
Glynllifon College Development: **Llandwrog, Gwynedd**



Archaeological Evaluation and Watching Brief

GAT Project No. 2092

Report No. 907

November, 2010

Glynllifon College Development

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Capita Symonds

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G2092 GLYNLLIFON COLLEGE DEVELOPMENT

ARCHAEOLOGICAL EVALUATION AND WATCHING BRIEF

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Summary

A programme of archaeological mitigation has been completed in advance of and during development work at Coleg Meirion Dwyfor, Glynllifon, Llandwrog.

In advance of works an archaeological evaluation was completed within the development plot, consisting of twelve trenches. The archaeological evaluation trenches resulted in the identification of a former copse of trees and field boundaries identified during the assessment phase of the project. These indicate a pattern of former land use with smaller fields and hedgerows present, with small copses of trees. This division of the landscape is clearly indicated on a Glynllifon estate map of 1751. A number of field drains were identified, of both stone lined and ceramic pipe type. These indicate that a significant amount of land improvement has taken place, which may date back to the 18th century, though some of it is more recent, including that containing ceramic pipes, and was probably undertaken in the 20th century.

During works an archaeological watching brief was completed within the development plot; this revealed little new archaeological information, but further evidence for the field drains was identified.

1. INTRODUCTION

Gwynedd Archaeological Trust (GAT) was commissioned by Capita Symonds to complete a programme of archaeological mitigation in advance of and during development works at Coleg Meirion Dwyfor, Glynllifon, Llandwrog (centred on NGR **SH45335527**; Fig. 1). The development scheme lies within the former grounds of Glynllifon, Llanwnda, Gwynedd. Glynllifon was an important estate, owned initially by the Glyn family, who later married into the Wynn family of Bodfean. A part of the estate, including the house, was eventually sold by the Wynn family in 1948, after which it was bought by the County Council for use as an agricultural college. The house is now hotel, but the college is still housed within the grounds, and part of the former parkland is run as a public park by the Local Authority. The buildings and parkland all form part of a heritage rich landscape, the importance of which is recognised by the high density of listed buildings on the site, and the inclusion of the site within the register of parks and gardens of special historic interest in Wales (Grade I).

1.1 Project Background

GAT has completed a phased programme of works within the development area in advance of the current mitigation (GAT Reports **826**, **827**, **830**, **834** and **867**), including an assessment phase and a subsequent evaluation phase (magnetometer survey). The most recent assessment was undertaken in November 2009 (GAT Report **834**): no upstanding sites were identified within the development area, but evaluation was recommended as further mitigation, undertaken as a two phased project ([Appendix I](#)).

- Phase 1 - a high resolution magnetometer survey (GAT Report **867**): the magnetometer survey identified a high density of anomalies, the majority of which appeared to belong to an earlier field system, no longer visible.

- Phase 2 – a programme of trial trenching targeting specific anomalies identified by the magnetometer survey. This phase was completed as part of the current mitigation and comprised 12 trenches equating to 480m².

Based on the results of the evaluation programme, recommendations were made for an archaeological watching brief. This was also completed as part of the current mitigation.

1.2 Mitigation Brief/Standards

A mitigation brief was not prepared for this phase of work by **Gwynedd Archaeological Planning Services** (GAPS), but GAPS has monitored the scheme throughout under ref. D1332). GAPS recommended an archaeological watching brief based on the results of the evaluation phase (qv. 1.1).

Reference has also been made to the guidelines specified in Standard and Guidance for Archaeological Watching Brief (Institute for Archaeologists, 1994, rev. 2001) and Standard and Guidance for Archaeological Evaluation (Institute for Archaeologists, 1994, rev. 2001).

1.3 Acknowledgements

GAT would like to acknowledge the assistance and co-operation provided by *Capita Symonds* throughout all elements of the scheme. GAT would also like to acknowledge the assistance and co-operation provided by *Wynne Construction* throughout the watching brief phase.

GAT would also like to acknowledge the guidance and assistance provided by Ashley Batten and Jenney Emmet at Gwynedd Archaeological Planning Services, both in terms of spearheading the project and in providing advice during the fieldwork element.

2. ARCHAEOLOGICAL AND HISTORICAL BACKGROUND

2.1 Introduction

Glynllifon lies within the parish of Llandwrog, in the historic cantref (hundred) of Uwch Gwyrfa, and the former cwmwd (commote) of Arfon, in the old county of Caernarvonshire (Carr 1977, 71). The mansion of Glynllifon itself is listed in the Royal Commission Inventory (1960) as one of the principal monuments in this parish, but finds and upstanding remains suggest the area was occupied throughout much of the prehistoric and historic periods. The information given below is taken from the archaeological assessment report, with PRN referring to the Primary Record Number of each individual site noted on the Gwynedd Historic Environment Record (HER) (Cooke *et al.* 2009).

2.2 Prehistoric

There was clearly prehistoric activity in this area, although most surviving sites are concentrated on the uplands to the east of Glynllifon. A Neolithic burial chamber (PRN 101) lies about 7.5 km to the south-west, near the coast at Bach-wen. It appears that the estate wanted its own burial chamber as a small cromlech stands in the Park but this appears to be of 18th or 19th century date (RCAHMW 1960, 187). The cromlech is listed (grade II, listed building number 20497) and the listing records that although there is a tradition that this structure was built by the Second Lord

Newborough before 1832, as a mock druidical altar, it is more likely to be the work of F G Wynn in about 1900. A standing stone (NPRN 309,943 PRN 12,904 (SAM C356) probably dating to the Bronze Age but only first depicted on the 1918 third edition county ordinance survey map, stands approximately 2m in height, 0.8m in thickness, and 0.7m in width stands to the immediate west of the farmstead and approximately 15m south of the southern limit of the development area.

The standing stone of Maen Llwyd (PRN 1313), further south in the Park, near the drive to Plas Newydd, is genuine and impressive as it stands about 3m high. A mid Bronze Age food vessel was found near its base and the stone was probably erected in the Bronze Age. Another stone (PRN 2265), 1.7m high, stands near Bodfan over 1km west of Glynllifon (RCAHMW 1960, 198) and this is also probably Bronze Age but a small stone (PRN 5529) standing within the current study area is much more doubtful and will be discussed below. A burial urn was found in a mound on a hilltop near Benallt, Bethesda Bach (PRN 596) and another cairn on the lower slopes of Mynydd Cilgwyn (PRN 1387) also produced pottery that was taken to Glynllifon but has since been lost (RCAHMW 1960, 198). The Inventory lists two Bronze Age burnt mounds on the hill slope nearby (PRN 1388 and 1389) (RCAHMW 1960, 198) and others have been found in the area since (PRNs 2350, 2341 and 2342). Two axe-hammers of probable Bronze Age date were found in the Glynllifon Park (PRNs 5768 and 5769) (RCAHMW 1960, xliii, xlv) as well as a stone with a hole in it of unknown date (RCAHMW 1960, xlv, xlv). About a kilometre west of Glynllifon a loopless bronze palstave (PRN 2267) of Bronze Age date was found near Rhos- Maelan (RCAHMW 1960, liii).

There was considerable settlement in the Iron Age in this area. The known roundhouse settlements survive on the edge of the uplands around Mynydd Cilgwyn and up the Nantlle Valley (RCAHMW 1960, 190-197), but this distribution is largely due to differential survival. Settlements probably existed on the lowlands but their remains have been removed by more intensive agriculture. The recovery of the lower stone of a rotary quern (PRN 2286) of probable Iron Age date from near Glynllifon supports this (RCAHMW 1960, lviii).

The major Iron Age site in the area is Dinas Dinlle (PRN 1570); a hillfort is built on an isolated hill near the sea. The fort was defended by two earth ramparts, but coastal erosion has caused much of the site to be lost. The interior contains traces of circular huts and there may be a Bronze Age barrow in one corner. Occupation of the site extended into the Roman period as finds include a ring with an intaglio of victory, coins of Gallienus, the Tetrice, Carausius and Allectus and a fragment of black ware indicating occupation in the 2nd and 3rd centuries AD (RCAHMW 1960, 190).

2.3 Roman period

There must have been considerable Roman influence in this area only about 7.5km south of the fort of Segontium in Caernarfon, but the known archaeological evidence is slight. As well as occupation at Dinas Dinlle continuing into the Roman period it probably also continued on many of the roundhouse settlements in the area but Roman military sites are not common near Glynllifon. It has been suggested that the modern A499 running immediately west of Glynllifon follows the line of a Roman road but this has not yet been proven (Hopewell 2007, 24). The Roman road from Caernarfon to Pen Llystyn must have passed just to the east of the estate. Two lines have been proposed, one to each side of Groeslon, but the exact route in this area is not known (Hopewell 2007, map 28). There is a supposed Roman signal station (PRN 5572) south of Llanllyfni but the HER gives no information about this. Slate may have been quarried in the Nantlle Valley in the Roman period and used to roof the fort of Segontium (Cadw 1998b, 102).

As well as the Roman coins found in Dinas Dinlle coins of the Tetrici (AD 270-3) were found at Llwyn y Gwalch, near Dolydd (PRN 1457).

2.4 Medieval

Evidence of medieval settlement in the area is slender, although there is no reason to suppose it was not well settled. There is a medieval township recorded at Dinlle (PRN 7325) and some of the field systems on the hills are probably of medieval date (e.g. PRN 4362), although only one long hut of medieval style has been recorded (PRN 6734) (RCAHMW 1960, 197). The Drws y Coed Copper Mine (PRN 20535) in the Nantlle Valley is believed to have been worked in the thirteenth century. Ffynnon Edliw (PRN 2266) is a holy well situated about 270m west of the gates of Glynllifon. A spring has been enclosed with masonry to form a pool, but its date is not known (RCAHMW 1960, 198).

Although the present church at Llandwrog is modern, erected in 1860 (RCAHMW 1960, 182), it replaced a medieval church demolished in 1858 (PRN 6966) and described by Hyde Hall in the early 19th century (Hyde Hall 1952, 213). The circular churchyard and dedication to Saint Twrog suggests an early medieval foundation. Twrog was one of the ‘Celtic’ saints associated with Saint Beuno (Bowen 1977, 61).

The 1751 estate map (Gwynedd RO, XD2A/1580) (figure 3) marks a house near what is now the main gate as ‘Bettws house and garden’, this has an adjacent cowshed (beudy) and yard (buarth) and a nearby field is called Cae Tan ŷ Bettws. The Bettws name is then applied to the woodland that covered part of the development area and the name appears on OS maps through to the present day. ‘Bettws’ is a loan word from the Old English ‘bed-hus’ meaning an oratory. It is a common place name in Wales and first occurs at the beginning of the 13th century (Roberts 1992, 44). The name is suggestive of a chapel in this location, of which nothing but the name remained by the 18th century. On the 1790 estate map (National Library Ms Maps vol. 95 094/8/2) (figure 4) the house was still there but the name is applied to a farm to the south, so there must be some doubt about the exact location of the chapel site. Wherever it was located it would have lain next to one of the principle medieval routes from Caernarfon to Nefyn or Pwllheli (Williams-Jones 1977a, 78), along which, in 1284, Edward I marched to a tournament held at Nefyn to celebrate his conquest of Wales (Williams-Jones 1977b, 82, 84).

2.5 Post-Medieval

Glynllifon was the seat of one of the most important families in Caernarvonshire; the Glyns of Glynllifon, who, like many of the *uchelwyr* families, took their name from their seat (Parry 1977, 97). The line of Glynllifon claimed descent from the 9th century hero Cilmin Droed-ddu, but the earliest historically attested member of the family was Tudur Goch in the 14th century (National Library: Dictionary of Welsh Biography (online)). Hwlcyn Lloyd, another ancestor of the Glyns died defending Caernarfon Castle against an attack by Owain Glyndŵr’s forces in 1403 (Williams-Jones 1977c, 93). As *uchelwyr*, minor nobility and large landowners, the Glyns held important posts such as archdeacon of Bangor and Justice of the Peace (Parry 1977, 97; Williams-Jones 1977d, 101). The estate passed into the hands of the Wynn family of Bodfaen in about 1700 when Frances Glynne, the heiress of the estate married Thomas Wynn (RCAHMW 1960, 185). The Wynn family represented the Borough of Nefyn in parliament for much of the period between 1713 and 1790 (exhibition in Glanrafon Mill, Glynllifon). In 1776 Sir Thomas Wynn was awarded a peerage and was made the first Lord Newborough. The peerage was granted in recognition of his military efforts including building Forts Belan and Williamsburg, the latter within Glynllifon Park (Gwynedd Council (on-line)).

Such an important family needed a house and estate to match their reputation. There are known to have been at least four houses on the site of the present mansion. An existing house was rebuilt in c.1600 and in 1751 another house was added on to this. The 18th century house was built in brick and destroyed by fire in 1836. Between 1836 and 1848 the house was entirely rebuilt in stone in the Renaissance style, and in 1890 this house was considerably extended (RCAHMW 1960, 186). A stable block built in 1849 is now used by the agricultural college, and a yard to the north-west of the stables was surrounded by buildings supplying a variety of services including gas works, tannery, smithy, cart sheds and slate mill (Cadw 1998, 207). The water mill to the south-west of the house is shown on maps from the 1820s (Cadw 1998, 207). The mill went out of use by 1900 but in 1915 a powerhouse was built on the back of it with a turbine driven by the water to generate electricity (exhibition in Glanrafon Mill, Glynllifon).

The park in which the house stands is likely to have been originally laid out in the middle of the 18th century at roughly the same time as the 1751 house was built (Cadw 1998, 209). The park is surrounded by a substantial stone wall (feature 11 (PRN 11,262 (see figure 11) built in the early 19th century by the second Lord Newborough (RCAHMW 1960, 187). There are five lodges at entrances through the wall, the most impressive being the Grand Lodge (feature 14 (PRN 12,575 (NPRN 31,379 (Listed building no. 20478 (see figure 11) at the main western entrance to the estate.

The first Lord Newborough built a lodge at the west gate, possibly in the 1790s (Cadw 1998, 209), but this seems to have been on a slightly different site to the present Grand Lodge. The 1790 map shows a double structure marking the gateway; however, this is to the east of the present lodge. An estate map of 1824 (Gwynedd RO XD2A/857) (figure 5) shows a single small building just to the north of the site of the present entrance but no lodges. The map of 1828 (Gwynedd RO XD2A/858) (figure 6) shows the present double structure in the current position with the entrance area in its current layout. The evidence is further confused by the tithe map (figure 7) that shows a single building to the south side of the drive. It appears from the map evidence that the first Lord Newborough built a double gateway structure but that this was demolished and the gate relocated as new driveways were built. The 1828 map has had additions made to it and if the tithe map can be trusted this suggests that the lodge was one of these additions and that it was not constructed until after 1849. The listed building record comments that the Classical detail of the present lodges and linking archway suggest that it is contemporary with the house built in the 1840s, with remodelling about 1900. The lion on top of the archway originally stood on the stable block and was moved in the late 19th century (Cadw 1998, 208).

The main road, the current A499, has had a slightly confused history. In 1751 it ran to the east of the present line but the 1824 map shows an added curve taking it west of farm buildings on the Llandwrog road. The remains of the straight road are indicated but it leads nowhere. The road was back on its present line by 1828.

There were numerous woodlands throughout the park. Hyde Hall (1952, 213) writing in the early 19th century describes Glynllifon as surrounded by 'fine wood and plantation'. There were also various ponds and reservoirs. Much of the Afon Llifon where it flows through the park was canalised and pleasure grounds were created on its banks. The pleasure grounds have Italianate water features, a hermitage, which for a short time had a resident hermit, and other follies (Cadw 1998, 210). Several drives ran through the park with bridges where they crossed the Afon Llifon. The routes of these drives altered as the layout of the park was changed. There were three walled kitchen gardens with several glasshouses (Cadw 1998, 215).

Fort Williamsburg (PRN 954) was built within the park in about 1761. The fort is stone-built and is roughly rectangular with angle bastions. It contains a barracks building, also known as the 'summer pavilion' (Cadw 1998, 209) and a small tower, but the Royal Commission considered that it was 'improbable that Williamsburg could have been put to any serious military use' and is seems to have been more a centre for social societies (RCAHMW 1960, 187-188).

In 1948 the estate was sold to a timber merchant and in 1954 the house and park were sold to Caernarvonshire County Council and the buildings later transferred to Coleg Meirion-Dwyfor (Cadw 1998, 210). The house is presently in separate ownership.

The development area lies to the south of the main drive and to the west of the river. Throughout the 19th century the land to the south of the main drive and the house was open park land, but in the 18th century there was a walled garden and a formal area of woodland with radiating paths to the south of the river. In 1751 the development area was wooded with the area divided into parcels with trees of differing density and presumably different types. By 1790 most of the trees near the river had been cleared. The main driveway had been straightened by 1790 but is shown as curving to the north in 1824. Most of the drives around the development area reached their current form by 1828 but the main drive was not on its current alignment until 1900. By 1828 the curving drive defining the development area had been constructed and the Grand Lodge was built with the semi-circular area in front of the entrance.

3. ARCHAEOLOGICAL MITIGATION: METHODOLOGY AND RESULTS

3.1 Archaeological Evaluation: Trial Trenching

3.1.1 Methodology

The development occupied approximately 3.6 ha of the total 5.2 ha over which geophysical survey was undertaken and was surveyed as part of the assessment. The Trial Trenching was undertaken only within the smaller area of proposed development (Fig. 2). A total area of 480m² was evaluated, consisting of 12 trenches each measuring 20m x 2m. These were placed to test both features identified on the magnetometer survey and 'blank' areas. The layout of the trenches is shown on figure 2.

The trenches were opened by a 180° backhoe excavator. A photographic, written and drawn record and description of the individual trenches were completed, and an individual number given to each feature or layer (GAT archive **G2092**). The photographs were taken by a digital SLR set to maximum resolution.

The trenches were placed both to examine features noted during the magnetometer survey (Hopewell 2010) and to examine other areas. The work was phased, so that the results from the earlier trenches could inform the location of later trenches.

The results of the trial trenching are given below and the trenches are located on fig. 2.

3.1.2 Results

Trench 1 (Plates 6, 7) No archaeological features noted. Beneath 0.1m of turf 0.26m of topsoil overlying a mid orangey brown sandy silt with gravel with stone inclusions was noted (Plates 3 and 4).

Trench 2 A mid greyish brown sandy silt topsoil [201] 0.22m deep, overlay a mid orangey brown sandy silt subsoil [202] 0.1m thick, which overlay a glacial deposit of mid orangey brown sandy silt with gravel with small to large stones [203]. A field drain was noted cut into the subsoil [204], which contained a mid orangey brown fill [205].

Trench 3 No archaeological features noted. A dark grey sandy silt topsoil [301] 0.17m deep overlay a dark orangey brown sandy silt subsoil [302] 0.44m deep, which in turn overlay an orange sandy silt natural [303].

Trench 4 (Plate 2) Two field drains were noted in this trench, one was shallow, 0.7m across and 0.15m deep [404] and ran NNE-SSW, and the other stone lined and more SW [406]. A glacial group of sub angular stones and a small tree bole was also noted. These were overlain by 0.15m of topsoil [401] and 0.21m of subsoil [402].

Trench 5 (Plate 5; Fig. 4) Beneath 0.26m of mid grey brown sandy silt topsoil and mid orangey brown sandy silt and gravel subsoil two field drains were noted [503 and 505] cut into the natural sand and gravel [507]. An stone lined one [503], 0.6m wide by 0.1m deep, was filled with a mid greyish brown clayey silt [504] containing small to large rounded and sub angular stones. This may be 19th century or earlier in date, and was cut by a more modern one [505] with a ceramic pipe within a mid orangey brown sandy silt backfill [506], 0.5m wide and deep, which was clearly of 20th century date (Plate 2).

Trench 6 (Plate 3, 4) Beneath 0.35m of topsoil and subsoil three linear features were noted, probably drainage ditches. One [603] with very steep sides and a sharp break of slope at the base was approximately 0.5m deep and filled with rocks (Plate 1), and the other two [605] and [607] were shallower (0.25m-0.35m). Ditch [605] was 1.1m wide and 0.3m deep with concave sides and was filled by a mid greyish brown silty clay and sand (606). Ditch [607], 1.05m wide and 0.4m deep contained a mid greyish brown silty clay with sand and gravel (608). No dating evidence was obtained from any of these ditches, and they had no stratigraphic relationship with each other but they all appear to be drainage channels, with the stone filled one [603] showing evidence of a significant attempt at field improvement, and this one appears to be the earliest in date.

Trench 7 Beneath 0.13m of topsoil and 0.13m of a mid greyish brown sandy silt subsoil two field drains [703; 0.7m wide and 705; 0.7m wide], 0.7m wide, crossed the trench on a north-south alignment. These field drains contained a mid orangey brown sandy silt with stones placed within the ditches to assist with drainage.

Trench 8 Beneath 0.36m of topsoil and subsoil a drainage ditch was encountered [803], 9m from the north end of the trench, cutting into the natural light yellowish brown sandy clay glacial deposit (804) .

Trench 9 Beneath 0.4m of topsoil and subsoil a large tree bole (903) was encountered, up to 5.7m in diameter, probably indicating the presence of a former copse of trees in this area, as shown on the archive maps. Its fill (904) consisted of a mid greyish brown sandy silt and clay with small to large rounded and sub angular stone inclusions, and a large quantity of organic and root material. The tree bole was located 1.5m from the north north east end of the trench, and cut into a mid orangey brown sandy clay natural glacial deposit (905). The edge of the tree bole had a very irregular profile.

Trench 10 Beneath 0.23m of topsoil and 0.13m of subsoil, a drainage ditch [1004] 0.7m wide and 0.3m deep was located within this trench 4.6m from the east end. The fill (1003) consisted of a mid greyish brown clayey silt

Trench 11 Beneath 0.43m of topsoil and subsoil a ditch was noted [1104] 5.5m from the east end of the trench. This may represent a field boundary noted on the archive maps. The ditch had a somewhat uneven and variable profile, suggesting a possible hedge line.

Trench 12 Trench 12 was very similar in character to Trench 11, with a single field boundary or drainage ditch [1203] 0.7m wide was encountered 9.3m from the east end of the trench, below 0.45m of topsoil and subsoil .

Evidence of land improvement in the form of field drainage throughout the development area has been identified, carried out over a number of phases. This may date from the time of estate improvements by the Glynllifon Estate going back possibly to the 18th century. Possible former field boundaries, as noted in the geophysics survey (Hopewell 2010) were also encountered in Trench 11, along with the presence of a possible former copse of trees in Trench 9. These features would be associated with the former Glynllifon park land. No demonstrably earlier archaeological features were encountered, nor was any archaeology not noted on the geophysical survey identified.

Although no new archaeological sites, with the exception of land drainage, were encountered it was felt that there was some potential for the recovery of archaeological information. An intermittent archaeological watching brief was required by GAPS in the first stages of the development during the initial soil stripping and during the ground works.

3.2 Archaeological Watching Brief

3.2.1 Methodology

The watching brief monitored all intrusive groundworks associated with the development scheme. This included topsoil stripping, which was carried out in September and October 2010 and a levelling deposit of slate chippings was laid over the site (Plate 7). The ground works, services and sewerage trenches (Plate 8) were excavated through this surface, landscaping carried out, and access roads were constructed.

A photographic and written record of the watching brief was completed (GAT archive **G2092**). The photographs were taken by a digital SLR set to maximum resolution.

3.2.2 Results

No significant new archaeological deposits were encountered. However a trench was inspected that was excavated to expose existing water services connected to an inspection chamber at the south western end of site. The trench measured 5.0m in width and 0.40m in depth and ran parallel to the existing east-west estate road. The trench terminated at the main compound entrance at the south eastern end of the development. The trench was notable in containing a truncated stone built feature, interpreted as a redundant field drain, directly opposite *Arddol* estate cottage. The feature comprised a 0.40m wide cut filled with sub-rounded stone. The feature appeared similar to a drain identified in Trench 7 [703] during the evaluation phase and may also represent geophysical anomaly 31, identified in GAT Report 867. The feature was only extant for a very

short length (c.0.50m), but sub-rounded stones were scattered around the area inside the trench, suggesting it had been truncated and disturbed.

The trench was also notable in defining a change in geology from orange drift to sand and gravel. The full length of the western spur road was recorded. Elsewhere, the main focus of activity was in the new turning circle area, where the ground level was being reduced and landscaped in advance of importing material for the building sub-base. 1.7m of mid orangey brown glacial clays were noted below the stripped topsoil.

4. CONCLUSIONS

The archaeological evaluation trenches resulted in the identification of a former copse of trees and field boundaries identified during the assessment phase of the project (Cooke *et al.* 2009; Hopewell 2010). These indicate a pattern of former land use with smaller fields and hedgerows present, with small copses of trees. This division of the landscape is clearly indicated on the 1751 Glynllifon estate map (*ibid.*; Fig. 3).

A number of field drains were identified, of both stone lined and ceramic pipe type. These indicate that a significant amount of land improvement has taken place, which may date back to the 18th century, but much of it, including those containing ceramic pipes, are probably 20th century in date.

The watching brief identified further evidence for field drains, and for the varied geology, but no new archaeological features were identified.

5. ARCHIVE

The archive consists of 12 trench record sheets, context record sheets, context and drawing registers. Site drawings are recorded on two A2 sheets and 137 digital images taken. These are currently held by GAT under project code **G2092**.

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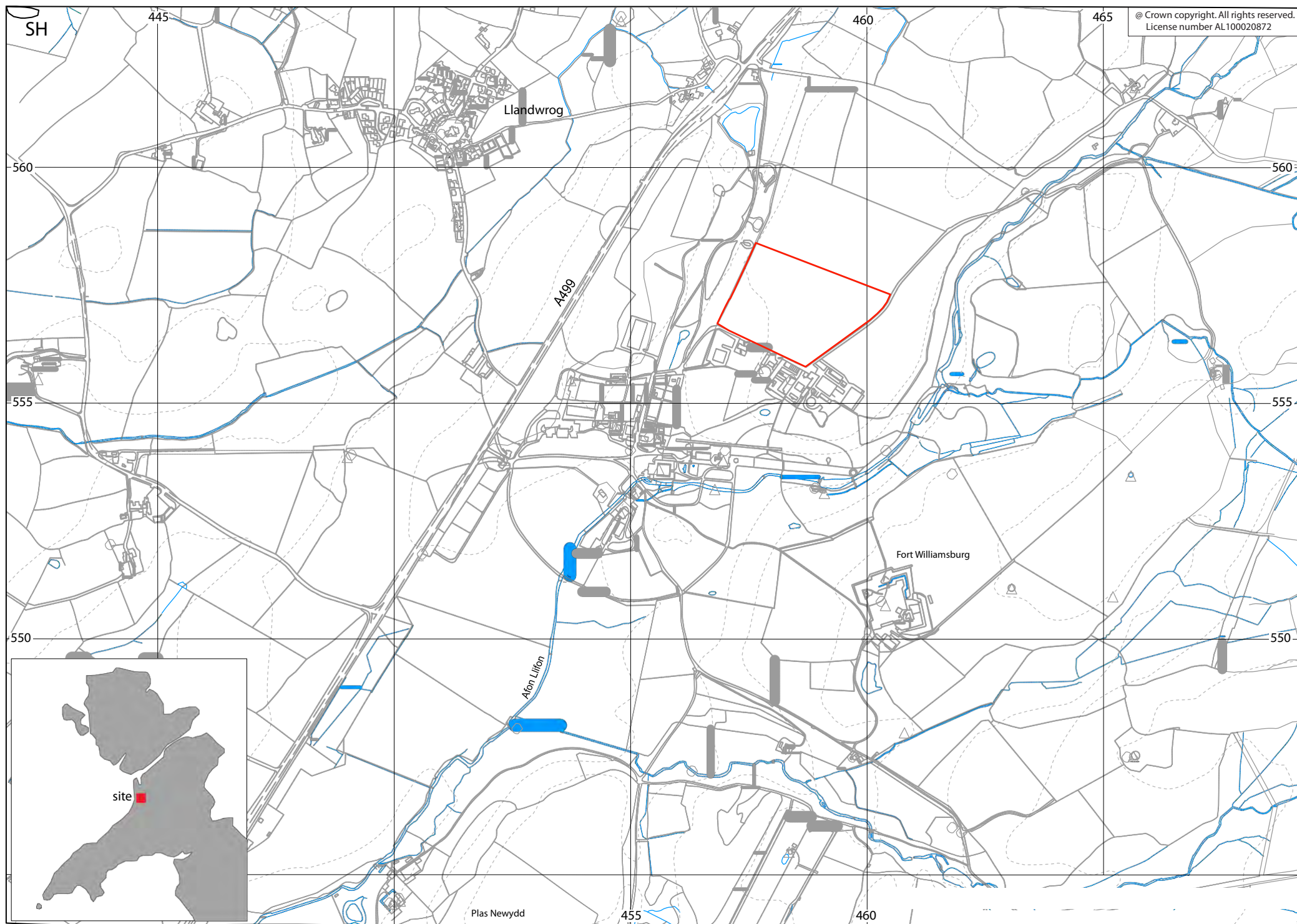


Figure 1. Location of evaluation area. Base map taken from Ordnance Survey 1:10 000 sheet SH45SE. Evaluation area outlined in red



Fig. 2 Trench Positions, with location of features identified

Scale 1:2000



Fig. 3 Interpretative plan of geophysical survey, showing targeted trench locations (Taken from Hopewell 2010, Fig. 3).

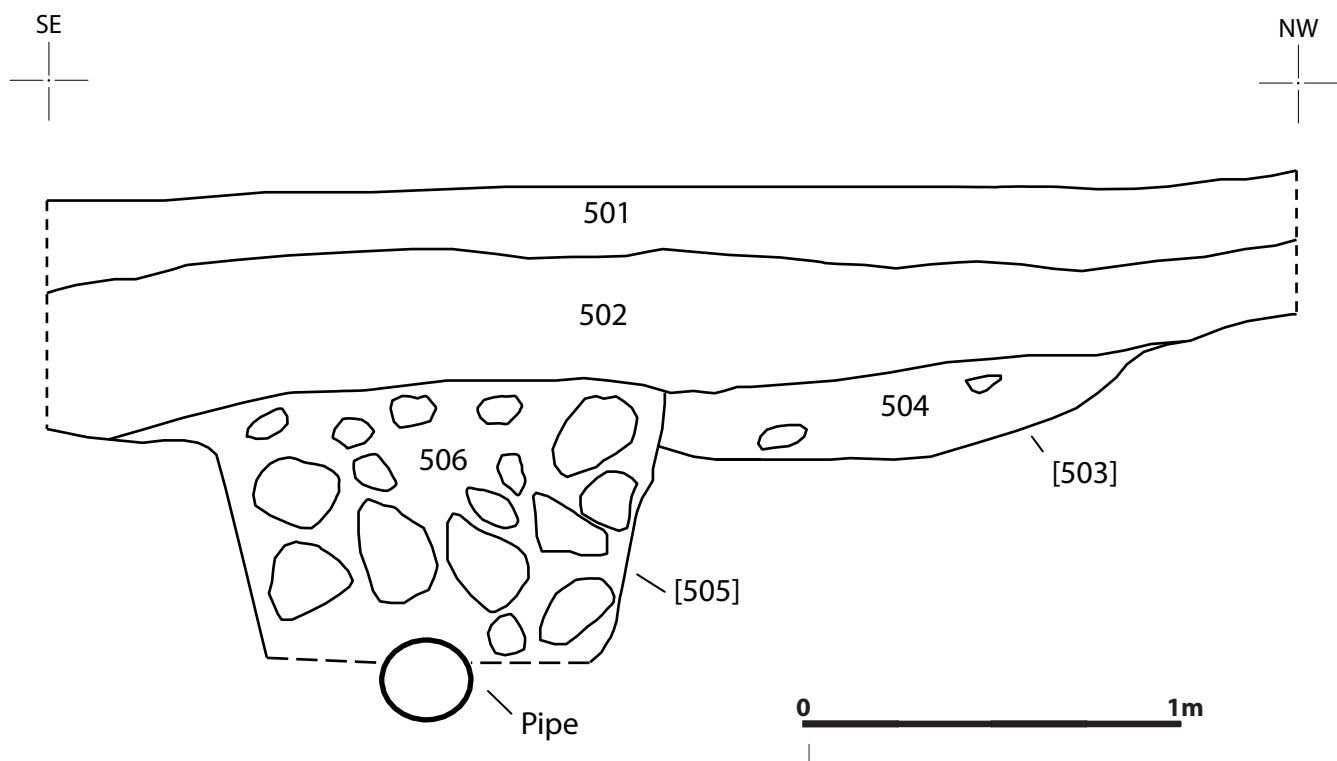


Fig. 4 South west facing section of Trench 5 showing ditches [503] and [504]



Plate 1 General view of assessment area looking north east



Plate 2 Field drain in trench 4 [404]. Scale 2m with 50cm divisions



Plate 3 Stone lined drainage ditch [603] in Trench 6. Scales 1m



Plate 4 General view of Trench 6 from the south east, showing the three drainage ditches [603, 605, 607]



Plate 5 Intersection of modern drainage ditch (with ceramic pipe) [505] and earlier drainage ditch [503] in Trench 5. Scales 1m and 50cm



Plate 6 General shot showing section in Trench 1. Scale 50cm with 10cm divisions



Plate 7 Trench 1 General shot. Scales 2m and 1m.



Plate 8 General view from the south during construction phase, showing 0.4m of levelling



Plate 9 Excavation for service manhole during construction phase

APPENDIX I

**PROPOSED DEVELOPMENT AT
GLYNLLIFON, GWYNEDD**

**PROJECT DESIGN FOR
ARCHAEOLOGICAL EVALUATION
PHASE 3 TRIAL TRENCHING**

Prepared for

Capita Symonds

June 2010

Ymddiriedolaeth Archaeolegol Gwynedd
Gwynedd Archaeological Trust

COLEG MEIRION DWYFOR, GLYNLLIFON

PROJECT DESIGN FOR ARCHAEOLOGICAL EVALUATION (G2092)

Prepared for Capita Symonds, March 2010

1. PROJECT BACKGROUND

Gwynedd Archaeological Trust has been asked by Capita Symonds to provide a cost and project design for carrying out a second phase of archaeological evaluation in advance of a proposed development at Coleg Meirion Dwyfor, Glynllifon, Llandwrog.

An archaeological assessment was undertaken in November 2009 (GAT Report 834). No upstanding sites were identified within the study area, however because of the density of archaeological sites within the surrounding area further evaluation was recommended. The first phase of this, consisting of a high resolution magnetometer survey, has been undertaken (GAT Report 867). A second phase consisting of trial trenching has now been requested. A brief has been prepared for this scheme by Gwynedd Archaeological Planning Service (Ref: D1332), in which 480 sq m of trenching is specified.

This design will conform to the guidelines specified in *Standard and Guidance for Archaeological Field Evaluation* (Institute of Field Archaeologists, 1994, rev. 2008).

2. ARCHAEOLOGICAL AIMS

A desk-based assessment is defined as “a programme of assessment of the known or potential archaeological resource within a specified area or site on land, inter-tidal zone or underwater. It consists of a collation of existing written, graphic, photographic and electronic information in order to identify the likely character, extent, quality and worth of the known or potential archaeological resource in a local, regional, national or international context as appropriate” (IFA 2001, 2)

The aims of the assessment are:

- to identify and record the cultural heritage within the defined study area;
- to evaluate the importance of what has been identified;
- to recommend ways in which impact upon the cultural heritage can be avoided or minimised.

To comply fully with the aims expressed above it can be necessary to undertake a programme of Field Evaluation following the Desktop study and Field Visit. This is because some sites cannot be assessed by desktop or field visit alone, and additional fieldwork is therefore required. This typically takes the form of geophysical survey or trial excavation, although measured survey is also a possible option. A full programme of assessment and evaluation may therefore consist of:

- Desktop study
- Field walkover
- Initial report
- Field evaluation
- Draft report
- Final report

This design is for Field Evaluation (Trial Trenching) only. Mitigation recommendations will be made following completion of this phase of works.

3. ARCHAEOLOGICAL BACKGROUND

The scheme lies within the grounds of Glynllifon, Llanwnda, Gwynedd. Glynllifon was an important estate, owned initially by the Glyn family, who later married into the Wyn family of Bodfean. A part of the estate, including the house, was eventually sold by the Wyn family in 1948, after which it was bought by the County Council for use as an agricultural college. The house is now hotel, but the college is still housed within the grounds, and part of the former parkland is run as a public park by the Local Authority. The buildings and parkland all form part of a heritage rich landscape, the importance of which is recognised by the high density of listed buildings on the site, and the inclusion of the site within the register of parks and gardens of special historic interest in Wales (Grade I). The magnetometer survey identified a high density of anomalies, the majority of which appeared to belong to an earlier field system which is no longer visible. Some of the boundaries could be matched to those shown on an 18th century estate map.

4. PROGRAMME OF WORK

4.1 Trial Trenching

The proposed development occupies approximately 3.6 ha of the total 5.2 ha which was surveyed. The Trial Trenching will be undertaken only within the smaller area of proposed development. The Brief specifies a minimum area of 480 sq m of trenches, consisting of 12 trenches each measuring 20m x 2m. These are to be placed to test both features identified on the magnetometer survey and 'blank' areas. A suggested layout for the trenches is shown on figure 1.

The excavations will conform to the guidelines specified in IFA Standards and Guidance: Field Evaluation (1994, rev. 2008), where field evaluation is defined as "a limited programme of non-intrusive and/or intrusive fieldwork which determines the presence or absence of archaeological features, structures, deposits, artefacts or ecofacts within a specified area or site on land, inter-tidal zone or underwater. If such archaeological remains are present field evaluation defines their character, extent, quality and preservation, and enables an assessment of their worth in a local, regional, national or international context as appropriate".

This phase of the work will involve the excavation of a series of trenches each 2m wide, with the aim of excavating a minimum of 480 sq m. The exact layout will be determined through consultation with the clients and the Development Control Archaeologist. However a suggested layout is given in fig 1. The trenches have been placed both to examine features noted during the magnetometer survey and to examine other areas. The work will be phased, so that the results from the earlier trenches can inform the location of later trenches.

The work will be undertaken according to the following specification.

All trenches will be initially opened by machine. This will normally be a JCB 3CX type excavator or a 360° tracked excavator with a 1.8m wide toothless ditching bucket. All machining will be undertaken under direct archaeological supervision.

All undifferentiated topsoil or overburden of recent origin will be removed down to the first significant archaeological horizon, in successive, level spits. Following machine clearance, all faces of the trench that require examination or recording will be cleaned using hand tools. All investigation of archaeological levels will be by hand, with cleaning, examination and recording both in plan and section. Spoil heaps will be monitored to recover artefacts to assist in the analysis of the spatial distribution of artefacts. Modern artefacts will be noted but not retained.

Within significant archaeological levels a minimum number of features required to meet the aims will be hand excavated. Occasional pits and postholes will be subject to a 50% sample by volume. Complex clusters of pits will be sampled more selectively. Linear features will be sectioned as appropriate. Features not suited to excavation within narrow trenches will not be sampled. No archaeological deposits will be entirely removed unless this is unavoidable. It is not necessarily the intention that all trial trenches will be

fully excavated to natural stratigraphy, but the depth of archaeological deposits across the site will be assessed. The stratigraphy of all evaluation trenches will be recorded even where no archaeological deposits have been identified.

4.2 Processing data, illustration and report

The level of post-excavation analysis and reporting for the purposes of the evaluation will be sufficient to establish the character, scale, date range, artefactual and palaeo-environmental potential and overall significance of the remains.

The level of artefact analysis will be sufficient to establish date ranges of archaeological deposits, a general assessment of the types of pottery and other artefacts to assist in characterising the archaeology, and to establish the potential for all categories of artefacts should further archaeological work be necessary.

Palaeo-environmental samples, if appropriate, will be processed and scanned to establish the site's potential for yielding valuable information of this type. The scanning will be performed by specialists with appropriate experience of assessing the significance and potential of such material on the basis of limited analysis. Samples will be retained for possible future detailed analysis.

The significance of any archaeology will be judged by general reference to the non-statutory criteria for scheduled monuments. The report on the evaluation will provide an assessment of the impact of the scheme and an outline of mitigation measures proposed. The findings will be discussed with the Development Control archaeologist.

Following the completion of the field work, the data will be processed, final illustrations will be compiled and a report will be produced which will detail and synthesise the results. Survey drawings and a sample of relevant photographs will be used to illustrate the reports.

The report will include:

- Introductory statements
- Aims and objectives
- Methodology
- Results
- Conclusions and mitigation recommendations
- Archive location
- Appendices
- Illustrations
- References and bibliography

5. DISSEMINATION AND ARCHIVING

A full archive including plans, photographs, written material and any other material resulting from the project will be prepared. All plans, photographs and descriptions will be labelled, and cross-referenced, and lodged in an appropriate place within six months of the completion of the project. The location is to be agreed with the Curatorial Archaeologist.

Copies of the report will be sent to the regional HER.

The results of the assessment will be published in a suitable journal (e.g. Archaeology in Wales) if relevant.

6. PERSONNEL

The work will be supervised by Mr Andrew Davidson, Principal Archaeologist. The work will be undertaken by one of the Trust's Archaeologists experienced in the relevant skills/periods required. Full details of personnel involved, with *curricula vitae*, can be supplied upon request.

7. MONITORING AND TIMING

Monitoring visits can be arranged during the course of the project with the clients and with the appropriate Development Control archaeologist.

8. HEALTH AND SAFETY

The Trust subscribes to the SCAUM (Standing Conference of Archaeological Unit Managers) Health and Safety Policy as defined in **Health and Safety in Field Archaeology** (2006). Risks will be assessed prior to and during the work.

9. OTHER

Any queries concerning the above should be directed to Mr Andrew Davidson or Mr John Roberts at the Gwynedd Archaeological Trust Offices, Garth Road, Bangor. Telephone (01248) 352535.

APPENDIX II

**PROPOSED DEVELOPMENT AT
GLYNLLIFON, GWYNEDD**

**PROJECT DESIGN FOR ARCHAEOLOGICAL
WATCHING BRIEF (G2092)**

Prepared for

Capita Symonds

August 2010

Ymddiriedolaeth Archaeolegol Gwynedd
Gwynedd Archaeological Trust

PROPOSED DEVELOPMENT AT GLYNLLIFON, GWYNEDD

PROJECT DESIGN FOR ARCHAEOLOGICAL WATCHING BRIEF (G2092)

Prepared for *Capita Symonds*, August 2010

1.0 INTRODUCTION

Gwynedd Archaeological Trust (GAT) has been asked by *Capita Symonds* to provide a cost and project design for carrying out an archaeological watching brief during development groundworks for Coleg Meirion Dwyfor, Glynllifon, Gwynedd (centred on NGR **SH45335527**).

1.1 Background

GAT has completed a series of archaeological mitigation works within the development area (GAT Reports **826**, **827**, **830**, **834** and **867**), including an assessment phase and a subsequent evaluation phase. The most recent assessment was undertaken in November 2009 (GAT Report **834**). No upstanding sites were identified within the development area, but evaluation was recommended as further mitigation, undertaken as a two phased project. Phase 1 included a high resolution magnetometer survey (GAT Report **867**): the magnetometer survey identified a high density of anomalies, the majority of which appeared to belong to an earlier field system, no longer visible; phase 2 of the evaluation was completed in response to these results and targeted specific anomalies via trial trenching (12 trenches equating to 480m²; GAT Report forthcoming). The evaluation identified significant evidence of land improvement in the form of field drainage throughout the development area, carried out over a number of phases postulated for the time of estate improvements by the Glynllifon Estate from the 18th century. The field boundaries identified during the magnetometer survey were also encountered, along with the presence of a possible former copse of trees associated with the former Glynllifon park land. No demonstrably earlier archaeological features were encountered (Initial results are reproduced in Appendix I).

1.2 Mitigation

A mitigation brief has not been prepared for this phase of work by **Gwynedd Archaeological Planning Services** (GAPS), but GAPS has monitored the scheme throughout under ref. D1332). GAPS has recommended an archaeological watching brief, within the development area as suitable mitigation; to be completed during initial groundworks, which includes topsoil/subsoil stripping. For the purposes of this design, the watching brief zone will encompass the development area previously evaluated by GAT and reproduced in this document as **Appendix I/Figure 1**.

Reference will also be made to the guidelines specified in Standard and Guidance for Archaeological Watching Brief (Institute for Archaeologists, 1994, rev. 2001).

2.0 REQUIREMENTS OF THE BRIEF

The **watching brief** will consist of the following:

- Observation of non-archaeological excavation works.
- A drawn, written and photographic record of any archaeological structures and deposits that may be revealed.
- Preparation of full archive report.

The watching brief will monitor:

- All groundworks

The monitoring of works is to be undertaken in a manner that allows for the immediate cessation of groundworks for the recording of archaeological activity, if identified.

The subsequent report should include:

1. A copy of the design brief and agreed specification;
2. A location plan;
3. A drawn, written and photographic record of any archaeological structures and deposits that may be revealed, including full dimensional and descriptive detail;
4. Discussion of the archaeological significance and research potential of any findings;
5. A full bibliography of sources consulted.

3.0 METHOD STATEMENT

3.1 Definition of an archaeological watching brief

(Reproduced from IFA. 2001. *Institute for Archaeologists 2001 Standard and Guidance for an archaeological watching brief*)

The definition of an archaeological watching brief is a formal programme of observation and investigation conducted during any operation carried out for non-archaeological reasons. This will be within a specified area or site on land, inter-tidal zone or underwater, where there is a possibility that archaeological deposits may be disturbed or destroyed. The programme will result in the preparation of a report and ordered archive.

This definition and *Standard* do not cover chance observations, which should lead to an appropriate archaeological project being designed and implemented, nor do they apply to monitoring for preservation of remains *in situ*.

An archaeological watching brief is divided into four categories according to the IFA. 2001. *Institute for Archaeologists 2001 Standard and Guidance for an archaeological watching brief*:

- comprehensive (present during all ground disturbance)
- intensive (present during sensitive ground disturbance)
- intermittent (viewing the trenches after machining)
- partial (as and when seems appropriate).

A partial watching brief has been recommended by GAT: targeting initial groundworks

3.2 Purpose of a watching brief

The purpose of a watching brief is:

- to allow, within the resources available, the preservation by record of archaeological deposits, the presence and nature of which could not be established (or established with sufficient accuracy) in advance of development or other potentially disruptive works
- to provide an opportunity, if needed, for the watching archaeologist to signal to all interested parties, before the destruction of the material in question, that an archaeological find has been made for which the resources allocated to the watching brief itself are not sufficient to support treatment to a satisfactory and proper standard
- A watching brief is not intended to reduce the requirement for excavation or preservation of known or inferred deposits, and it is intended to guide, not replace, any requirement for contingent excavation or preservation of possible deposits.

The objective of a watching brief is:

- to establish and make available information about the archaeological resource existing on a site.

The archaeologist shall establish the scope of the watching brief, whether comprehensive (present during all ground disturbance), intensive (present during sensitive ground disturbance), intermittent (viewing the trenches after machining), or partial (as and when seems appropriate).

3.3 Occurrence

A watching brief may arise:

- in response to a development which threatens the archaeological resource
- as part of the planning process (within the framework of appropriate national planning policy guidance notes) and/or development plan policy
- as part of an Environmental Impact Assessment (EIA)
- outside the planning process (e.g. ecclesiastical development, coastal erosion, agriculture, forestry and countryside management, works by public utilities and statutory undertakers) A watching brief may therefore be instigated or commissioned by a number of different individuals or organisations, including local planning authorities, national advisory bodies, government agencies, private landowners, developers or their agents.

3.4 Methodology

3.4.1. Archaeological Watching Brief

- **The watching brief is to be undertaken in a manner that allows for the immediate cessation of the groundworks for the recording of archaeological evidence. This will involve close liaison between the archaeologist and the site agent.**
- A photographic record will be maintained throughout, using a digital SLR camera set to maximum resolution.
- Any subsurface remains will be recorded photographically, with detailed notations and a measured survey.
- The archive will then be held by GAT under an appropriate project number (**tbc**).

It is recommended that all plant operating use a TOOTHLESS bucket during initial groundworks.

Based on information received from the client, the site compound is located to the immediate southeast of the development area. If intrusive groundworks are required for the compound, it is recommended that the watching brief is extended to this area.

4.0 FURTHER ARCHAEOLOGICAL WORKS

- **As discussed with GAPS, the identification of significant archaeological features within the cable route may require the submission of new cost estimates to the contractor.**
- **This design does not include a methodology or cost for examination of, conservation of, or archiving of finds discovered during the watching brief, nor of any radiocarbon dates required, nor of examination of palaeoenvironmental samples. The need for these will be identified in the post-fieldwork programme (if required), and a new design will be issued for approval by the GAPS Archaeologist.**

5.0 ENVIRONMENTAL SAMPLES

If necessary, relevant archaeological deposits will be sampled by taking bulk samples (a minimum of 10.0 litres and maximum of 30.0 litres) for flotation of charred plant remains. Bulk samples will be taken from waterlogged deposits for macroscopic plant remains. Other bulk samples, for example from middens, may be taken for small animal bones and small artefacts.

6.0 HUMAN REMAINS

Any finds of human remains will be left *in-situ*, covered and protected, and both the coroner and the GAPS Archaeologist informed. If removal is necessary it will take place under appropriate regulations and with due regard for health and safety issues.

7.0 SMALL FINDS

The vast majority of finds recovered from archaeological excavations comprise pottery fragments, bone, environmental and charcoal samples, and non-valuable metal items such as nails. Often many of these finds become unstable (i.e. they begin to disintegrate) when removed from the ground. All finds are the property of the landowner, however, it is Trust policy to recommend that all finds are donated to an appropriate museum where they can receive specialist treatment and study. Access to finds must be granted to the Trust for a reasonable period to allow for analysis and for study and publication as necessary. All finds would be treated according to advice provided within *First Aid for Finds* (Rescue 1999). Trust staff will undertake initial identification, but any additional advice would be sought from a wide range of consultants used by the Trust, including National Museums and Galleries of Wales at Cardiff, ARCUS at Sheffield and BAE at Birmingham.

8.0 PROCESSING DATA, ILLUSTRATION, REPORT AND ARCHIVING

Following completion of the watching brief as outlined above, a report will be produced incorporating the following:

- Non-technical summary
- Introduction
- Specification and Project Design
- Methods and techniques
- Archaeological Background
- Description of the results of the watching brief
- Summary and conclusions

- Bibliography of sources consulted.

Illustrations, including plans and photographs, will be incorporated within the report.

A full archive including plans, photographs, written material and any other material resulting from the project will be prepared. All plans, photographs and descriptions will be labelled and cross-referenced, and lodged in an appropriate place (to be decided in consultation with the regional Historic Environment Record) within six months of the completion of the project. All digital data will be written to CD-ROM and stored with the paper archive.

- one or more copies (as required) will be sent to the client
- one or more copies (as required) will be sent to GAPS
- one or two copies (as required) sent to the Historic Environment Record Archaeologist for the area (HER, Gwynedd Archaeological Trust, Craig Beuno, Bangor, Gwynedd LL57 2RT);
- copies of all key digital files on optical media should be provided to GAPS and the Regional HER, including report, photographs, scans of maps etc.
- a copy of the report and/or digital files on optical media should be provided to the National Monument Record (Royal Commission on the Ancient and Historic Monuments of Wales, Aberystwyth, SY23 1NJ) dependant upon their requirements.

9.0 STAFF

The project will be supervised by Andrew Davidson, Principal Archaeologist at the Trust, who has worked in various aspects of British archaeology for over 20 years, and who has been responsible for managing all contract work at GAT for the past nine years, including archaeological programmes for major road contracts, pipeline construction and new development sites. The work will be carried out by fully trained Project Archaeologists who are experienced in conducting watching briefs and working with contractors and earth moving machinery. (Full CV's are available upon request).

10.0 HEALTH & SAFETY

The Trust subscribes to the SCAUM (Standing Conference of Archaeological Unit Managers) Health and Safety Policy as defined in **Health and Safety in Field Archaeology** (1999).

All main staff members are CSCS registered.

11.0 SOURCES CONSULTED

Historic Environment Record, Gwynedd Archaeological Trust, Craing Beuno, Bangor, Gwynedd LL57 2RT

Standard and Guidance for Archaeological Watching Brief (Institute for Archaeologists, 1994, rev. 2001)



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