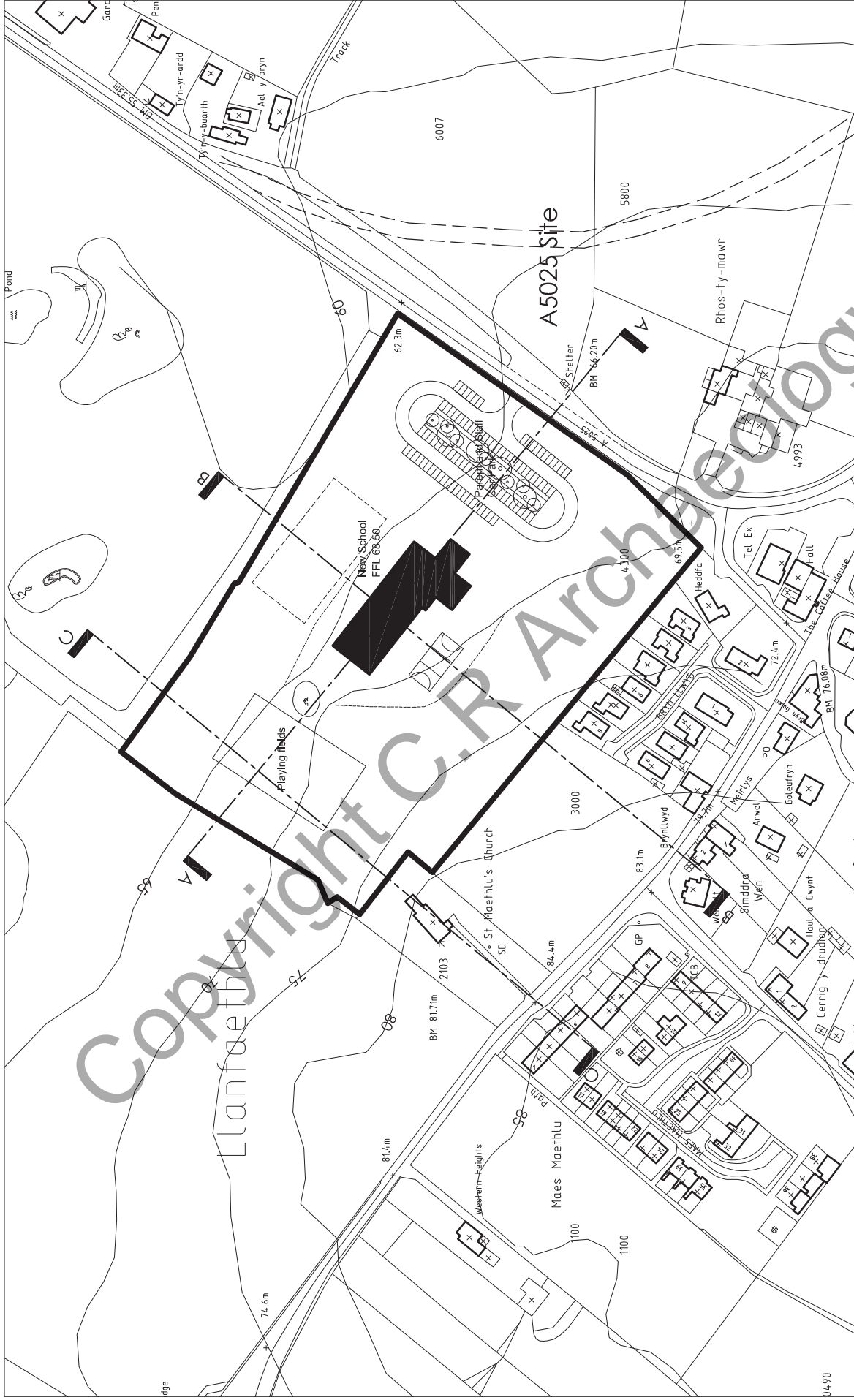


Figure 2. Provisional Site Layout for Ysgol y Llannau, Llanfaethlu
(Supplied by Isle of Anglesey County Council)

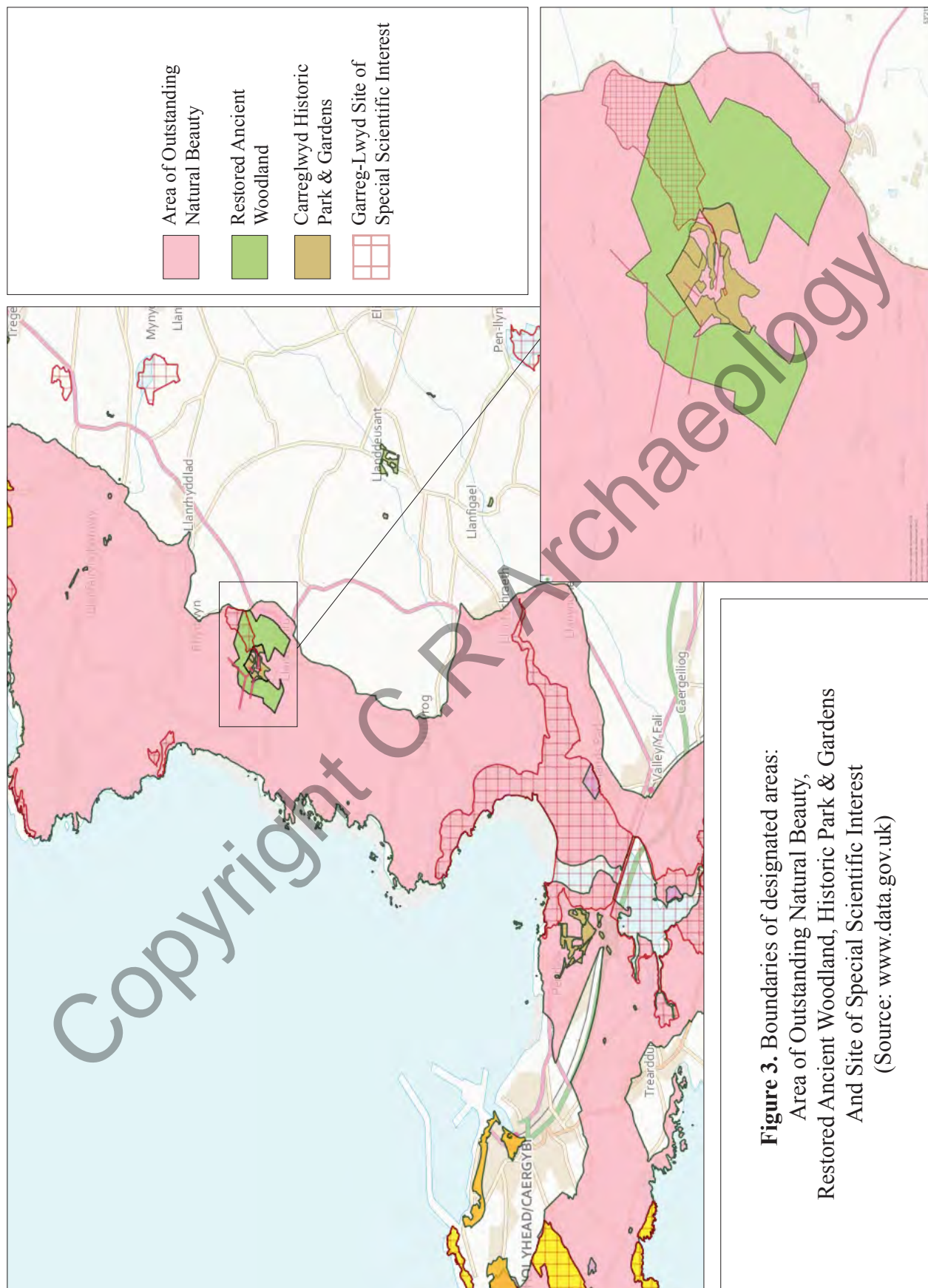


Figure 3. Boundaries of designated areas:
Area of Outstanding Natural Beauty,
Restored Ancient Woodland, Historic Park & Gardens
And Site of Special Scientific Interest
(Source: www.data.gov.uk)

2.0 Project Aims & Objectives

This programme of works for the development site aimed to undertake a desk-based assessment and geophysical (gradiometer) survey. It aimed to examine the potential archaeological resource surviving on the site and to provide information which will be utilised in order to determine an appropriate methodology for any further archaeological mitigation or evaluation methodologies which may be required.

The first aim of this scheme of works was to undertake desk based historical research exploring the history/archaeology of the site. This information includes a map progression and archival research which was utilised to compile a coherent narrative history of the site and it's environs.

The Gwynedd Historic Environment Record (HER), the Royal Commission on the Ancient and Historical Monuments Wales (RCAHMW) database, Bangor University Archives and relevant publications were consulted and a record of known archaeological sites in the vicinity was compiled. The data gathered during this phase of works was also be utilised in the interpretation of the gradiometer results.

The second aim of this archaeological investigation was to undertake a geophysical survey of the site in order to identify and locate buried features.

It is intended that this document be utilised to inform further archaeological planning decisions and conditions at the site.

The objectives of this programme of works were/are:

- To make full and effective use of existing information to establish the archaeological significance of the site
- To assess the impact of the development proposals on surviving sites, monuments or remains both within the development area and in the surrounding landscape
- To help inform future decision making, design solutions, further evaluation & mitigation strategies

3.0 Scheme of Works - Methodology

The archaeological works were conducted in two sections and each is detailed separately below.

3.1 Desk Based Research

A complete and coherent history of the site was compiled utilising material sourced from Anglesey and the Bangor University Archives. This allowed as comprehensive a history of the site as possible to be compiled. A full map progression of the area was undertaken. The archive information was supplemented with information from local libraries and specialist interest websites & journals.

In order to identify the character of archaeological remains in the vicinity of the site a search of the Gwynedd HER was conducted examining an area within a 1000m radius of the proposed works (the grid reference for the search is taken as the centre point of the development area). The RCAHMW database and aerial photographs of the site were also examined. The information collected is discussed within the main report text.

The works were carried out accordance with the IfA Standards and Guidance for historic environment desk-based assessment (IfA 1994 (Revised 2009)).

This material forms the historical background for a full archaeological report and was utilised to aid the interpretation of the results of the geophysical survey.

3.2 Geophysical Survey

Prior to the commencement of works a brief written record of the site was compiled. This included notes on any features/elements which may have an impact on the survey results - for example weather, geological features, fencing & overhead cables.

The survey was carried out in accordance with English Heritage's guidance "*Geophysical Survey in Archaeological Field Evaluation*" (2008) and the IfA "*Standard and Guidance for Archaeological Geophysical Survey*" (2011).

A survey grid was established over the site, orientated to provide a best possible fit to the area to be surveyed and to minimise the effects of the slope of the ground level on the site. The initial proposed array shown as figure 3 in document CR81-2014 was modified slightly to account for on the ground conditions. Grids were walked using a zig-zag method, for maximum speed.

3.2.1 Equipment

The survey was undertaken using a Bartington Instruments Grad601 fluxgate gradiometer, with dual gradiometer setup. This comprised of two Grad-01-1000L cylindrical gradiometer sensors mounted on a rigid carrying bar with a 1m separation. The grid location was surveyed using a Leica TCR 1100+ Total Station.

The survey settings for the gradiometer were as follows:

Sensitivity: 0.1nT

Sample Interval: 0.25m

Traverse Width: 1m

Traverse Method: Zig-Zag

Grid Square Size: 20x20m where possible, downsized to 20x10m where necessary

Archaeosurveyor was used to download and manipulate the geophysical data. Minimal processing was applied to all images to ensure no false results are created by excessive image manipulation. Data was downloaded to a portable computer during each rest period for the course of the day, to ensure data integrity and check ongoing results.

A basic photographic record of the site was compiled prior to the commencement of the survey which details any above ground features (such as the known rock outcrop) and show the general topography of the site. Further photographs were taken to illustrate the setting of the site and the relationship between it and neighbouring archaeological sites. It was undertaken using a 14.2 megapixel Sony A350 digital camera with a variety of standard and other lenses. Images were captured in RAW format for later processing into high resolution JPG and TIF files.

3.3 Timetable for Proposed Works

The geophysical survey was undertaken over 3 days (start date of the 10th November). Further time was allotted for archive research, report compilation and site archiving.

3.4 Staffing

The project was managed by Catherine Rees (BA (Archaeology), MA (Archaeology) Postgraduate Diploma (Historic Environment Conservation) & Matthew Jones (BA (Archaeology), MA (Archaeology)). The geophysical survey was conducted by Matthew Jones (C.R Archaeology) & Thomas Wellicome (Archaeological Landscape Investigations Ltd).

All staff have a skill set equivalent to the IfA AifA/MIFA level. All projects are carried out in accordance with IfA *Standard and Guidance* documents.

3.5 Monitoring

The project was subject to monitoring by Gwynedd Archaeological Planning Services.

3.6 Health and Safety

A risk assessment was conducted prior to the commencement of works and site staff were familiarised with its contents. A first aid kit was located in the site vehicle.

All staff were issued with appropriate Personal Protective Equipment (PPE) for the site work. This consisted of:

- Hi-visibility vests (EN471)
- Mobile Telephone (to be kept in site vehicle)
- Suitable Walking Boots & Waterproofs

All staff have passed at least a CITB health and safety test at least operative level and will carry a Construction Related Organisation (CRO) White Card for Archaeological Technician (Code 5363).

C.R Archaeology staff also comply with any Health and Safety Policy or specific on-site instructions provided by the client or their appointed Principal contractor or H&S coordinator.

3.7 The Report

The report clearly and accurately incorporates the information gained from the programme of archaeological works. It presents the documentary evidence gathered in such a way as to create a clear and coherent record. This includes illustrations of any cartographic/pictorial sources. The report contains a site plan showing the locations of photographs taken.

The desk-based assessment considered the following:

- the nature, extent and degree of survival of archaeological sites, structures, deposits and landscapes within the study area
- the significance of any remains in their context both regionally and nationally
- the history of the site
- the potential impact of any proposed development on the setting of known sites of archaeological/historic importance
- the potential for further work with appropriate recommendations

In accordance with English Heritage guidelines the geophysical survey results element includes:

- a survey location plan demonstrating relationships to other mapped features (minimum scale 1:2500);
- an image of minimally processed survey data (minimum scale 1:1000);
- where appropriate a trace (or X–Y) plot of raw magnetic data
- a greyscale plot, or dot density plot (minimum scale 1:1000);
- one or more interpretative plans/diagrams (minimum scale 1:1000).

It is intended that this report will inform decisions as to the necessity and/or nature of any further archaeological mitigation strategies which may be required.

A copy of the report in Adobe PDF format will be sent to the appropriate monitoring archaeologist for approval before formal submission. A bound paper copy and PDF digital copy of the report will be submitted to GAPS as part of the formal submission. A digital Adobe PDF version and a bound

paper copy of the final report and will be lodged with the Gwynedd Historic Environment Record within six months of completion of fieldwork.

3.7.1 Copyright

C.R Archaeology and sub-contractors shall retain full copyright of any commissioned reports, tender documents or other project documents, under the Copyright, Designs and Patents Act 1988 with all rights reserved; excepting that it hereby provides a licence to the client and the local authority for the use of the report by the client and the local authority in all matters directly relating to the project as described in the Project.

4.0 Geographical and Geological Context

4.1 Topography

The site is located along the A5025 as it passes through the village of Llanfaethlu. The site is currently in use as grazing within an enclosed field boundary system. It is positioned to the rear of St. Maethlu's Church. The site lies just outside within the Anglesey Area of Outstanding Natural Beauty (AONB). The south-eastern site boundary is located adjacent to the limits of the Carreglwyd Historic Park & Gardens (ID 690). The site limits are within 500m of an area of restored ancient woodland and 650m of the Llŷn Garreg-Lwyd Site of Special Scientific Interest

4.2 Geology

The bedrock geology at the site is recorded as “*Gwna Group - Schist. Metamorphic Bedrock formed approximately 508 to 635 million years ago in the Cambrian and Ediacaran Periods. Originally sedimentary rocks formed in deep seas by chaotic deposition from underwater gravity slide. Later altered by low-grade metamorphism. Formed in deep seas by chaotic deposition from underwater gravity slide. These rocks were first formed in the deep sea by chaotic deposition from underwater gravity slides, and then later metamorphosed, though there is evidence of their sedimentary origin*” (www.bgs.ac.uk).

Also recorded in the immediate vicinity of the site are “*Gwna Group – Metabasaltic-rock. Metamorphic Bedrock formed approximately 508 to 635 million years ago in the Cambrian and Ediacaran Periods. Originally igneous rocks formed by eruptions of silica-poor magma. Later altered by low-grade metamorphism. Originally igneous rocks formed by eruptions of silica-poor magma. These rocks were first formed by volcanic eruptions of silica-poor magma, and then later metamorphosed, though there is evidence of their igneous origin*”. A rocky outcrop is visible within the site boundaries (www.bgs.ac.uk).

The superficial geology of the site is not recorded.

5.0 Historical Background

The proposed development site is located within the parish of Llanfaethlu in the hundred of Tal y Bolion. The following description of the parish is taken from Samuel Lewis's 1833 work "*A Topographical Dictionary of Wales*" which although somewhat dated provides a basic introduction to the archaeology of the area.

"This parish, which is of very considerable extent, is pleasantly situated on a tract of rising ground above Holyhead Roads, and commands an extensive view over the Irish sea, by which it is bounded on the west. It is supposed to have been known at a very early period to the Romans, who are thought to have had a smelting place here, for the ore of the Parys mountain. This supposition is confirmed in some degree by the discovery of a cake of copper-ore, weighing fifty-four lb., and stamped with a mark resembling the Roman letter L, about the year 1757, and by the quantities of charcoal and scoria of copper which are frequently turned up by the plough in tilling the land upon the higher grounds. The surface is enclosed, and, with the exception only of a small proportion, in a good state of cultivation : the soil is in general fertile. The immediate neighbourhood is enlivened with some handsome seats. Within the parish is Carreg Llwyd, the ancient family mansion of the Griffiths, by whom it has been occupied for centuries : the grounds are extensive, and ornamented with well-grown timber; and within them is a lake of considerable size. Near this spot is a signal station, communicating with Holyhead on the west and Llanellian on the east, and forming a link in the chain of posts between Holyhead and Liverpool. Fullers' earth of very superior quality abounds in the parish, and the procuring of it would be attended with considerable advantage.

The living is a rectory, with the perpetual curacy of Llanvrog annexed, in the arch deaconry of Anglesey, and diocese of Bangor, rated in the king's books at £ 16. 17. 1., and in the patronage of the Bishop. The church, dedicated to St. Maethlu, and situated on a lofty eminence overlooking the Irish sea, is a spacious and handsome structure of modern erection ; and the interior, which is one of the neatest in the island, is ornamented with a good east window of three ogee-headed lights, embellished with modern stained glass : on the south side of the church are some ancient monuments to the memory of deceased members of the family of Griffith. There are places of worship for Calvinistic and Wesleyan Methodists. A charitable bequest of £ 38 was made to the poor by an unknown benefactor, besides which there are several smaller donations, the produce of which is annually distributed among the poor of the parish. The average annual expenditure for the maintenance of the poor is £ 212.9 (Lewis 1833: 115)".

A search of the Gwynedd Historic Environment Record database records 15 known sites of archaeological/historical interest within a 1000m search radius of the site. Of these results the majority of entries relate to sites of post-medieval or modern date, although there are earlier sites of significance very near the site boundaries.

The following section has been divided by period and where known the location of sites discussed are included as figure 4.

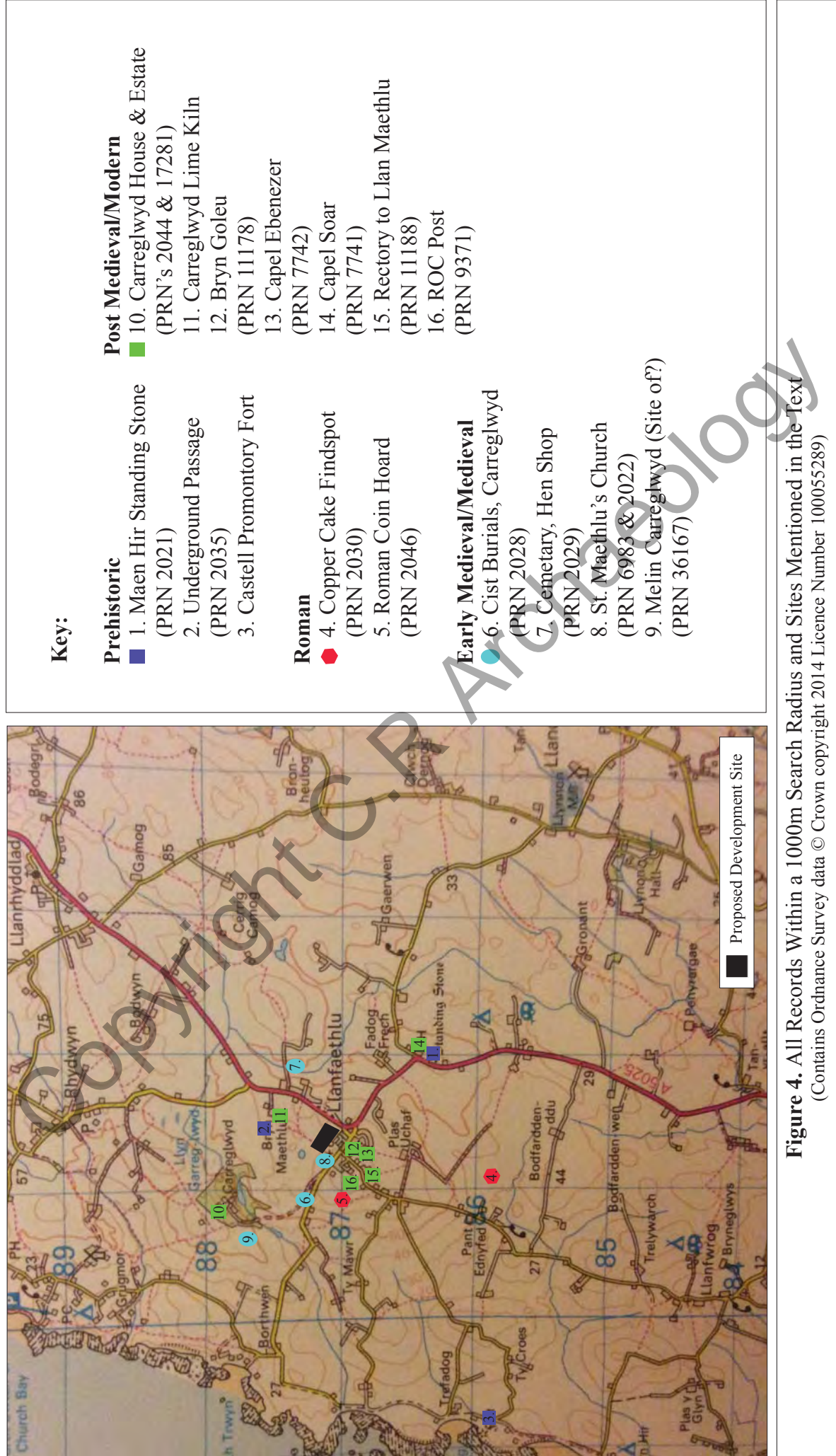


Figure 4. All Records Within a 1000m Search Radius and Sites Mentioned in the Text
(Contains Ordnance Survey data © Crown copyright 2014 Licence Number 100055289)

5.1 Prehistoric

There is a single site of Prehistoric date (in this instance Bronze Age) recorded within 1000m of the proposed development site. There is also a further site which could possibly be of Neolithic/Early Bronze Age date within the vicinity of the proposed development area.

Maen Hir, (also known as Llanfaethlu or Soar Standing Stone PRN 2021, NPRN 302298) is a schist standing stone located approximately 2/3 of a mile to the south-east of the proposed school site. A updated version of the original description is given as *“Llanfaethlu standing stone is a prominently sited erect monolith. It is a tapering slab, 3.1m high, 1.7m wide and 0.4m thick. The stone may be a prehistoric ritual monument, possibly Bronze Age, although more recent origins and more prosaic purposes are also possible”* (RCAHMW 1937: 68-69, www.map.coflein.gov.uk/).

The second site, PRN 2035, is an underground passage at Bryn Maethlu Farm. Although on the Gwynedd HER this site has been interpreted as an artificial fox earth by Frances Lynch there does remain the possibility that this site may be of prehistoric origin as was believed by it's excavators in 1894. The site is described as:

“A small cell with a passage leading from it, similar to that at Dindryfol, Anglesey. The following are the dimensions: diameter of cell, east to west, 3 ft. 1 inch; ditto north to south, 2 ft 10 ½ inches; depth 1 ft 9 inches; circumference 10 ft 3 inches. The cell is lined around with ten stones, varying in width from 7 to 19 inches. The length of the passage is about 10 ft, its width is 15 inches and its depth varies from 14 ½ to 18 inches. The width of the doorway is 16 ½ inches.

No cover was found over the cell, which was only a short distance below the surface. There are five stones on the north side of the passage, and seven on the south. The thickness of the stones is from 4 to 18 inches” (Griffith 1895: 232). A site plan and sketch were included in the article and are reproduced as figures 5 & 6.

The RCAHMW Inventory for Anglesey (RCAHMW 1937: 68-69) records a further significant site within the parish – Castell, a promontory fort on the coast near Trefadog (NPRN 9557, PRN 1, Scheduled Ancient Monument AN082) which is located approximately 1.2 miles to the south-west of the site). Excavations were carried out in 1984-5 which revealed that the site had a longer and more complex history than was initially anticipated. The monument was found to consist of a massive defensive bank and ditch on the landward side which enclosed an area of c.250m². In the sites later history it was reused and the foundations of a large 14th century house were uncovered within the enclosure, which was later used as a metal working site. Notable finds included a bronze fastener, metal working debris and a single sherd of samian pottery (Longley 1991).

5.2 Roman

As mentioned in the introduction to the history of the area, Llanfaethlu is known to be an area associated with Roman activity. Lewis records that *“It is supposed to have been known at a very early period to the Romans, who are thought to have had a smelting place here, for the ore of the Parys mountain. This supposition is confirmed in some degree by the discovery of a cake of copper-ore, weighing fifty-four lb., and stamped with a mark resembling the Roman letter L, about the year 1757, and by the quantities of charcoal and scoria of copper which are frequently turned up by the plough in tilling the land upon the higher grounds* (Lewis 1833: 115). The aforementioned copper cake is also mentioned by Prichard in his 1871 paper “Copper Cakes, etc., Castellor” (Pritchard 1871: 59) and by Pennant in his “Tours of Wales” (1883 Edition Vol II: 57) although neither source contains any additional information as to the exact location of the findspot. It is recorded in the HER as PRN 2030.

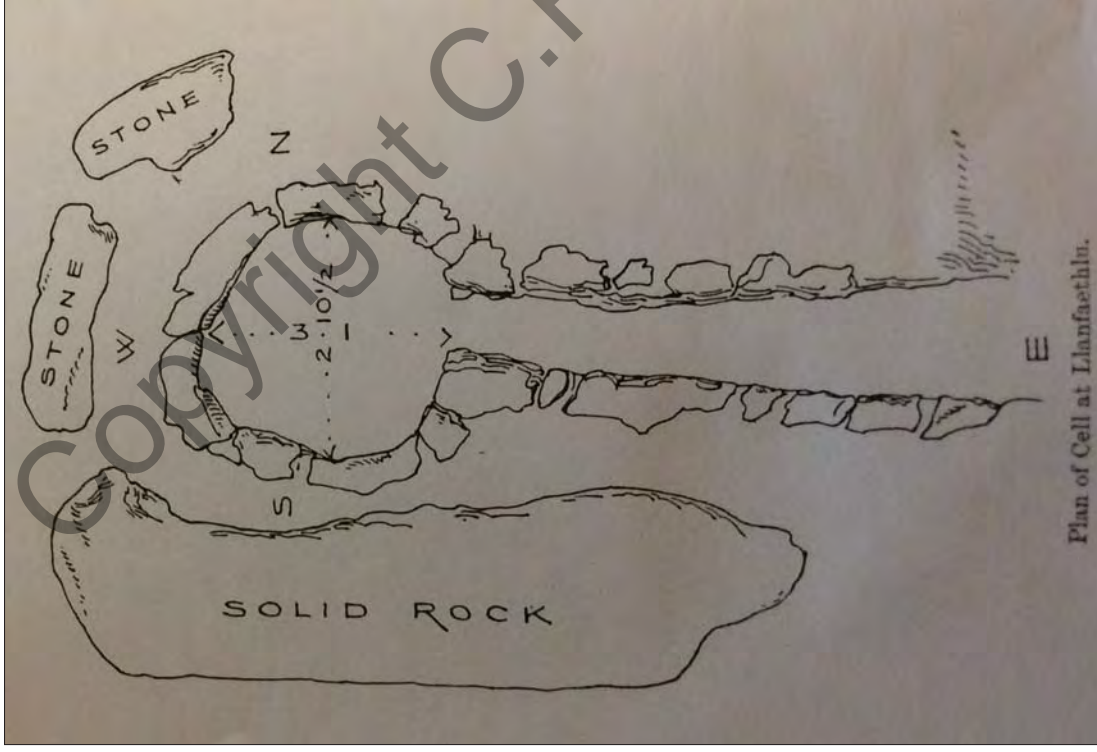


Figure 5. Plan of Cell at Llanfaethlu
(Source: Griffith 1895)



Figure 6. Sketch of Cell at Llanfaethlu
(Source: Griffith 1895)

The HER records a Roman coin hoard (PRN 2046) within the 1000m search radius of the site. The hoard was found in the 1870's during the excavation of house foundations in a field called "Parc Stryd". There were 39 coins in total – 32 dec., 1 sest., 6 dup. or Asses. Twenty of the coins were of Republican issue although the latest issue was of Domitian date. The Inventory of Roman British coin hoards therefore placed the deposition of the hoard within the reign of Domitian AD81-96 (Robertson 2000: 19).

5.3 Early Medieval/ Medieval

Two Early Medieval cist cemeteries have been discovered within 1000m of the proposed development site. The first (PRN 2028) was uncovered in 1860 when the remains of five skeletons were found whilst building a road to Carreglwyd. Contemporary sources described the remains as "much decayed". The HER entry details the inhumations as *"bodies stretched at full length, four about 4ft, one 5ft in height. Placed upon rough stones and surrounded by other stones in the form of a rude coffin or chest but apparently without any covering stones. Bones has mostly been reduced to dust. Graves sunk about 2ft in the clay below general surface of the field. From the appearance of the ground there had probably been a mound over the grave but it had been removed. Bodies orientated east/west and each corpse had a separate cist of rough stones - no grave goods were found"*.

The second site (PRN 2029) was excavated in 1894 following the discovery of a number of graves following the removal of a fence. An account of the site is given in an 1895 Archaeologia Cambrensis article. *"On a farm at Llanfaethlu, Anglesey, the property of Lady Reade of Carreglwyd, the tenant, on removing an old fence, found a number of graves. A small piece of ground was subsequently (in September 1894) cleared and four or five graves were uncovered. The lie almost due east and west, and are very near the surface. They are very narrow, and generally about 6 ft long, 1 ft 5 ins wide at the head, 8 ins wide at the foot and about 15 ins deep. The head foot and sides are lined with flat stones, and it was covered with similar stones; but the bottom is not lined with stones. Both sides of this grave are straight, but some of the other graves are coffin-shaped on one or both sides. All the graves uncovered are similarly lined and covered with flatstones, and have no stones on the bottom."*



Figure 7. Cist Graves at Hen Shop (Source: Griffith 1895: 229)

The tenant of the farm states that a number of other graves were found near the spot, but that he covered them up again, and that in ploughing in the adjoining field, to the north-east of the fence, he had often met with large stones at no great distance from the surface. A wall which the tenant has built instead of the old fence crosses the ground in which the stones lie.

The graves uncovered occupy a very small space of ground; but from the tenant's statement it would appear that the graves extend over an area of from half an acre to an acre. A piece of old oak had been found in one of the graves which had been covered up again; but in those uncovered by Lady Reade's instructions nothing whatever was found except the soil, which seemed to be as hard inside as it was outside the grave; and except in one of them, a large, smooth, dark-coloured stone. The stones used to line and cover the graves seem to have been brought from distances of from a quarter to a half a mile, similar stones having been quarried in the neighbouring farms of Bryn Maethlu and Cae'r Bryniau (Griffith 1895: 229 – 231).

There are two entries of Medieval date recorded in the HER. The first is St. Maethlu's Church (PRN's 2022 & 6983), the graveyard of which borders the proposed development site. The exact date of the foundation of this church is not clear but it is possible that part of the current building dates from 13th century, although the building was extensively restored in the 19th century. The church has a continuous nave and chancel, a southern porch and a modern separate chancel. The nave, chancel and south porch are of 15th century date. Two windows were inserted into the north wall of the nave in the early 17th century. The churchyard is rectangular in shape, with a stone boundary wall which was extended on the north-east side in 1875. The 1839 Tithe map shows a building associated with the church located within what is now the proposed development area.

St Maethlu's Church is a Grade II* Listed Building and the description for the site is as follows “*the church is listed in the Norwich taxation of 1254, but datable fabric appears to suggest that the nave of the present church is C15; the porch may be contemporary, with original stone bench seats, restored. The chancel was erected in 1874 with the C15 window from the original chancel re-set. There are C15 windows in the S wall of the nave, C17 windows in the N wall. The W bellcote may be original but has been reconstructed and has C19 dressings; 1760 bell.*

Entry to the church is via the SW porch, which has a weathered gritstone water stoup (a weathered quernstone) set into the N corner. The nave has a 3-bay roof, the two easternmost bays have coved ceiling; roof plastered throughout, with chamfered dividers. The chancel has a 2-bay roof, with exposed rafters and collared trusses with chamfered braces and collar (diamond detailing) down to wall posts on shaped corbels. The chancel is raised by one step and has a 2-centred pointed arch with chamfered angles. The sanctuary is raised by one step and has C18 communion rails with shaped balusters and square newel posts with chamfered angles. Altar dedicated to members of the Carpenter Holland Griffiths family; it is contemporary with, and similarly detailed to the C19 pulpit and fittings of the choir. The reredos of oak panelling, and associated tablet, form a memorial to members of the parish who lost their lives in WW1.

The pulpit and other late C19 fittings have shaped rails with floriate bosses; panels with quatrefoil and Celtic spiral decoration. At the E end of the nave is the Griffith box pew: a panelled box pew incorporating parts of older pews and seats. The main part of the seat back bears the Griffiths family crest and Latin motto, with the initials W G and the date 1635. Above the seat back is a similarly detailed piece with moulded dividers, flanked by foliate scrolls; the whole is surmounted by a dentilled frieze with acorn finials. There is a similar fragment of seat back over the nave NE window. At the W end of the nave is an octagonal pulpit with the inscription: THE GIFT/ OF RICH:/ GRIFFITHS/ GEN/ 1640 on the facing panel.

Church has a fine series of monuments: along the N wall of the nave are a number of C18 and C19 marble memorials including, at the W end, a finely detailed memorial to William Griffith of Carreglwyd d 1718, and John Griffiths also of Carreglwyd d 1792; also his daughter Elizabeth Trygarn d 1799. The memorial tablet is set between fluted pilasters supporting an entablature surmounted by the family crests; the tablet to Elizabeth set below, above paired cherubs heads on wings. Marble memorial to Holland Griffith esq., d 1839, and his wife Eliza, d 1828; bronze memorial tablet inscribed in Latin to Guilemus Griffith, d 1587. Along the N wall of the chancel are more late C19 marble memorials, including the Reade family memorial; flanking paired pillars with stiff-leafed capitals support a shaped arch bearing the family crest.

The S wall of the nave bears a number of C18 and C19 bronze and marble memorial tablets including: a marble memorial tablet to William Vickers of Llanfawr d 1792, and his wife Mary d 1771. This is surmounted by a pyramidal obelisk inset with an oval plaque bearing a romantic depiction of a small boy. Towards the W end of the wall is an early C18 memorial, much weathered, with a cherubs head set over a marble memorial plaque within draped surround.

Simple late medieval church. Perpendicular nave of 3 bays with W gable bellcote and SW gabled porch; shorter, narrower chancel added, and in Decorated style. Built of local rubble masonry with freestone dressings; modern graded slate roof with slate ridge and stone copings. The nave has offset angled buttresses at the E end; chancel with plinth along lateral walls raised as stepped dripcourse at E end. Single gabled bellcote at W end, the E gables with weathered trefoil finials. Entry to the church is through the SW porch: pointed Nave windows largely rectangular, though one arched window to W; a mix of square, round or trefoil-headed lights of single or paired lights. The chancel has an E window of 3 cinquefoil-headed lights and cusped tracery in a pointed-arched frame with hoodmould. The S wall has a single round headed light and there is a rectangular doorway in the N wall” (www.britishlistedbuildings.co.uk).

The second Medieval era site from within the 1000m search radius is the possible site of a mill – Melin Carreglwyd. The existence of this feature has not been possible to verify and it is not recorded on historic maps. The classification for Melin Carreglwyd is given as “Folklore” and therefore little further can be said of this feature.

5.4 Post-Medieval/ Modern

The remaining sites within the 1000m search radius are of Post-Medieval/modern date. By far the most significant of these sites are Carreglwyd House and grounds (PRN 2044 & 17281). The limits of the essential setting for the Carreglwyd park boundary is the north-western boundary of the proposed development site. We have been informed by the current estate owner that the proposed development site has been part of the Carreglwyd Estate since at least 1634, possibly earlier.

The current Carreglwyd House is a Grade II* Georgian manor house set in wooded grounds. “*The house is stuccoed with a slate roof and brick chimney stacks and has a symmetrical main (south-east) façade with central door and three tall sash windows either side; the first floor has seven similar, slightly smaller windows, and there are five attic dormers*” (Cadw 1998: 11). There are further listed buildings associated with the Carreglwyd estate including the dovecote, laundry, sundial and stables. As these are not of direct relevance to the proposed development, other than through their group value with the house and parklands, they will not be discussed individually. There is however a lime kiln associated with the estate, and given it's proximity to the proposed development and the presence of a quarry onsite this will be treated separately below.

The estate has been in the same family since at least the seventeenth century, and a house was in existence at this location in the sixteenth century. It was replaced by a second house in 1634, built by Dr William Griffith. When the heir to the estate, John Griffith, married Mary Trygan in 1755 the

estate became joined to those of the Trygans and Hollands of Plas Berw. Mary outlived her husband by over twenty years and she made major alterations to Carreglwyd and the present appearance of the house is largely due to her remodelling. The house passed via the childless great-granddaughter of Mary to her cousins the Carpenters, and the fourth generation of this family are currently in possession of the estate (Cadw 1998: 11).

The description of the park reproduced below is taken from the Cadw register of parks and gardens in Wales. *“The wooded gardens and grounds of the house are surrounded by the open grazed enclosures of the park. To the north-east is Llŷn Garreg-lwyd, a former lake which has long been silting up and is now an area of marshland which has been designated an Area of Special Scientific Interest. It is difficult to divide the site into garden, park and farmland. The woodland around the house is all walled in with the garden, and some of it, particularly the area to the north-west, either side of the kitchen garden, contains garden features, such as the remains of a summer house. Other areas within the wall have much more the character of park woodlands – Bryn Covert, east of the house, was clearly a shooting covert, and Mount Pleasant, north-east of the house, is within the wall but also walled off from the neighbouring woodland and sits more happily with the park.*

The main approach, from the south, is across the largest enclosure which, although it has few trees, is undoubtedly parkland; other areas to the north and north-west have a similar character. Other enclosures, however, appear to be ordinary pasture fields, and it seems likely either that a large surrounding par was never laid out, or that it has been broken up into farmland for a long time. There is certainly nothing on maps going back into the last century to indicate a layout substantially different from today's” (Cadw 1998: 11).

The aforementioned limekiln is Grade II Listed (ID 24792) as a good example of an intact 18th century limekiln. It is described as *“Pyramidal limekiln of rubble masonry construction. Triangular; stone lined openings in NE and SW sides; brick oven in that to NE”* (www.britishlistedbuildings.co.uk). Of interest in relation to this structure are the old quarry sites marked on the First and subsequent edition Ordnance Survey maps and the small quarry site identified on the proposed development site. This structure and associated quarries are located in the field immediately adjacent to the proposed development site.

Bryn Goleu (PRN 11178) is located within the village of Llanfaethlu, it is described as being of early 19th century date with later alterations. It is a 2 storey Post Office of rubble stone construction. It has an old slate roof and exposed joists. The windows are sash with small panes. The building has a glazed porch (www.coflein.gov.uk).

Three of the remaining post medieval structures within the vicinity of the site are either places of worship or structures related to places of worship. Capel Ebenezer (PRN 7742) is a Grade II listed building and the current chapel (ID 24793) was built and opened in 1908. The associated chapel house was finished 2 years later. It was the third Methodist Chapels to have been built on this site. The first of which was erected in 1836 and formally opened in 1843. It was rebuilt in 1878, and this second incarnation was superseded by the present building 30 years later. In addition to the chapel and chapel house associated outbuildings and gateposts/railings are also listed (ID 24804 & 24803) and the range is considered to have a strong group value (www.britishlistedbuildings.co.uk).

Capel Soar (PRN 7741) is a Baptist chapel in Llanfaethlu. As with Ebenezer the current building is the latest of a sequence of buildings and the first chapel to occupy the site was built in 1821. This chapel was rebuilt in 1836 before the current building was erected in 1903 (www.coflein.gov.uk).

The final structure with religious associations is the rectory associated with the Llanfaethlu parish church (PRN 11188). The structure is a Grade II Listed Building (ID 5302) and was “*built c.1830 as rectory to the Church of St Maethlu. The distinctive formality of its design suggests derivation from a pattern book. The house formerly had single pitched wings to either side; the servants wing to the left (NE) formerly with staircase, now removed. The house has had some alterations, with some doorways blocked to form a slightly different ground plan; alterations of 1960's include the inclusion of a garage door to the left (NE) return and a modern window to the right (SW) return. The house no longer serves as the rectory and has been a private home since its sale by the Church in the late twentieth century*” (www.britishlistedbuildings.co.uk).

The final post medieval structure located within the 1000m search radius dates from the Cold War era. The Royal Observer Corps (ROC) built an underground monitoring post at Llanfaethlu which opened in 1959 and was closed in 1981 (PRN 9371). It formed an element of Britain's defence against nuclear attack during this period.

5.5 Cartographic Evidence

Archive research identified a number of historic maps which show the proposed development site. These range in date from 1800 – 1949 and show that although the plot has remained unchanged since at least 1887 there are earlier interior divisions within the plot.

5.5.1 Estate Map (Figure 8)

A single estate map showing the proposed development site was sourced which is dated to 1801. The document is entitled “A Survey of Carreglwyd and Berw Estates” (Source: Bangor University M55 Bangor 7043). This map can be seen to be somewhat inaccurate (for example Hen Siop is located further north in reality) and although we can be relatively certain that the fields identified as occupying the proposed development site are correctly located, the shape of this plot of land and their exact positioning is somewhat difficult to be certain of. What this document does however clearly show is that the current field boundaries have changed over time, and that it was once subdivided into four plots, and it appears that the north-western boundary has been relocated. There is a “kink” shown in the northern boundary where fields 24 and 20 meet, although it is again uncertain as to whether this is a drawing error.

5.5.2 Tithe Map 1839 (Figure 9)

The 1839 Tithe Map shows that the majority of the field boundaries of the proposed plot are those which are currently surviving. There is a single division across the field which has been removed by the time of the First Edition Ordnance Survey Map. The eastern area of site is part of a larger field which has a frontage along the road. This map shows a small building associated with the church located in the north-western corner of the development field. This was evident on site as a raised area.

5.5.3 Ordnance Survey Maps 1888-1949 (Figure 10 - 13)

By the time of the First Edition Ordnance Survey (surveyed 1887, published 1888) the field layout is as is seen today, the north-south field boundary has been removed and the frontage along the road has been divided in the current position. There is very little change between the various map editions, and the main change is the removal of the small building in the north-western corner of the field between the first and second map editions. The location of this building remains evident by a small kink in the field boundary.



Figure 8. 1801 Survey of Carreglwyd & Berw Estates
(Source: Bangor University Archives M55 Bangor 7043)

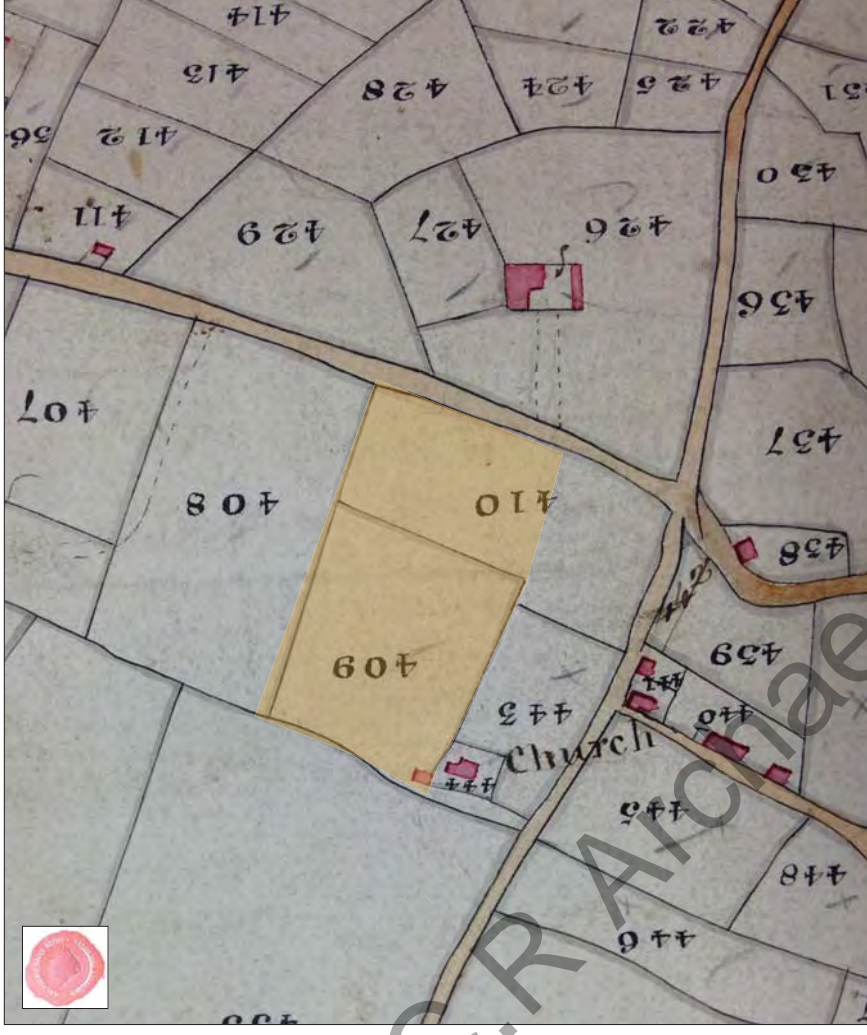


Figure 9. 1839 Tithe Map Showing Proposed Development Area
(Source: Anglesey Archives)

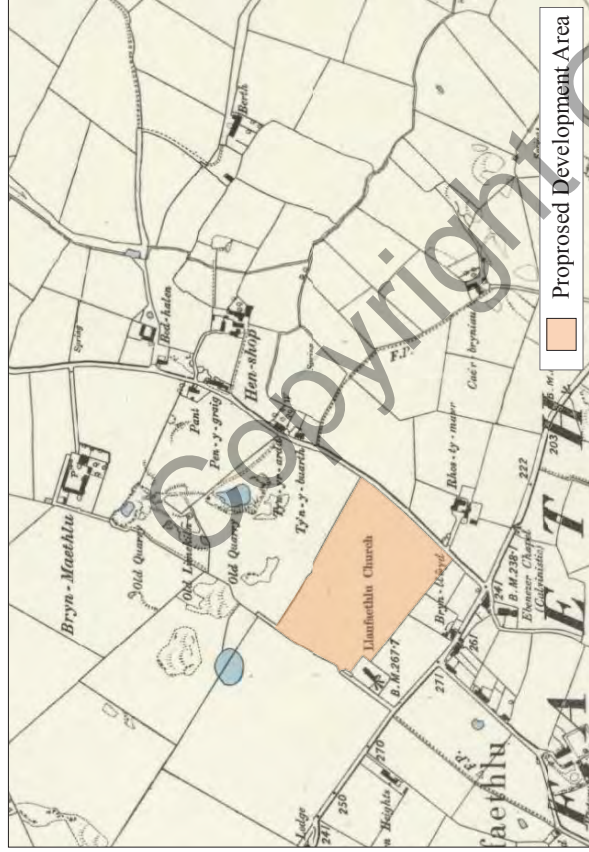


Figure 10. Ordnance Survey Map
Surveyed 1887, Published 1888



Figure 11. Ordnance Survey Map
Revised 1899, Published 1901

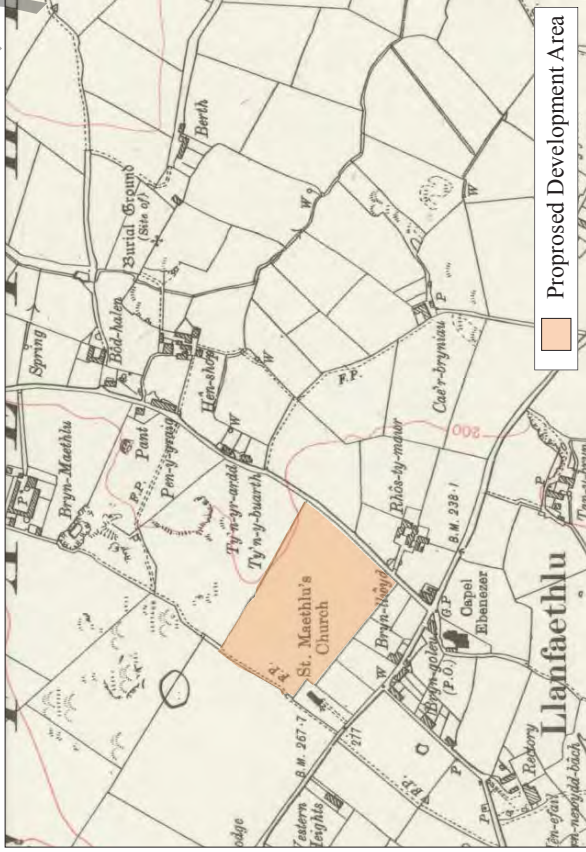


Figure 12. Ordnance Survey Map
Revised 1916, Published 1926

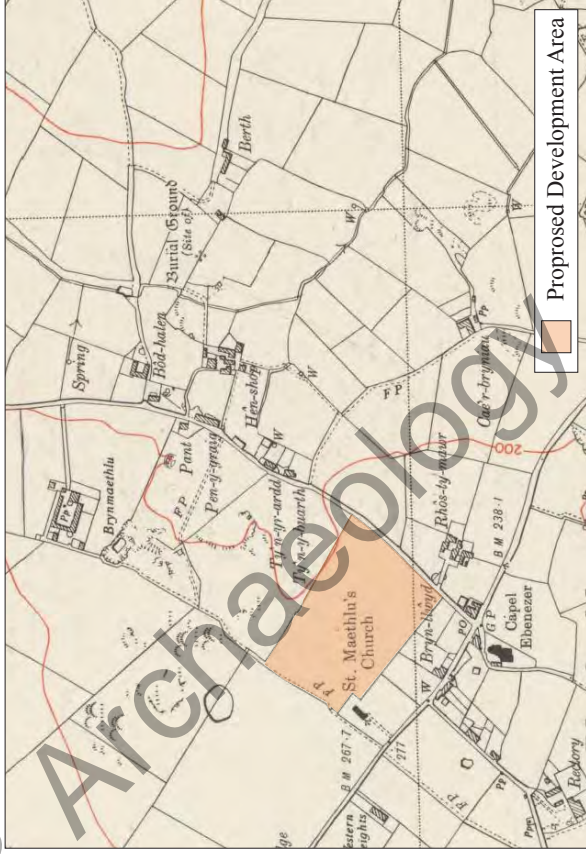


Figure 13. Ordnance Survey Map
Revised 1949, Published 1953

6.0 Results of Archaeological Works

The following section has been divided between the separate activities on site. The description of any factors which may have an effect on the results of the geophysical survey are included in Section 6.2.

6.1 Results of Walkover Survey (Plates 1-8 & Appendix B)

The survey area comprised a broadly rectangular plot covering c. 3.6 hectares.

The site sloped from west to east, with the angle of slope increasing in the northwestern and western quadrants of the field. The site is currently in use as improved pasture for grazing. A public footpath crosses the northwestern end of the site on a southwest-northeast orientation.

In the northwestern corner of the field was a raised, rubble area against the stone church boundary wall (see plate 2) which was presumably related to a building previously shown in this area.

There was a limestone outcrop which showed signs of having been quarried located in the north-east of the field (plates 5-7). Above ground this outcrop was about 2m in height with an approximate width of 6m. The geophysical survey did however indicate that a large proportion of this outcrop is below ground and that it covers a much larger area. This feature is believed to be of post medieval date and is likely to be associated with the Bryn Maethlu farm quarries and limekiln located in the adjacent fields.

6.2 Results of Geophysical Survey

6.2.1. Site Description and Topography

The survey area comprised a broadly rectangular plot covering c. 3.6 hectares.

The site sloped from west to east, with the angle of slope increasing in the northwestern and western quadrants of the field. The site's current use at the time of survey comprised improved pasture for grazing.

Weather conditions were mainly dry and cold, although there was some fluctuation in temperature, which is typical for the time of year in which the survey was carried out. This may have had a slight effect on the function of the gradiometer(s), which are susceptible to changes in temperature. Light to heavy rain showers occurred at occasional intervals during the survey.

Crossing the site was an overhead power line, located running along the northeastern boundary of the site. Further powerlines existed in close proximity to the northwestern and southeastern boundaries of the site, and a mobile phone mast was located just beyond the southwestern corner of the plot. Power lines cause problems for magnetic surveys as the alternating current flow (under differing loads) causes fluctuations in the magnetic field around them. The full effects of these power lines on the survey are not entirely clear, although they do appear to have affected the clarity of the results along the northeastern boundary, potentially masking subtle features, and overpowering the response from those features which were located. No underground services are known on the site but the likelihood of land drains being present is quite high.

All sides of the field were surrounded by metal wire fencing. The proximity of the fences to the survey grid caused the area that could be effectively surveyed to be reduced to just slightly less than 2.78 hectares.

A public footpath crossed the northwestern end of the site on a southwest-northeast orientation.



Plate 1. St. Maethlu's Church - Taken from
Proposed Development Site



Plate 2. St. Maethlu's Church Boundary Wall and Raised Area
In Proposed Development Site - Shown as Building on Tithe Map



Plate 3. View of Development Site
(Taken from North-western Corner)



Plate 4. View of Development Site
(Taken from North-western Corner)



Plate 5. St. Maethlu's Church and Quarry Within Proposed Development Area



Plate 6. Quarry Within Proposed Development Area



Plate 7. Quarry Within Proposed Development Area



Plate 8. Proposed Development Area
Taken from Quarry Site

6.2.2 Equipment and Set-up

The survey was undertaken using a Bartington Instruments Grad601 fluxgate gradiometer, with dual gradiometer set-up. This comprises of two Grad-01-1000L cylindrical gradiometer sensors mounted on a rigid carrying bar, with a 1m separation.

The survey settings for the gradiometer were as follows:

- Sensitivity: 0.1nT
- Sample Interval: 0.25m
- Traverse Width: 1m
- Traverse Method: Zigzag
- Grid Square Size: 20 x 20m

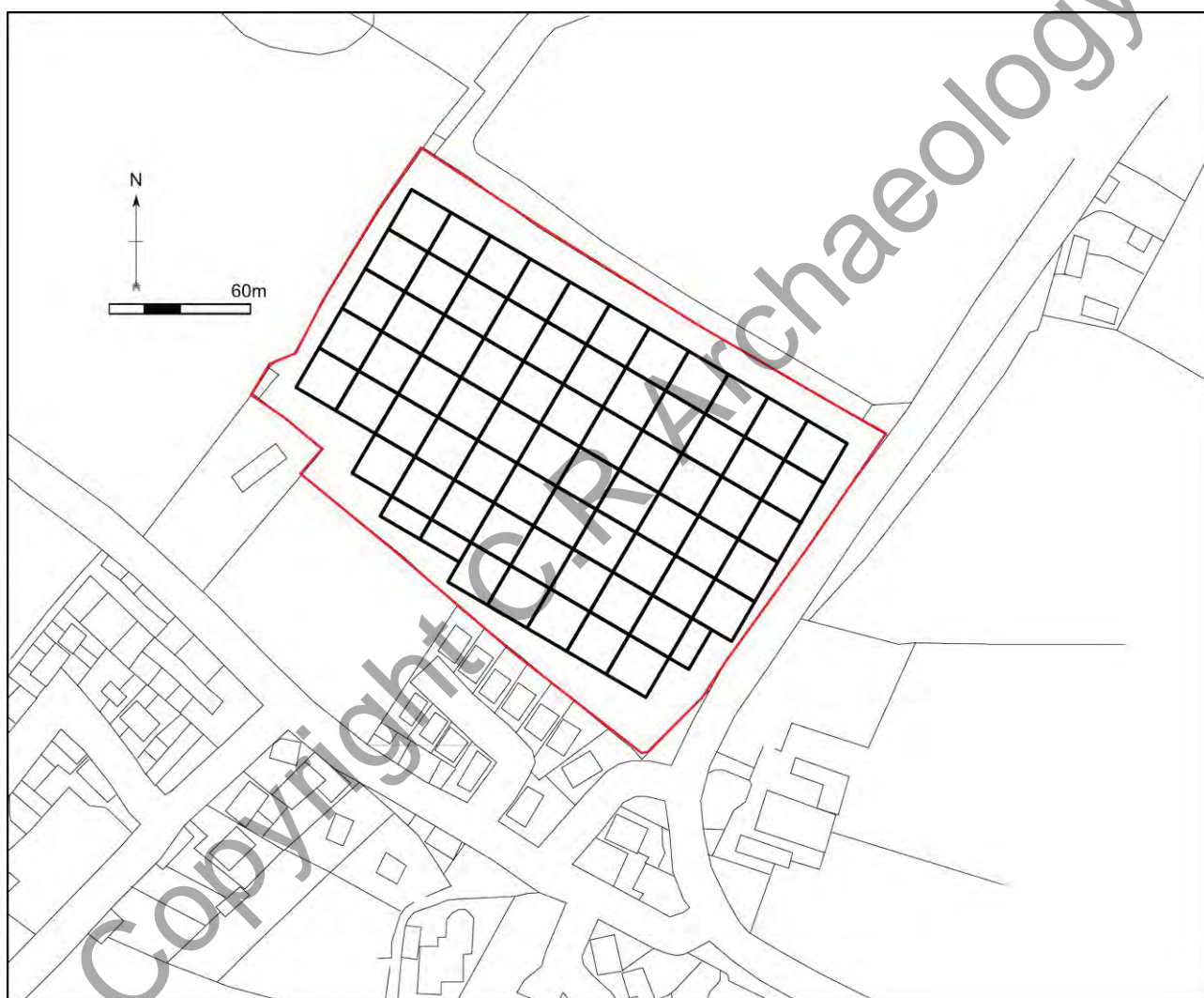


Figure 14. Survey Grid Arrangement (Approximate Boundary of Site Highlighted in Red)

A survey grid was established (figure 14) over the site location, orientated to provide a best possible fit to the area to be surveyed. The orientation of the grids was approximately NE to SW, which while not ideal for surveying accuracy¹ was perceived to be the best layout of grids to fit the site footprint. The survey area was limited by wire fences surrounding the site.

1. Surveying is best carried out with the magnetometer grid orientated to allow walking in a N – S orientation, to reduce problems with gradiometer alignment.

To minimise the effects of the slope of the ground level on the site on the dual gradiometer and allow as great an area to be as easily surveyed as possible, grids were walked in an SW – NE orientation. Grids were walked using a zig-zag method, for maximum speed.

Given the proximity of the power cables and fencing to most parts of the site, locating a suitable point to zero and calibrate the magnetometer was problematic. A zero point was eventually chosen within the survey grid in the southeastern side of grid square 3, which appeared to be the part of the site least disturbed by modern service activity.

6.2.3 Software and Survey Processing

Archaeosurveyor was used to download and manipulate the geophysical data. Data was downloaded to a portable computer during each rest period for the course of the day, to ensure data integrity and check ongoing results.

Minimal data processing was undertaken on the survey results in accordance with best practise. The following image processing filters were applied to the data produced during the survey.

- A single de-stripping filter was run over the results to remove slight striping created from running the dual gradiometer over sloping ground.
- The image was clipped to $\pm 1\text{nT}$ to enhance low magnitude anomalies.

A processed greyscale plot (both georeferenced and standalone) and an abstract 'interpretational' plot form the main 'display' of the geophysical survey results within this document. The plot was overlain on mapping data using QGIS software.

6.2.4 Results

This section details the results of the survey with reference numbers referring to the 'Survey Results Plot' (figure 15). Locations of the features on mapping and an interpretation plot can be found in figures 16 & .

The survey results seem to suggest the presence of a series of NNW to SEE and EEN to WWS orientated linear features, present across most of the field.

1. Approximately E – W aligned linear feature comprising of two distinct parallel positive magnetic and negative responses over most of its course. The width of this feature at c. 5m, and presence of linear parallel responses suggests it could well be a trackway, possibly a holloway with some banking material on outer edges.
2. Area of increased magnetic response associated with positive linear features and discrete positive features (possibly pits). It is feasible, given the nature of the readings, that this area, which lies to the immediate north of the church may be exhibiting some background magnetic responses from underlying geology. This is particularly the case for several irregular responses along the northeastern boundary of the site. However, the presence of several distinct linear features curving round the area and the nearby graveyard – which appears to have been subject to some alteration during the Victorian era, may indicate the response is of some significance. Notably several of the positive responses are on the same alignment as the church itself and there is an intriguing weak positive sub-rectangular response lying within these.
3. The rock outcrop, probably a former quarry, produced a strong dipolar response over its area

4. Sub-rectangular area of increased magnetic response. The location of this response is on a moderate sloping area of the site, which would seem to decrease the likelihood of this being structural, however, the possibility of this being a building of some kind, especially given its relationship to possible trackway (1) and a further possible trackway to its south, should not be ruled out.
5. Broad northwest to southeast aligned positive linear truncated by trackway (7) and possible bank (11). Lying to the north of this feature are possible small discrete positive anomalies which may represent pits or post holes.
6. Area containing sub-rectangular positive linear responses appearing to form part of a relic field system or enclosure. The linear features within this area appear to be truncated or overlain by most of the other responses in this area, suggesting they form part of the earliest phase of activity on the site.
7. Approximately N – S orientated positive linear feature. Again the width of this feature is suggestive of a trackway, possibly further confirmed by a 'Y' shaped split at its northern end as it reaches the quarry/ stone outcrop (3).
8. Wide positive N – S response with increasing width at northern end. Appears to partially mirror the form of feature (7) and is likely to be of contemporary date. Appears to continue in negative response (12). Truncated or overlain by trackway feature (1).
9. Masked partially by its location and the destriping filter on the processed plot, and running approximately NE – SW on alignment with the survey walking regime is a weak positive linear response that appears to align with the approximate location of a boundary on the earliest estate mapping of the site (see Appendix A for an image of this map overlain on the survey results). A linear also appearing on this early mapping appears to cross the route of this feature on a NW – SE alignment.
10. Around point 10 is a strong dipolar response, which possibly relates to natural geological activity, given its similarity to the nearby quarry/ stone outcrop (3), or possibly interference from the power-lines located immediately north of this area. However, it is notable that both a potential curvilinear and linear response are visible in this area, possibly indicating an anthropomorphic origin.
11. NE to SW aligned negative linear, likely to be a bank, which appears to overlay, and therefore post-date, feature (5).
12. Curving negative linear response appearing to form a continuation of feature (8). Given the magnetic nature of this response it seems more likely that the feature may be a bank, rather than a cut feature.

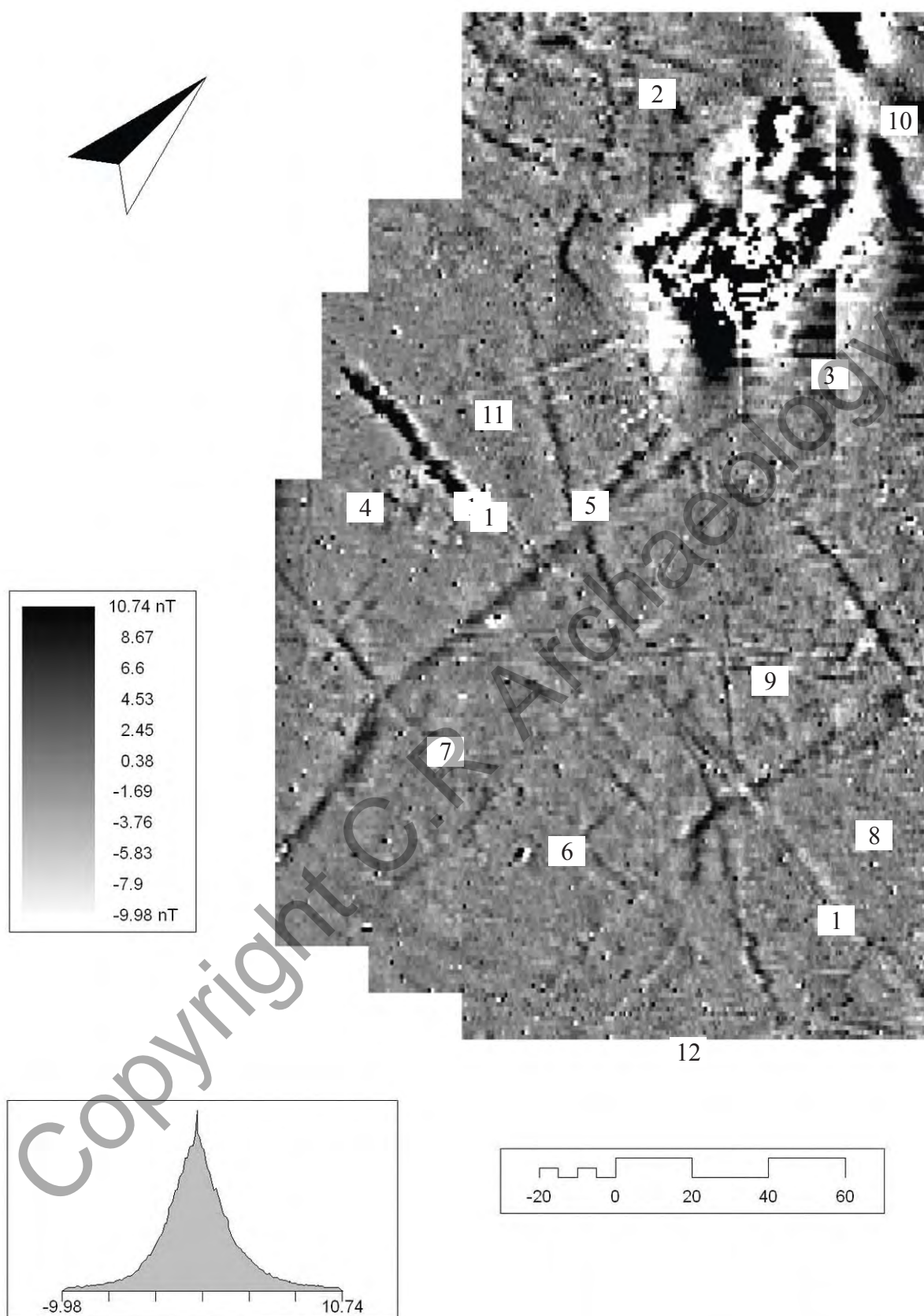
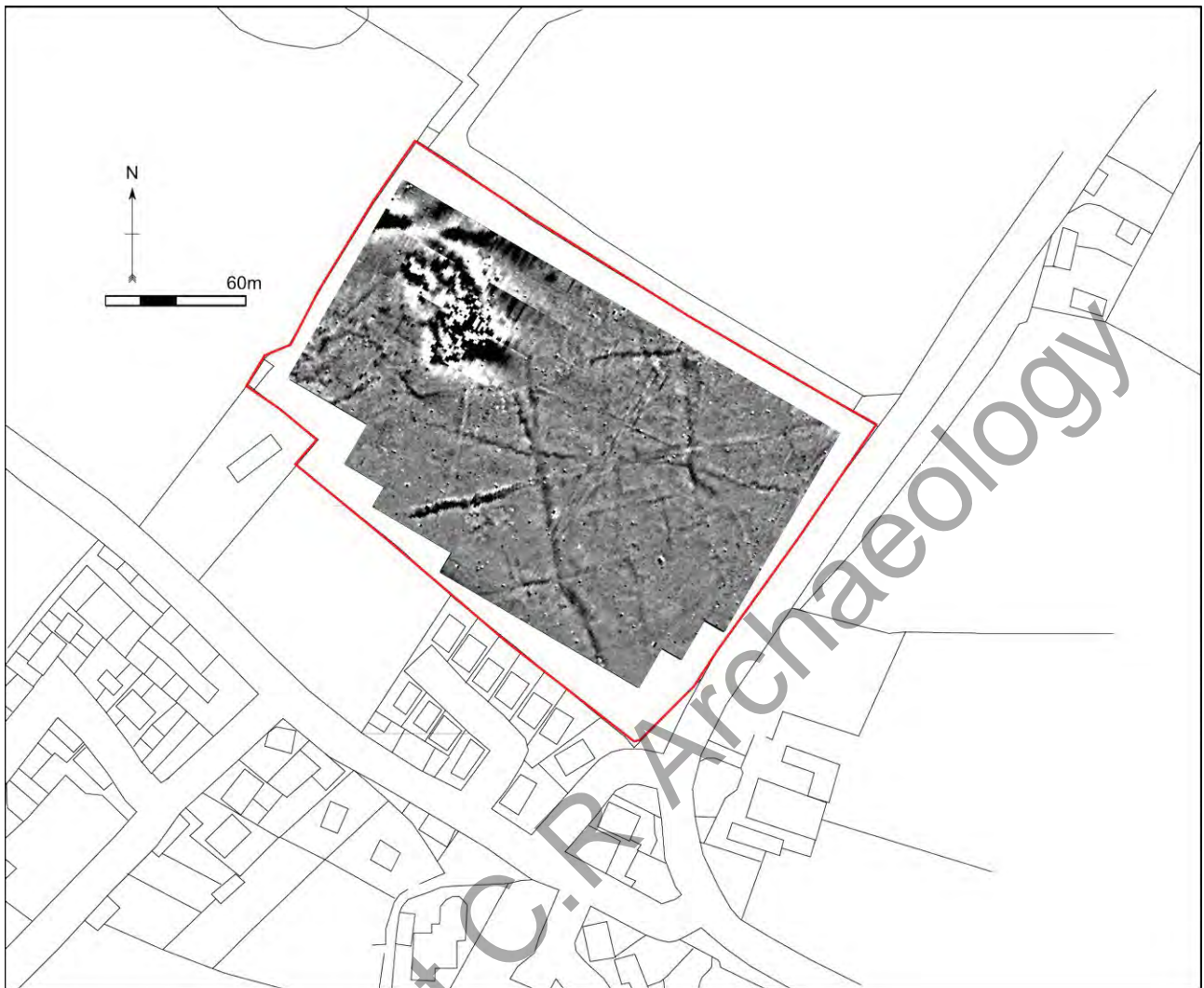


Figure 15. Survey Results. Numbers Refer to Text Above

Figure 16. Survey Results Overlain on Mapping



6.2.5 Assessment of Survey Quality

Given the potential impact of power lines on the survey, the results appear to be representative of the magnetic anomalies present on the site. The only potential error in the dataset is in the northwest corner of the site, where power-lines appear to have had some effect on the survey results. Minor striping was visible in the raw survey results, the result of calibrating the dual gradiometer on sloping ground – each gradiometer being at a slightly different height as the machine is calibrated.

6.2.6 Conclusions

The results reveal a complex array of early field systems, with at least two visible phases, as well as a series of probable trackways or holloways, criss-crossing the site. Many of the features present follow a broadly N/ NNW to S/SSE alignment or right angles to this, and therefore form a layout that appears markedly different to the current layout of roads and houses immediately adjacent to the site. This layout appears to pre-date the earliest known mapping of the site from 1801, although a word of caution about this maps accuracy should be noted. Indeed it is notable that, although the alignment is wrong, the lines defined by features (7) and (8) share some similarity to the field system depicted on the estate map. The area to the north of the church offers intriguing possibilities for further investigation, as does the rectangular response to the east (4).

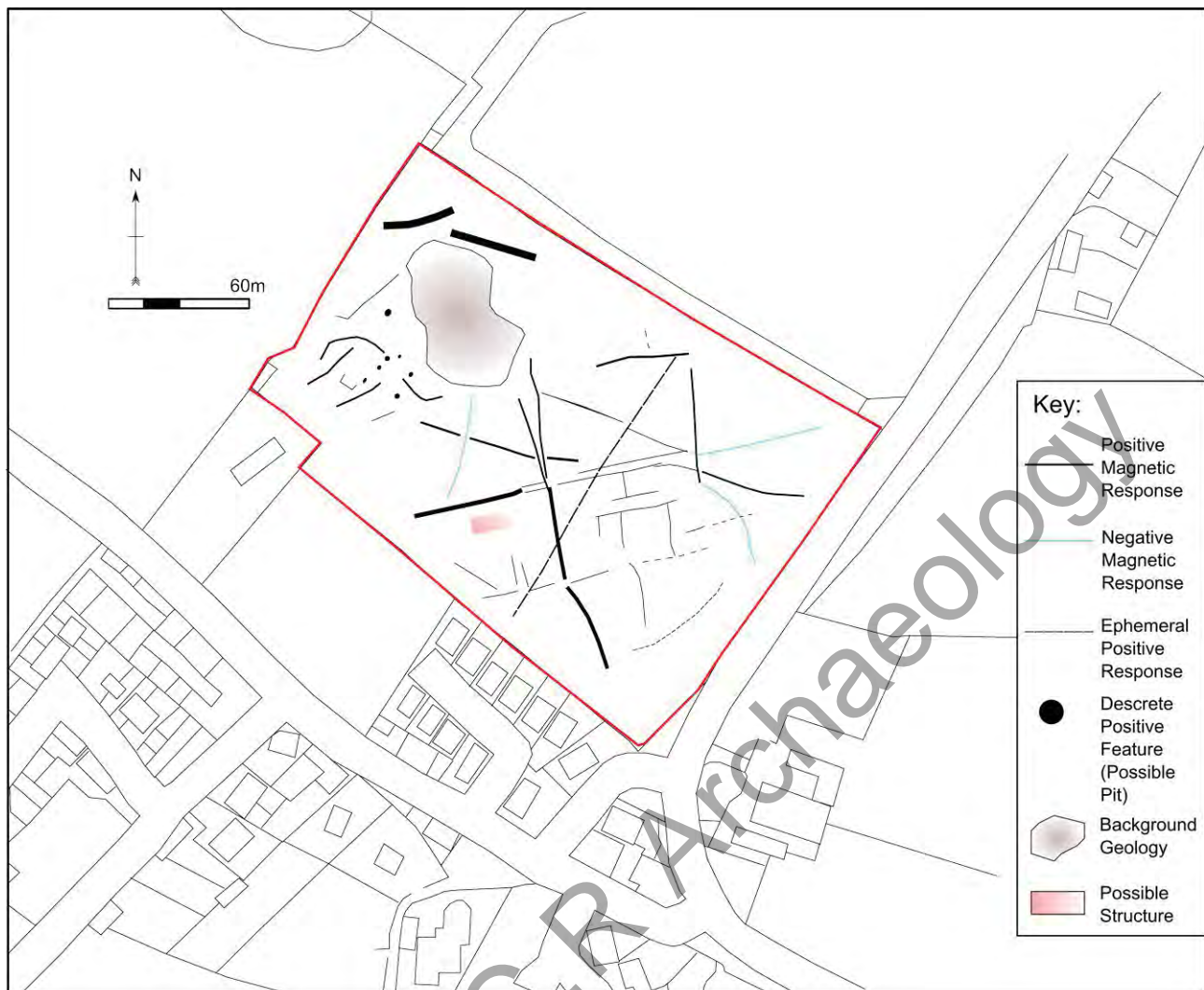


Figure 17. Abstract Interpretational Plot of Feature Locations

7.0 Discussion of Archaeological Potential

The following section discusses the potential for archaeological remains from different time periods. It considers the results of the archaeological and historical background research and integrates this with the results of the geophysical survey. The potential for archaeological remains is discussed chronologically.

7.1.1 Potential for Prehistoric Remains

There is no securely dated evidence for Neolithic or Bronze Age activity within the search area examined and the archaeological remains identified are listed as only possibly being of these dates. There is however an area to the north-west of the proposed development site which may possibly represent a pit group which may be of Neolithic/Bronze Age but there is no conclusive evidence to support this theory.

Based on the available evidence the potential for remains from the Neolithic period within the development area is considered to be low-moderate. The significance of remains from this period is considered to be low when considering isolated finds but high should any structural evidence or working/occupation areas be identified.

There are no remains of an Iron Age date noted within the 1000m search area, although there is a promontory fort located on the coast. The possible field system identified through the geophysical survey may be of Roman/Late Iron Age date and similar settlements have been identified gradiometer similar survey at Tai Cochion and Rhuddgaer in southern Anglesey.

Based on the available evidence the potential for remains from this period within this area is considered to be moderate - high. The significance of remains from this period is considered to be high as the nature of inland settlement/farming and the interaction between the local indigenous population and Roman incomers is little understood in the area.

7.1.2 Potential for Romano Remains

Llanfaethlu and the surrounding area has been highlighted as an area of Roman activity since the late eighteenth century and there is believed to be copper smelting within the parish. A Roman copper cake and coin hoard have been found within a 1000m search radius of the proposed development site.

The possible field system identified through the geophysical survey may be of Roman/Late Iron Age date and similar settlements have been identified gradiometer similar survey at Tai Cochion and Rhuddgaer in southern Anglesey.

Based on the available evidence the potential for remains from this period within this area is considered to be high. The significance of remains from this period is considered to be high as the nature of Roman activity and the interaction between the local indigenous population and Roman incomers is little understood in the area.

7.1.3 Potential for Medieval Remains

There is strong evidence for Early Medieval/Medieval activity in this area. This includes two Early Medieval cist cemeteries which are located within the 1000m search radius. The Medieval parish church is located immediately adjacent to the sites north-western field boundary.

Based on the available evidence the potential for remains from the Medieval period within the development area is considered to be very high and the significance of such remains is considered to be high. This is in part due to the lack of modern archaeological investigation and secure dating of such sites in this area.

7.1.4 Potential for Post-Medieval Remains

There are known to be numerous remains of Post-Medieval date located both within the 1000m search radius and within the site itself. Cartographic evidence shows field boundaries within the field which have since been removed, although they are believed to have been identified through geophysical survey. The small quarry within the field is also believed to be of this date, as is the small building associated with the church in the north-western corner of the field.

The potential for remains from this period is considered to be high and the significance of such remains is considered to be low.

7.2 The Significance of the Development Site

Based upon the results of the historical research and the geophysical survey, the archaeological potential of the development area is considered to be high and should remains be encountered then the significance of these sites is also considered to be high. To date there has been relatively little modern excavation in this area and there are no radiocarbon dates or securely stratified artefact assemblages on which to base a solid chronology for site developments.

Provided mitigation is put in place prior to the commencement of works this development offers the opportunity to undertake systematic work on any sites encountered with a strong emphasis on gathering datable material which would significantly enhance our corpus of knowledge of the area in various periods.

7.3 The Impact of the Development on Known Designated Monuments/Sites

There are two designated sites which have been highlighted as potentially being adversely affected by the proposed development. The first is the Grade II* Listed St. Maethlu's Parish Church, which backs onto the site. Given the close proximity of the development site to the church it will certainly have a visual impact on the setting. This is however in a large part mitigated by the proposed single storey design of the school building which will limit the intrusiveness of the new structure. The church itself is on a raised plot of land and is therefore elevated above the development site, which also serves to reduce the direct visual impact.

The setting of the church itself has changed dramatically since the production of the 1801 Carreglwyd Estate Map with buildings being erected to the front and side of the structure. It has however maintained its largely rural feel, due in part to the relatively low density of surrounding housing. The placement of the school on an area of agricultural land does not however significantly compromise this sense of openness as the siting of the school building in the centre of the plot will provide a clear space between the church and the new development. The low lying design will continue to allow visitors to have extensive views over the remaining farmlands and the overall vista and setting is not significantly compromised.

The second site is Carreglwyd Historic Park. The site has been evaluated at Grade II* and in addition to the designated garden areas there are a number of Grade II* (house) and II (laundry, stables, garden wall and old telegraph station) Listed Buildings within the historic estate. The site location and essential setting are shown in figure 18. This document shows that the proposed development lies outside the essential setting, and the significant views from the site either face away from the proposed development or are screened from view by the woodlands surrounding the house. As discussed above the placement of the school on an area of agricultural land does not significantly compromise this sense of rural openness and the low lying design will continue to allow visitors to have extensive views over the remaining farmlands and the overall vista and setting is not significantly compromised.

7.4 Potential Mitigation/ Further Evaluation Strategies

As stated in the "Specification for Archaeological Works" methodologies to mitigate the impact of the proposed works have been explored. This section applies to the direct physical impact the scheme may have on unknown below ground remains.

Given that there are a number of known sites in the immediate vicinity of the development and that the DBA identified this as a potentially favourable location for remains of Prehistoric, Roman, Early Medieval and Medieval date, it is considered to be an area of significant archaeological potential. This hypothesis has been supported by the results of the geophysical survey which revealed an extensive system of field boundaries and track ways. Any remains of Medieval or earlier date would be considered to be significant particularly as it will allow the furthering of discussion as to the nature and relationships with other similar sites in the area.

It is therefore recommended that, should the development go ahead, further evaluation and archaeological mitigation is required. Clarification is required as to the nature and if possible the date of the features identified through the geophysical survey and it is recommended that a programme of trial trenching be conducted. It is hoped that this will aid in the interpretation of the results and inform further works.

As the area is considered to be of high archaeological potential it would be considered prudent that dependant on the results of the evaluation trenching a programme of Strip, Map and Record be initiated. Particular emphasis should be placed on gathering material from which sequences can be securely dated and on gathering palaeoenvironmental data. Adequate funding should be put aside for radiocarbon dating and the processing/analysis of environmental samples.

8.0 Conclusion

Within the vicinity of the proposed development area there are known sites of archaeological interest, and in addition to the aforementioned St. Maethlu's Church (which has Medieval origins) and Carreglwyd Estate there are known to be Medieval cist cemeteries and Roman remains both at parish level and within 500m of the proposed site.

The geophysical survey revealed an large array of buried features including an extensive field system and possible settlement site. This cannot be conclusively dated at this stage although it is possible that they are of prehistoric or medieval date.

Based on the evidence from both the desk based assessment and the geophysical survey this site is considered to be of very high archaeological potential and further evaluation and archaeological mitigation is recommended.

In addition to the below ground archaeological remains the site will also have an impact on the setting of both the Carreglwyd Historic Park & Gardens and the Grade II Listed St. Maethlu's Church. The negative impact of the proposed scheme on these designated sites is not however considered to be significant given its peripheral location and the limiting of the building height to a single storey.

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www.data.gov.uk/data/map-preview

www.ordnancesurvey.co.uk

Archival Material

Anglesey Archives

1839 Tithe Map

1888 – 1849 Ordnance Survey Map Editions

Bangor University Archives

1801 Survey of Carreglwyd & Berw Estates *M55 Bangor 7043*

Appendix A. Specification CR81-2014

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Specification for Archaeological Works at

**Proposed Site for Ysgol y Llannau,
Llanfaethlu**

NGR SH 31389 87108

Report Number CR81-2014



C.R Archaeology

Compiled by C. Rees & M. Jones

on Behalf of Isle of Anglesey County Council

Copyright C.R Archaeology

**Specification for Archaeological Works at:
Proposed Site for Ysgol y Llannau, Llanfaethlu**

Planning Application Number:

Pre-planning

National Grid Reference:

NGR SH 31389 87108

Client:

Isle of Anglesey County Council

Report Authors:

C. Rees

Report Number:

CR81-2014

Date:

03-11-2014

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1.0 Introduction

C.R Archaeology have been instructed by Isle of Anglesey County Council to conduct an archaeological desk based assessment and geophysical survey (gradiometer) at the proposed site of a new primary school - Ysgol y Llannau, Llanfaethlu (figure 1). At this initial consultation phase details of the proposed works are not available and it is envisaged that the results of the archaeological works are likely to influence the design and siting of the buildings within the plot.

This document has been prepared to supply the Local Planning Authority Archaeologist with information as to the potential archaeological impacts of the aforementioned scheme.

This specification has been written with reference to emails prepared by Jenny Emmett of GAPS (dated 1st August & 3rd November 2014) as a methodology for an initial programme of works. It is intended that the results of the works outlined in this document will inform decisions as to the nature of any further archaeological mitigation strategies or evaluation methodologies which may be required.

The site is located to the rear of St. Maethlu's Church, along the A5025 in the north of the village of Llanfaethlu, on the Isle of Anglesey. The site is currently in use as grazing within an enclosed field boundary system which includes a rock outcrop. The site lies within the Anglesey Area of Outstanding Natural Beauty (AONB). The south-eastern site boundary is located adjacent to the limits of the Carreglwyd Historic Park & Gardens (ID 690). The site limits are within 500m of an area of restored ancient woodland and 650m of the Garreg-Lwyd Site of Special Scientific Interest (see figure 2).

Within the vicinity of the proposed development area there are known sites of archaeological interest, and in addition to the aforementioned St. Maethlu's Church (which has Medieval origins) and Carreglwyd Estate there are known to be Medieval cist cemeteries and Roman remains both at parish level and within 500m of the proposed site.

2.0 Project Aims & Objectives

This programme of works for the development site aims to undertake a desk-based assessment and geophysical (gradiometer) survey. It aims to examine the potential archaeological resource surviving on the site and to provide information which will be utilised to determine an appropriate methodology for any further archaeological mitigation or evaluation methodologies which may be required.

The first aim of this scheme of works is to undertake desk based historical research exploring the history/archaeology of the site. This information will include a map progression and archival research in order to compile a coherent narrative history of the site and its environs.

The Gwynedd Historic Environment Record (HER), the Royal Commission on the Ancient and Historical Monuments Wales (RCAHMW) database, Bangor University Archives and relevant publications will be consulted to compile a record of known archaeological sites in the vicinity. The data gathered during this phase of works will also be utilised in the interpretation of the gradiometer results.

The second aim of this archaeological investigation is to undertake a geophysical survey of the site in order to identify and locate buried features.

It is intended that this document be utilised to inform further archaeological planning decisions and conditions at the site.

The objectives of this programme of works are:

- To make full and effective use of existing information to establish the archaeological significance of the site
- To assess the impact of the development proposals on surviving sites, monuments or remains both within the development area and in the surrounding landscape
- To help inform future decision making, design solutions, further evaluation & mitigation strategies

3.0 Brief Historical Background

The following section is, through necessity, very brief and is intended to merely place the site in context. A more detailed history of the site will form a key element in the proposed works.

The proposed development site is located within the parish of Llanfaethlu in the hundred of Tal y Bolion. The following description of the parish is taken from Samuel Lewis's 1833 work "*A Topographical Dictionary of Wales*" which although somewhat dated provides a basic introduction to the archaeology of the area.

"This parish, which is of very considerable extent, is pleasantly situated on a tract of rising ground above Holyhead Roads, and commands an extensive view over the Irish sea, by which it is bounded on the west. It is supposed to have been known at a very early period to the Romans, who are thought to have had a smelting place here, for the ore of the Parys mountain. This supposition is confirmed in some degree by the discovery of a cake of copper-ore, weighing fifty-four lb., and stamped with a mark resembling the Roman letter L, about the year 1757, and by the quantities of charcoal and scoria of copper which are frequently turned up by the plough in tilling the land upon the higher grounds. The surface is enclosed, and, with the exception only of a small proportion, in a good state of cultivation : the soil is in general fertile. The immediate neighbourhood is enlivened with some handsome seats. Within the parish is Carreg Llwyd, the ancient family mansion of the Griffiths, by whom it has been occupied for centuries : the grounds are extensive, and ornamented with well-grown timber; and within them is a lake of considerable size. Near this spot is a signal station, communicating with Holyhead on the west and Llanellian on the east, and forming a link in the chain of posts between Holyhead and Liverpool. Fullers' earth of very superior quality abounds in the parish, and the procuring of it would be attended with considerable advantage.

The living is a rectory, with the perpetual curacy of Llanvwrog annexed, in the arch deaconry of Anglesey, and diocese of Bangor, rated in the king's books at £ 16. 17. 1., and in the patronage of the Bishop. The church, dedicated to St. Maethlu, and situated on a lofty eminence overlooking the Irish sea, is a spacious and handsome structure of modern erection ; and the interior, which is one of the neatest in the island, is ornamented with a good east window of three ogee-headed lights, embellished with modern stained glass : on the south side of the church are some ancient monuments to the memory of deceased members of the family of Griffith. There are places of worship for Calvinistic and Wesleyan Methodists. A charitable bequest of £ 38 was made to the poor by an unknown benefactor, besides which there are several smaller donations, the produce of which is annually distributed among the poor of the parish. The average annual expenditure for the maintenance of the poor is £ 212.9 (Lewis 1833: 115)".

The two main sites mentioned in the above text Carregllwyd House and St. Maethlu's Church are located near the proposed development site. The site is also located approximately 700m to the south-east of Carregllwyd house, and the historic gardens back onto the site. It is located immediately to the rear of the churchyard of St. Maethlu's Church.

The RCAHMW Inventory for Anglesey (RCAHMW 1937: 68-69) records two further significant sites within the parish – Castell, a promontory fort on the coast near Trefadog (approximately 1.2 miles to the south-west of the site) and Maen Hir, a schist standing stone located approximately 2/3 of a mile to the south-east of the site).

With reference to the records held in the Gwynedd Historic Environment Record GAPS have also drawn our attention to two early Medieval cist cemeteries and a Roman coin hoard within the immediate vicinity of the site. This data will be examined in detail during the desk based assessment.

3.1 Topography

The site is located along the A5025 as it passes through the village of Llanfaethlu. The site is currently in use as grazing within an enclosed field boundary system. It is positioned to the rear of St. Maethlu's Church. The site lies just outside within the Anglesey Area of Outstanding Natural Beauty (AONB). The south-eastern site boundary is located adjacent to the limits of the Carreglwyd Historic Park & Gardens (ID 690). The site limits are within 500m of an area of restored ancient woodland and 650m of the Llŷn Garreg-Lwyd Site of Special Scientific Interest

3.2 Geology

The bedrock geology at the site is recorded as “*Gwna Group - Schist. Metamorphic Bedrock formed approximately 508 to 635 million years ago in the Cambrian and Ediacaran Periods. Originally sedimentary rocks formed in deep seas by chaotic deposition from underwater gravity slide. Later altered by low-grade metamorphism. Formed in deep seas by chaotic deposition from underwater gravity slide. These rocks were first formed in the deep sea by chaotic deposition from underwater gravity slides, and then later metamorphosed, though there is evidence of their sedimentary origin*” (www.bgs.ac.uk).

Also recorded in the immediate vicinity of the site are “*Gwna Group – Metabasaltic-rock. Metamorphic Bedrock formed approximately 508 to 635 million years ago in the Cambrian and Ediacaran Periods. Originally igneous rocks formed by eruptions of silica-poor magma. Later altered by low-grade metamorphism. Originally igneous rocks formed by eruptions of silica-poor magma. These rocks were first formed by volcanic eruptions of silica-poor magma, and then later metamorphosed, though there is evidence of their igneous origin*”. A rocky outcrop is visible within the site boundaries (www.bgs.ac.uk).

The superficial geology of the site is not recorded.

4.0 Scheme of Works - Methodology

It is proposed that the archaeological works be conducted in two sections and each is detailed separately below.

4.1 Desk Based Research

A complete and coherent history of the site will be compiled utilising material sourced from Anglesey Archives and the Bangor University Archives. This will allow as comprehensive a history as possible to be compiled. A full map progression of the area will be undertaken. Where appropriate the archive information will be supplemented with information from local libraries and specialist interest websites & journals.

In order to identify the character of archaeological remains in the vicinity of the site a search of the Gwynedd HER will be conducted examining an area within a 1000m radius of the proposed works (the grid reference for the search is taken as the centre point of the development area). The RCAHMS database and aerial photographs of the site will be examined. The information collected will be discussed within the main report text.

The works will be carried out accordance with the IfA Standards and Guidance for historic environment desk-based assessment (IfA 1994 (Revised 2009)).

This material will form the historical background for a full archaeological report and will be utilised to aid the interpretation of the results of the geophysical survey.

4.2 Geophysical Survey

Prior to the commencement of works a brief written record of the site will be compiled. This will include a note on any features/elements which may have an impact on the survey results - for example weather, geological features, fencing & overhead cables.

The survey will be carried out in accordance with English Heritage's guidance "*Geophysical Survey in Archaeological Field Evaluation*" (2008) and the IfA "*Standard and Guidance for Archaeological Geophysical Survey*" (2011).

A survey grid will be established over the site, orientated to provide a best possible fit to the area to be surveyed and to minimise the effects of the slight slope of the ground level on the site. An initial proposed array is shown in figure 3 although this may be subject to change dependant on the ground conditions. Grids will be walked using a zig-zag method, for maximum speed.

4.2.1 Equipment

The survey will be undertaken using a Bartington Instruments Grad601 fluxgate gradiometer, with dual gradiometer setup. This comprises of two Grad-01-1000L cylindrical gradiometer sensors mounted on a rigid carrying bar with a 1m separation. The grid location will be surveyed using a Leica TCR 1100+ Total Station.

The proposed survey settings for the gradiometer will be as follows:

Sensitivity: 0.1nT

Sample Interval: 0.25m

Traverse Width: 1m

Traverse Method: Zig-Zag

Grid Square Size: 20x20m where possible, downsized to 20x10m where necessary

It must however be noted that these settings may have to be adjusted dependant on ground conditions but all changes will be recorded.

Archaeosurveyor will be used to download and manipulate the geophysical data. Minimal processing will be applied to all images to ensure no false results are created by excessive image manipulation. Data will be downloaded to a portable computer during each rest period for the course of the day, to ensure data integrity and check ongoing results.

A basic photographic record will be compiled prior to the commencement of the survey which will detail any above ground features (such as the known rock outcrop) and show the general topography of the site. Further photographs will be taken to illustrate the setting of the site and the relationship between it and neighbouring archaeological sites. It will be undertaken using a 14.2 mega-pixel Sony A350 digital camera with a variety of standard and other lenses. Images will be captured in RAW format for later processing into high resolution JPG and TIF files.

4.3 Timetable for Proposed Works

It is envisaged that the geophysical survey will be undertaken as soon as possible with a provisional start date of the 8th November and an estimated time frame of 4 days. Further time has been allotted for archive research, report compilation and site archiving.

4.4 Staffing

The project will be managed by Catherine Rees (BA (Archaeology), MA (Archaeology) Postgraduate Diploma (Historic Environment Conservation) & Matthew Jones (BA (Archaeology), MA (Archaeology)). The geophysical survey will be conducted by Matthew Jones (C.R Archaeology) & Thomas Wellicome (Archaeological Landscape Investigations Ltd).

All staff will have a skill set equivalent to the IfA AifA/MIFA level. C.Vs for all staff employed on the project can be provided on request. All projects are carried out in accordance with IfA *Standard and Guidance* documents.

4.5 Monitoring

The project will be subject to monitoring by Gwynedd Archaeological Planning Services. A projected time-scale and copy of the risk assessment can be provided on request to the monitoring body prior to the commencement of works.

4.6 Health and Safety

A risk assessment will be conducted prior to the commencement of works and site staff will be familiarised with its contents. A first aid kit will be located in the site vehicle.

All staff will be issued with appropriate Personal Protective Equipment (PPE) for the site work. Initially this is anticipated to consist of:

- Hi-visibility vests (EN471)
- Mobile Telephone (to be kept in site vehicle)
- Suitable Walking Boots & Waterproofs

Any further PPE required will be provided by C.R Archaeology

All staff will have passed at least a CITB health and safety test at least operative level and will carry a Construction Related Organisation (CRO) White Card for Archaeological Technician (Code 5363).

C.R Archaeology staff will also comply with any Health and Safety Policy or specific on-site instructions provided by the client or their appointed Principal contractor or H&S coordinator.

4.7 The Report

The report will clearly and accurately incorporate information gained from the programme of archaeological works. It will present the documentary evidence gathered in such a way as to create a clear and coherent record. This will include illustrations of any cartographic/pictorial sources. The report will contain a site plan showing the locations of any photographs taken.

The desk-based assessment will consider the following:

- the nature, extent and degree of survival of archaeological sites, structures, deposits and landscapes within the study area
- the significance of any remains in their context both regionally and nationally
- the history of the site
- the potential impact of any proposed development on the setting of known sites of archaeological/historic importance
- the potential for further work with appropriate recommendations

In accordance with English Heritage guidelines the geophysical survey results element will include:

- a survey location plan demonstrating relationships to other mapped features (minimum scale 1:2500);
- an image of minimally processed survey data (minimum scale 1:1000);
- where appropriate a trace (or X–Y) plot of raw magnetic data
- a greyscale plot, or dot density plot (minimum scale 1:1000);
- one or more interpretative plans/diagrams (minimum scale 1:1000).

It is intended that this report will inform decisions as to the necessity and/or nature of any further archaeological mitigation strategies which may be required.

A copy of the report in Adobe PDF format will be sent to the appropriate monitoring archaeologist for approval before formal submission. A bound paper copy and PDF digital copy of the report will be submitted to GAPS as part of the formal submission. A digital Adobe PDF version and a bound paper copy of the final report and will be lodged with the Gwynedd Historic Environment Record within six months of completion of fieldwork.

4.7.1 Copyright

C.R Archaeology and sub-contractors shall retain full copyright of any commissioned reports, tender documents or other project documents, under the Copyright, Designs and Patents Act 1988 with all rights reserved; excepting that it hereby provides a licence to the client and the local authority for the use of the report by the client and the local authority in all matters directly relating to the project as described in the Project.

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www.data.gov.uk/data/map-preview

www.ordnancesurvey.co.uk

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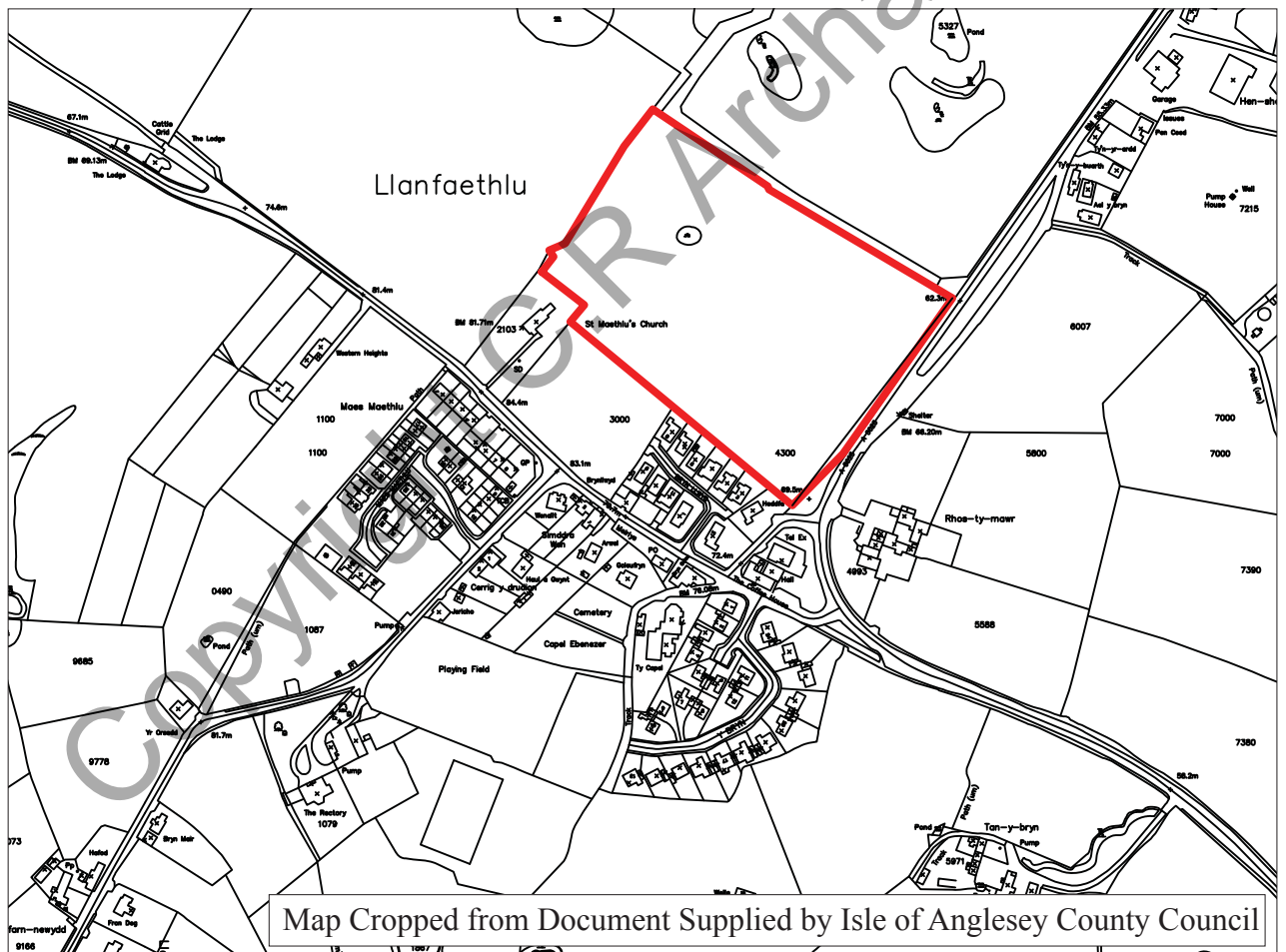
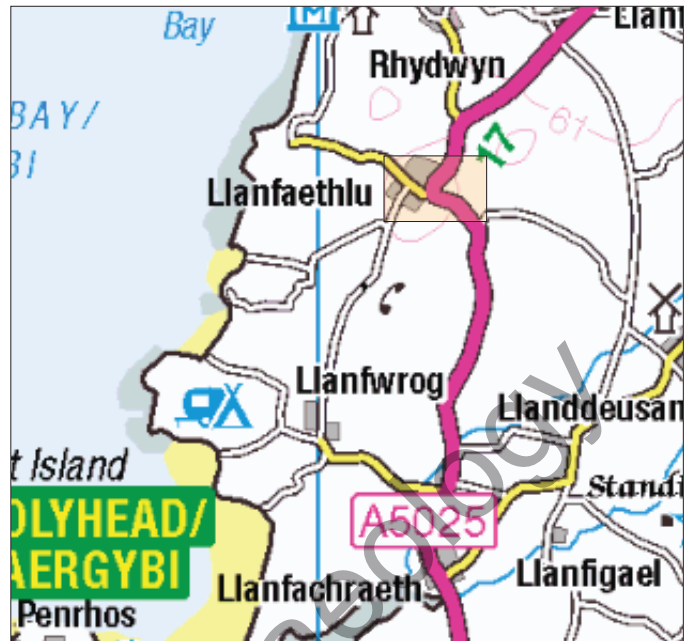
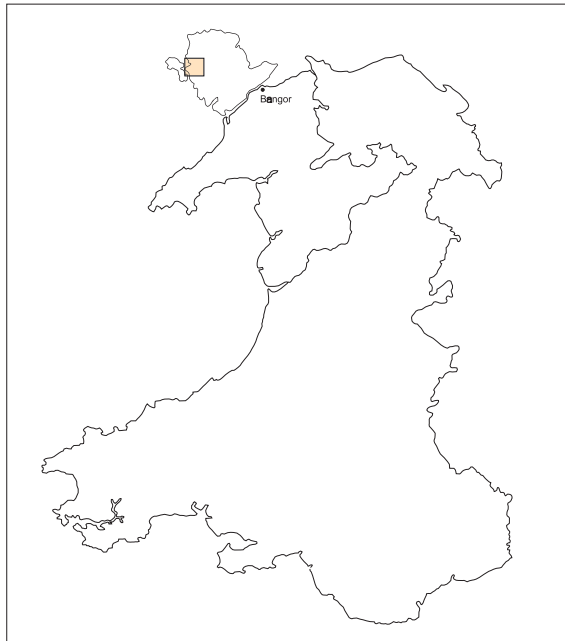


Figure 1. Site Location Map
(Source: OS Open Data Mapping Contains Ordnance Survey data
© Crown copyright and database right 2014)

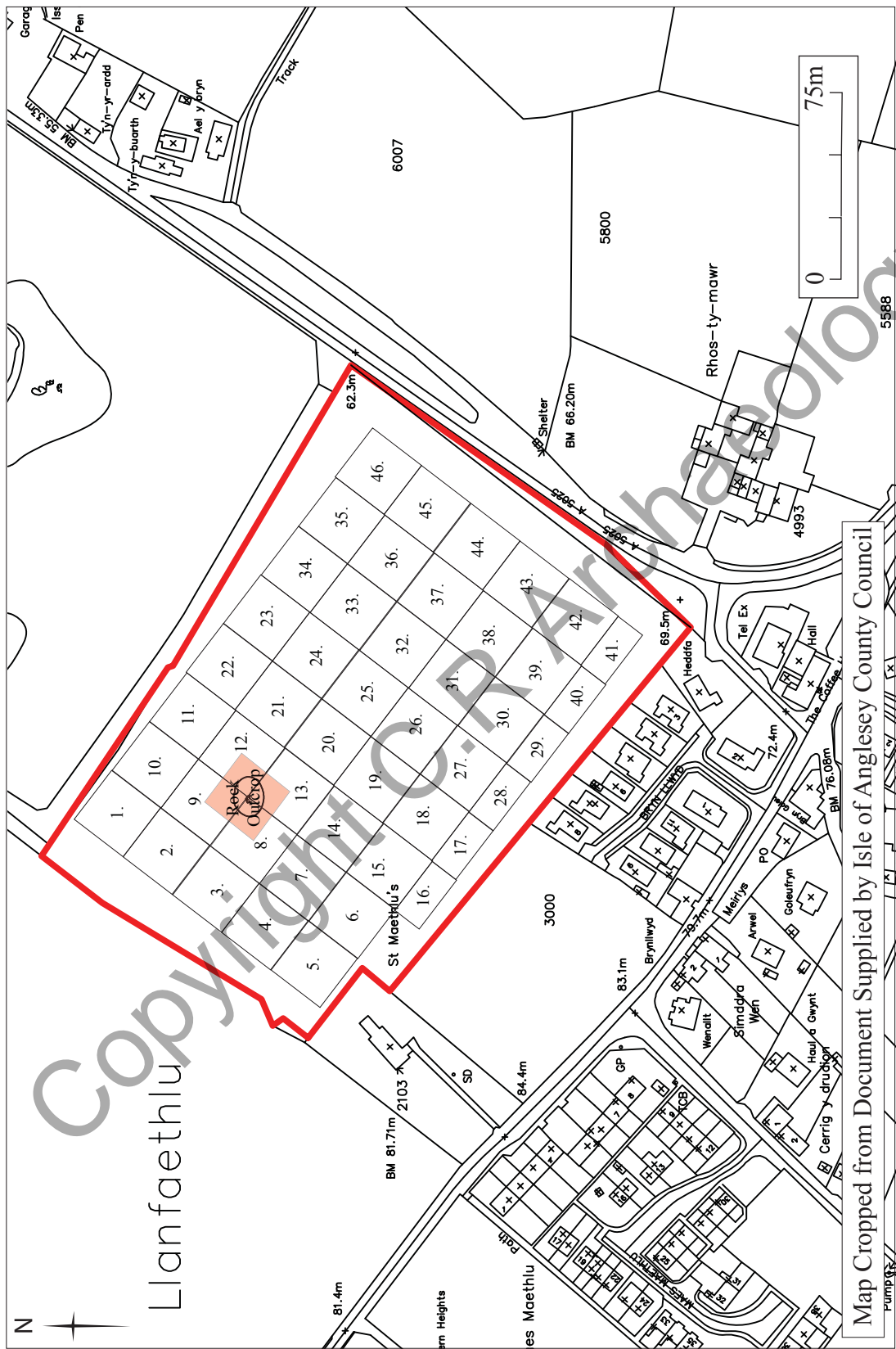
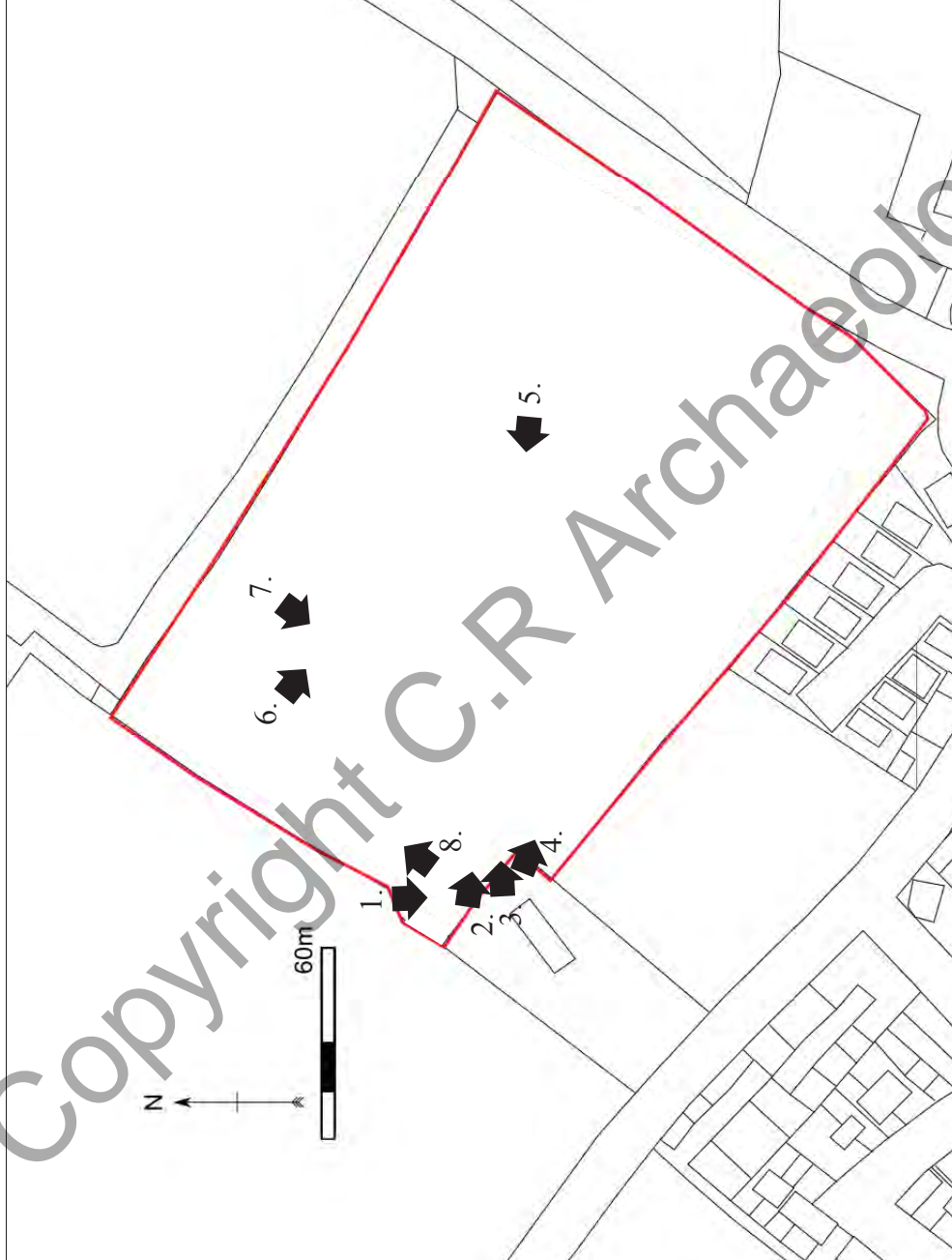


Figure 3. Proposed Survey Grid Array



Appendix B. Location & Direction of Photographic Plates