

Esgyryn, Llandudno Junction

Archaeological Mitigation Report for Boundary Recording and Controlled Strip Excavation



Ymddiriedolaeth Archaeolegol Gwynedd
Gwynedd Archaeological Trust

Esgyryn, Llandudno Junction

Archaeological Mitigation Report for Boundary Recording and Controlled Strip Excavation

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Non-Technical Summary

The Gwynedd Archaeological Trust completed a programme of archaeological mitigation in advance of the construction of a 420 place Area Primary School, located within 3.0ha of vacant pasture west of the A470, Llandudno Junction, Conwy. The mitigation comprised an archaeological record of the existing field boundaries and the controlled strip of a targeted area at the southern end of the development zone. The mitigation programme was completed as part of completed as part of planning reference 0/40597 condition 7 and was a continuation of a pre-condition archaeological assessment and geophysical survey. The controlled strip targeted a series of geophysical anomalies indicative of archaeological activity, including potential field boundaries and isolated features. A total of nine features were identified within the controlled strip area, with six features subsequently confirmed as natural in origin. The remaining three were a linear ditch and two small pits. The linear feature matched one of the geophysical anomalies and was interpreted as a former field boundary. The feature was not extant on any historic mapping, suggesting a medieval date; however, 19th and 20th century pottery was recovered from the infill of the ditch, suggesting a more recent origin. It is probable that the feature may continue outside the controlled strip zone and it is possible that it may be identified during archaeological mitigation for the main development stage. The two small pits were located close to the linear feature but were not related as a radiocarbon date from a charcoal sample collected from one of the two pits returned an Early to Middle Neolithic date. The two pits were similar in size and content, suggesting they were contemporary, although only one of the pits contained charcoal. The palaeoenvironmental report for the charcoal stated that it was most likely fire fuel and kindling, represented by Oak and Willow/Poplar respectively, which would have been sourced from the local area. There are no known contemporary features in the locality, although a later, Bronze Age later pit was identified 324.0m to northwest during archaeological mitigation on a separate development, suggesting there is a greater spread of prehistoric activity.

It is recommended that an intensive watching brief is maintained during the main development groundworks due to the potential for identifying further prehistoric activity as well as activity associated with the linear feature.

1.0 INTRODUCTION

Gwynedd Archaeological Trust (GAT) was commissioned by *Ainsley Gommon Architects* to undertake a phased programme of archaeological mitigation at the location of a proposed 420 place Area Primary School, located within 3.0ha of vacant pasture west of the A470, Llandudno Junction, Conwy (**NGR SH80647804C**; Figure 01). The mitigation was being completed as part of planning reference 0/40597 condition 7. The phased programme of archaeological works comprises:

- An archaeological assessment and geophysical survey (completed; GAT Report 1179 & *Eden Mapping* Report GAT-14-001, April 2014);
- An archaeological controlled strip and hedgerow survey prior to construction (current report); and
- An archaeological watching brief during construction (forthcoming; scheduled from October 2015).

The current report includes the results of the controlled strip and hedgerow survey. The controlled strip and hedgerow survey were completed in March 2015. The controlled strip comprised the topsoil and subsoil removal of a 55m x 20m area, located close to the southern limit of the development and positioned over geophysical anomalies identified during the assessment/geophysical survey phase. In tandem, the existing field boundaries within the development site were recorded prior to removal by an arboriculture contractor (cf. Figure 01). The current report details the results of the controlled strip and field boundary mitigation and includes the analysis and assessment of a palaeoenvironmental sample recovered from a sealed, charcoal-rich deposit within a small pit recorded within the strip area.

A project design was prepared by GAT and submitted to Gwynedd Archaeological Planning Services (GAPS) in April 2015, summarising the results of the mitigation and proposing a post-excavation analysis and assessment strategy for the mitigation report (Appendix V). This design was revised further to comments by GAPS and resubmitted June 2015.

Note: further archaeological mitigation will be completed during the main construction phase in accordance with condition 7 of the planning permission. This will include a watching brief

of the development footprint and the relevant scope of works will be covered in an appropriate project design and report.

The project is monitored by GAPS. The content of this report must be approved by GAPS.

Reference has been made to the following guidelines:

- English Heritage, 2015, *Management of Research Projects in the Historic Environment (MoRPHE)*.
- English Heritage, 1991, *Management of Archaeological Projects*
- English Heritage (2002) *Environmental Archaeology: A guide to the theory and practise of methods, from sampling and recovery to post-excavation*. English Heritage Publications. Swindon.
- *Standard and Guidance for Archaeological Excavation* (Chartered Institute for Archaeologists, 1995, rev. 2001, 2008 and 2014).
- *Standard and Guidance for Archaeological Watching Brief* (Chartered Institute for Archaeologists, 1995, rev. 2001, 2008 and 2014).
- *Standard and Guidance for the Creation, Compilation, Transfer and Deposition of Archaeological Archives* (Chartered Institute for Archaeologists, 2009 and 2014).
- *Standard and Guidance for the Collection, Documentation, Conservation and Research of Archaeological Materials* (Chartered Institute for Archaeologists, 2008 and 2014).

2.0 ARCHAEOLOGICAL AND HISTORICAL BACKGROUND.

GAT previously conducted an archaeological assessment and evaluation (geophysical survey) of the proposed development (see GAT Report 1179 & *Eden Mapping* Report GAT-14-001, April 2014). The assessment/evaluation report identified nine features within the development plot, including four field boundaries and a footpath, as well as four geophysical survey anomalies suggesting former field boundaries and plough markings. Two small curvilinear anomalies were also identified in the eastern field.

The existing field boundaries separating the three current fields within the development are also evident on historic mapping, including the 1840 Llangwstennin Tithe Map that predates the Llangwstennin Enclosure Act of 1843. Under the terms of the Hedgerow Regulations 1997 they are potentially of historic value, as they form an integral part of a field system pre-dating the Enclosure Act (Hedgerow Regulations 1997 Schedule 1 Part II, 5). The footpath is evident on the First to Third Edition 25" Ordnance Survey maps of the area and partly runs through the development plot. It was not identified during the walkover survey and the report recommended a basic record of this feature during the development works if it is visible during initial groundworks.

The archaeological assessment had indicated that there were no known prehistoric, Roman or early medieval archaeological sites within the boundary of the proposed development or the surrounding area, although recently on an adjacent development roughly 300m to the north, a small pit was uncovered which contained carbonised hazel that produced a C14 date of 3319 BP (before 1950) or 1519 BC. Later activity, in the form of a cluster of medieval field boundaries (PRNs 36,513; 36,515; 36,516) were located to the immediate north west of the development area.

3.0 TOPOGRAPHY

The site is located to the east of Llandudno Junction and immediately west of the A470.

The site comprises of grassed agricultural land currently subdivided into 3 fields by hedges and semi-mature and mature trees; predominantly oak. A water-filled ditch roughly bisects the site, following a northwest to southeast course. Overhead electricity transmission lines cross the approximate centre of the site and is bounded by open fields to the north, the A470 road to the east, government offices to the south and residential properties to the west.

The underlying bedrock geology of the development area comprises of mudstone and siltstone, sedimentary bedrock formed in deep seas from irregular slurries of shallow water sediment that were then re-deposited as graded beds, approximately 428 million years ago. The superficial deposits of till, Devensian-Diamicton rocks were formed approximately 2 million years ago when Ice Age glaciers moving across the landscape deposited till with outwash, together with sand and gravel deposits from seasonal and post glacial meltwaters (www.bgs.ac.uk).

4.0 METHODOLOGY

4.1 Field Boundary Record

An assessment and walk over survey was conducted by GAT in May 2014 (Roberts and Evans 2014, Report 1179) in which it was suggested that the field boundaries within the assessment area predated the Llangwstennin Enclosure Act of 1843 (Figure 02), indicating that they are potentially of historic significance under the terms of The Hedgerow Regulations 1997 (Appendix IV), as they form an integral part of a field system pre-dating the Enclosure Act (Schedule 1 Part II, 5). Recommendations were made for the detailed recording of these features prior to and during the development and a photographic and written record was completed in February 2015.

GAT archaeologists attended site to record the boundaries using GAT pro-forma recording sheets, a photographic record was made using a digital SLR camera set to RAW format with appropriate scales. The boundaries were numbered 1-5 and labelled on a plan (see Figure 03). The photographic shots were completed at equidistant points 10 metres apart. Tree heights and gaps in the boundaries were also photographed, as well as the general descriptions of any characteristic or diagnostic elements.

4.2 Archaeological Controlled Strip

The archaeological controlled strip was completed in March 2015. The controlled strip was positioned in response to a magnetometer geophysical survey completed as part of the assessment stage (Roberts and Evans 2014, Report 1179) and targeted a series of anomalies identified in the survey as indicative of archaeological activity (Figure 04).

The controlled strip measured 55m x 20m and was located using a Trimble R8 GPS receiver (Figure 04), followed by a HSG47 survey of the site conducted by an accredited operator to assist in detecting any possible unknown underground services.

The controlled strip was completed by an 8 tonne 360° tracked excavator, which removed the topsoil and subsoils as far as the glacial horizon. The topsoil and subsoils were stored in separate bunds using two 6 tonne dumper trucks. On completion of the controlled strip, the area was backfilled.

All field records were completed on GAT pro-formas; photographs were taken in RAW format using a Nikon D40X at 3872 x 2592 pixels (cf. Appendix III for the photographic metadata); hand drawn sections were completed at 1:10 scale, plans at 1:20 scale. A digital survey was completed using a Trimble R8 GPS receiver (cf. Figure 05).

A palaeoenvironmental sample was recovered from a sealed, charcoal-rich context (Sample Number <01> Context (008); Figure 06), using a 10 litre sample bucket. The sample was processed by *Brython Archaeology* and the charred plant remains were analysed by a specialist nominated in the post-excavation project design (Rosalind McKenna) and radiocarbon dated by *Scottish Universities Environmental Research Centre* (SUERC). The results are discussed in para. 6 below.

Below is a summary of the controlled strip archive.

<i>Item</i>	<i>Quantity</i>	<i>Comments</i>
Context sheets	18	Context Numbers 001-018; cf. Appendix III
Drawings	4	Sheet 01, Drawings 01-04; cf. Figures 5 to 7
Ecofact sample	1	Sample Number <01> Context (008)
Digital photographs	104	001-104; cf. Appendix II

5.0 RESULTS – BOUNDARIES

For the location of individual boundaries, cf. Figure 03.

5.1 Boundary 1 – PRN 60149 (Plate 01)

(Feature 5 in the assessment report, GAT report 1179)

The boundary was inspected and confirmed to be recently re-planted and landscaped, most likely when the car park for the new Welsh Government offices was constructed. The vegetation was reasonably dense with young ornamental trees featuring cherry, oak, hazel and ash trees forming the majority. The boundary curved round the carpark from the SE curving to the E.

5.2 Boundary 2 – PRN 60140 (Plate 02)

(Feature 1 in the assessment report, GAT report 1179)

This was a NNE to SSW running boundary with a ditch running parallel along either side. The average width measured 3.00m and the average height being 2.20m (although excluding large trees and a pylon). This hedge was recorded on both sides (and including) and an opening within it (see Figure 03). The break in the boundary measured approximately 4.10m and was partially obstructed by a large metal animal trough and a pylon. The bulk of the hedge was made up of hawthorn and blackthorns with the occasional tree including ash, oak and a possible willow, all heavily cut back but reasonably mature.

5.3 Boundary 3 – PRN 6041 (Plate 03)

(Feature 2 in the assessment report, GAT report 1179)

This was a wandering boundary which ran roughly NW to SE, measuring between 1.5m to 3.0m in width and 1.0 to 2.0m high. The vegetation sat on a slight bank with a water filled ditch on the NE side. The bank became slightly more defined at the S end and curved to the SW. The boundary comprised of a line of small wooden post and wire fencing with clusters of mature oak trees at both ends and centre, along with the occasional coppiced willow. Gorse and blackthorn was located between the trees.

5.4 Boundary 4 (Plate 04)

This was a slightly sparse boundary running NE to SW following a somewhat wandering route. The first section at the NE end was a continuation of Boundary 3. It consisted of a low bank measuring 0.5m in height; 1.6m wide, with wooden posts and wire fencing set into the top of the hedge bank. There was a fairly shallow water filled ditch running along the E side of the boundary. The vegetation comprised a mixture of oak, willow and ash trees – allowed to mature to full height and irregularly spaced along the length of this section of the boundary with low holly, hawthorn and dog rose florals interspaced between the trees.

Twelve metres from the NE end of the boundary; the bank curved to the SE (and then became Boundary 5). After a 4.0m wide break in the boundary, it continued on a NE to SW axis. This section was made up of a moderately straight dense hedge intersected by 3 narrow openings, and measured 3.0m wide and 1.80m high. The vegetation comprised a mix of hawthorn, blackthorn, brambles, gorse, dog rose and elder, some of which looked fairly mature, though cut back. There was an ash tree at the SW end and an oak tree at the NE end of the boundary that had grown to full height. This section appeared to be a later addition to the first section of the boundary.

5.5 Boundary 5 – PRN 60142 (Plate 05)

(Feature 3 in the assessment report, GAT report 1179)

This boundary ran from the NW to the SE with a slight curve and consisted of a low earth bank with a water filled ditch to the NE. There were two lengths of wooden post and wire fencing observed to the SW. The vegetation was initially sparse at the NW end and comprised mostly of mature oaks at full height but at approximately 6.0m from the NW end of the boundary the hedge became much thicker with a mix of thorn, brambles, gorse and coppiced willow with reasonably frequent mature oak trees irregularly spaced along the boundary. The final 10m was narrow, and thin, and likely a recent addition associated with the A470 road.

6.0 RESULTS – CONTROLLED STRIP

For the purposes of this section, context numbers within square brackets (e.g. [005]) represent cut features, such as pits, ditches etc., and context numbers within round brackets (e.g. (008)) represent deposits and fills. For a complete list of contexts, cf. Appendix II.

The controlled strip area was centred on NGR SH80647800 and was located to target geophysical anomalies identified by a magnetometer survey of the development area (GAT Report 1179; *Eden Mapping* Report GAT-14-001, April 2014; Figure 08). The targeted anomalies included two linear positive magnetic anomalies indicative of former field boundaries, multiple positive magnetic anomaly points indicative of more discrete, isolated activity, discrete areas of magnetic disturbance indicative of surface/buried ferrous or fired material, and positive magnetic anomalies indicative of agricultural activity (e.g., ploughscars).

The topsoil was recorded as dark grey-brown, softly compacted sandy silt containing very few stones, and with an average depth of 0.2m (001). The underlying subsoil was generally a mid brownish-grey sandy silt and slightly yellow or orange in patches, containing a moderate amount of stone, with average depths of roughly 0.15m (002). The glacial horizon was recorded as a mid/light yellow silt-sand with a frequent amount of stone, some of which were small boulder in size (003).

A total of 9 features were identified within the controlled strip area (Figure 04):

Contexts	Type	Description
005	Cut for small pit	Small and relatively shallow sub-rectangular pit containing burnt stone and charcoal
007	Cut for small pit	Small and shallow sub-rectangular pit with irregular base, contained a large amount of unburnt stone
009	Cut for hedgeline	Very shallow and irregularly shaped cut for former hedgeline. SW-NE orientation
010	Fill of [009]	Fill of [009]. A light grey-brown silty clay containing mainly Victorian pottery, 2 pieces of unworked chert was also found

Contexts	Type	Description
011	Natural feature – tree bole	A shallow irregular shaped sub-oval feature containing a firm mottled cream/grey-brown clay silt fill with occasional stone and charcoal flecks
012	Natural feature – tree bole	Another shallow sub-oval irregularly shaped feature filled by a firm mottled mid brown/yellow clay silt
013	Natural feature – tree bole	Irregularly shaped sub-oval feature, filled by a soft, mid brown sandy silt with moderately frequent lumps of re-deposited natural.
015	Cut for natural feature	Irregularly shaped short linear, tapers slightly to the north
017	Cut for natural feature	Irregularly shaped short natural feature, initially thought to be part of [015], but proven to be a separate feature

Six of the features were identified as natural in origin, including the location of former trees.

The remaining three features were confirmed as archaeological features and interpreted as: a former hedgeline (Context [009]) running in a SW-NE direction at the upper end of the site (Figure 04) and most likely the positive magnetic geophysical anomaly identified at the same location (Figure 07), and two small pits at the southeastern end of the controlled strip (Contexts [005] and [007]; Figure 04). Both pits were shallow in depth and stone-rich; pit [005] contained charcoal in a sealed deposit, from which a palaeoenvironmental sample was recovered (Context (008); sample <01>). Both pits were drawn in plan and section (1:10 scale; cf. Figures 05 and 06 respectively).

Both pits were located to the immediate southeast of the hedgeline, but there was no evidence to confirm any direct relationship between these two features and the hedgeline.

Sherds of pottery dating to the late 19th and early/mid-20th century were retrieved from the topsoil, subsoil, and hedgeline [009], these were noted for reference but not retained.

6.1 Description of individual features excavated

6.1.1 Pit [005]; (Plates 08, 09 and 10); Figure 05 - PRN60148

A shallow sub-rectangular pit with dimensions of 0.66m x 0.64m, and depth of 0.15m. Filled at the base with charcoal rich deposits (008) within a matrix of a dark grey silty clay with dark greyish-brown mottling, and dark grey patches and lenses. The pit contained an abundant amount of medium and small fragments of charcoal mixed with a smaller amount of silty clay. The upper deposit contained fire cracked stone within a matrix of a mid brownish-grey clayey silt (004), and was located above (008), this material also contained a small amount of charcoal. There was evidence of heating/scorching of the surrounding natural suggesting that the fire had occurred in-situ. Most of the stones were found in the upper part of the fill (004) above most of the charcoal deposit (008), there is a suggestion that the stones may have represented a stone edging to the pit and may have been rolled into the pit after final use. No artefacts were recovered from the pit fills, but a palaeoenvironmental sample was taken from the charcoal rich deposit (Context 008; sample <01>) for species identification and radiocarbon dating (cf. para. 6.2).

6.1.2 Pit [007]; (Plates 08, 11 and 12); Figure 06 - PRN60149

This pit was located 3.5m to the northeast of pit [005] and comprised a slightly irregular shaped sub-circular/sub-rectangular shallow pit similar to [005], but with no evidence of burning. The pit measured 0.73m x 0.69m, with a depth of 0.14m. The pit contained a single fill, a mid-brown grey clay-sand-silt (Context (006)), with a high percentage of sub-rounded cobble sized stone along with occasional sub-angular stone. No charcoal or artefacts were recovered.

6.1.3 Hedgeline [009] (Plates 08 and 13) - PRN60150

A 20.0m linear feature was identified at the southeastern end of the controlled strip area, orientated SW-NE direction across the site. The average width was 1.1m with depths of between 0.05m and 0.09m. Two 1.0m wide slots were excavated and identified a single fill (Context 010), which was a light grey-brown clay-silt containing occasional sub-angular cobble sized stone, as well as occasional grit and gravel.

Modern pottery dating back to the late 19th Century was found within the fill, as well as one thin piece of green glass. Two fragments of a local unworked chert were found within the excavated spoil from this feature.

It is probable that this linear feature continued outside of the controlled strip area and is likely to be identified during further archaeological mitigation within the development site.

6.1.4 Natural feature (011)

This feature was sub-oval in shape and measured 1.3m x 0.65m in size, with a depth of 0.1m in size, with irregular sides and base. A 50% excavation was completed and identified a firm, mottled grey-brown clay-silt fill containing occasional sub-rounded pebble sized stone and flecks of charcoal.

The feature was interpreted as non-archaeological and most likely the location a former tree.

6.1.5 Natural feature (012)

This feature was very similar in appearance to Context (011) and comprised a small irregular shaped sub-oval and shallow pit with dimensions of 1.0m x 0.8m, and depth of 0.12m and filled by a firm mottled mid brown-yellow clayey silt.

The feature was interpreted as non-archaeological and most likely the location a former large stone or stones in the glacial horizon.

6.1.6 Natural feature (013) (Plate 14)

This feature had an irregular sub-oval shape on the surface with dimensions of 2.05m x 1.1m, and depth of 0.35m, with irregular sides and base. The fill was a soft, mid brown sand-silt containing occasional poorly sorted sub-rounded pebble sized stones, and very occasional small flecks of charcoal.

The feature was interpreted as non-archaeological and most likely the location a former tree.

6.1.7 Natural feature (014)

This was a short irregularly shaped linear partially visible at the NE end of the site and running into the edge of the controlled strip area (cf. Figure 04). The visible dimensions were 3.0m x 0.85m, and depth of 0.25m, with irregular sides and base and a fill being of grey brown silt-clay.

The feature was interpreted as non-archaeological and most likely the location a former tree.

6.1.8 Natural feature [015]; (Plate 15)

This feature and Context [017] were initially thought to be the same feature with a slight curvilinear shape, but on excavation they were seen to be two separate features.

Context [015] was fairly linear in shape, tapering in towards the north and measured 3.7m x 1.25m in size, with a depth of 0.35m. A 1.0m length was excavated at the southern terminal of the feature, which revealed an irregular shape to the sides.

The fill included a soft/firm mid brownish-grey sand-silt and grey sand-clay with frequent iron panning deposits and a moderate inclusion of sub-rounded stone up to small cobble in size.

The feature was interpreted as non-archaeological.

6.1.9 Natural feature/tree bole [017] (Plate 16)

This feature was originally interpreted as part of larger curvilinear to include Context [015], but was subsequently interpreted as a separate feature. Context [017] measured 1.9m x 0.8m, with a depth of 0.23m, and very irregular edges, sides and base.

The fill included a soft mid brown-grey sand-clay, above a firmly compacted light grey alluvial sandy clay, containing occasional small sub-rounded stone and a small amount of iron-panning.

The feature was interpreted as non-archaeological.

6.2 Specialist Analysis: Pit [005]

A palaeoenvironmental sample was taken from the charcoal rich lower fill of Pit [005] - (Context 008; sample <01>) for species identification and radiocarbon dating.

The aim of the sampling was to:

- assess the type of preservation and the potential of the biological remains
- provide C14 material for assistance in dating features
- identify if any human activities were undertaken on the site
- reconstruct the environment of the surrounding area.

The sample was processed by *Brython Archaeology* and the charred plant remains were analysed by a specialist nominated in the post-excavation project design (Rosalind McKenna) and radiocarbon dated by *Scottish Universities Environmental Research Centre* (SUERC).

6.2.1 Sample Processing

The sample processing was completed by Brython Archaeology using water flotation. The flot (the sum of the material from each sample that floats) was sieved to 0.25mm and air dried. The heavy residue (the material which does not float) was sieved to 0.5mm to separate the coarse residue.

6.2.2 Species Identification

The species identification was completed by Rosalind McKenna (assessment report reproduced as Appendix VI) and examined under a low-power binocular microscope at magnifications between x12 and x40 and then sieved into convenient fractions (4, 2, 1 and 0.3mm) for sorting and identification of charcoal fragments.

Charcoal remains were present in both the fine sieve and the coarse sieved fractions of the sample, and scored a '4' on the abundance scale. The processed sample was composed of

pure charcoal with some small amounts of root / rootlets; no plant macrofossils were present. Oak was the only identified species amongst the coarse sieved fraction, which was dominated by large fragments of charcoal. The fine sieved lot was again dominated by oak charcoal but also contained some willow / poplar fragments amongst the smaller pieces.

The total range of taxa comprised oak (*Quercus*), and willow/poplar (*Salix/Populus*). These taxa belong to the groups of species represented in the native British flora. A local environment with a range of trees and shrub was indicated from the charcoal of the site. Oak was most numerous of the identified charcoal fragments, and it is possible that this was the preferred fuel wood obtained from a local environment containing a broader choice of species. Bark was also present on some of the charcoal fragments, and this indicates that the material is more likely to have been firewood, or the result of a natural fire, with the oak more useful as fire fuel and the Willow/Poplar as kindling.

In terms of reconstructing the environment of the surrounding area, the report concluded that the dryland wood species indicates the presence of an oak-ash woodland close to the site. The evidence of carr fen woodland indicates a damp environment close to the site. This type of woodland would have consisted of alder, willow and poplar which are all trees that thrive in waterlogged and damp soils, particularly in areas close to streams or with a high water table, perhaps indicating such an environment within close proximity to the site.

The results suggest that the charcoal was the result of a fire made from collected firewood from the closest possible available wooded area, and in particular the collection of economically less important kindling fuel wood from the Willow/Poplar trees.

The report stated that no further work is required on any of the samples processed. Any material recovered by further excavations should be processed to 0.3mm in accordance with standardised processing methods such as Kenward *et al.* 1980, and the English Heritage guidelines for Environmental Archaeology. The report recommended that the Willow/Poplar charcoal fragments were selected and submitted for radiocarbon dating.

6.2.3 Radiocarbon dating

Charcoal fragments of Willow/Poplar were selected and submitted to the *Scottish Universities Environmental Research Centre* (SUERC) for radiocarbon dating. Two dates were requested and quoted in conventional years BP (before 1950 AD), with calibrated age ranges determined from the University of Oxford Radiocarbon Accelerator Unit calibration programme (OxCal14).

Laboratory Code	C14 date	Calibrated Age Ranges
SUERC-61197 (GU37966)	4721 ± 27	68.2% probability 3627 (25.2%) 3591calBC 3528 (12.8%) 3508calBC 3426 (30.2%) 3382calBC 95.4% probability 3632 (35.8%) 3560calBC 3537 (20.6%) 3497calBC 3454 (39.0%) 3377calBC
SUERC-61193 (GU37965)	4646 ± 31	68.2% probability 3499 (59.1%) 3435calBC 3378 (9.1%) 3368calBC 95.4% probability 3517 (79.9%) 3396calBC 3386 (15.5%) 3362calBC

The results suggest a date range within the Early to Middle Neolithic (c 3800-c 3000 BC).

A radiocarbon date was recently obtained from a small pit identified during a watching brief on a housing development 324.0m to the northwest of Pit [005] (GAT Project G2392; report forthcoming). The pit from the watching brief was of similar size to Pit [005] and measured 0.67m x 0.52m, with a depth of 0.22m; the pit contained heat fractured burnt stone (80% of the fill) within a very compacted dark brown/black silt-clay, and on excavation it was noted that there were a number of stakeholes within the base of the pit. A palaeoenvironmental sample was recovered for species identification and dating, using the same methodology as Pit [005]. The radiocarbon date was 3319 ± 30 BP (Laboratory Code SUERC – 58848 (GU36816)), with a calibrated range of 1519 calBC at 95.4% probability, suggesting a date range within the Early to Middle Bronze (2500BC to 1000BC). Whilst both features are in general proximity and represent prehistoric domestic activity involving burning, the dates are almost two millennia apart. There were no other prehistoric sites identified within the local area during the assessment stage for the current project.

7.0 CONCLUSION AND INTERPRETATION

The results of the controlled strip confirmed that the main geophysical anomalies were not extant as archaeological features. The only exception was the linear feature interpreted as a former hedgeline or field boundary, which matched a positive magnetic anomaly. The feature does not appear on available historic mapping, including the 1840 Tithe map and the First to Third Edition Ordnance Survey Maps of the area (Sheets V.09 and V.10) suggesting an earlier origin. However, artefacts recovered from the fill were of late 19th/early 20th century date implying the feature was extant at that time. It is probable that the feature continues outside of the controlled strip area and it is possible it will be identified during the groundworks for the development.

The two small pits located to the immediate southeast of the linear feature were not identified during the geophysical survey. It is likely that they were “masked” by the anomaly signature from the linear feature due to their proximity and small size. Both pits were similar in size and contained a similar amount of stone within the fills even though Pit [005] showed evidence of burning and Pit [007] did not, it is possible to regard them as contemporary and part of a discrete cluster. The radiocarbon date from Pit [005] suggests they are of Early to Middle Neolithic in origin and the species identification from Pit [005] suggest it was used as a fire, with the charcoal representing fire fuel and kindling. The species identification report suggested the fire fuel and kindling was sourced from the local area using wood from the dominant species of Oak, Willow and Poplar. Taken together the pits suggest domestic activity. How isolated was this activity is difficult to determine from the confines of the controlled strip area and it is possible that additional activity may be identified during archaeological mitigation for the main development stage. Whilst the prehistoric activity identified 324.0m to the northwest on a separate project is not contemporary, that feature helps to suggest that this general area contains more evidence of domestic prehistoric activity.

All the other features that were excavated turned out to be natural features and do not require further interpretation, they were excavated to evaluate if archaeological deposits could be camouflaged by natural root action disturbing the cut edges of small pits/postholes. The half circular feature seen as a geophysical anomaly (Eden Mapping, Report GAT-14-001, 2014) at the SW half of the trench and which was targeted for investigation was not

seen on the ground, and therefore it is assumed it may have been a feature within the topsoil, or topsoil/subsoil horizon.

It is recommended that an intensive watching brief is maintained for the duration of the main development groundworks due to the potential for additional archaeological activity on site.

8.0 SOURCES CONSULTED

Eden Mapping Report GAT-14-001, April 2014

The Hedgerow Regulations A Guide to the Law and Good Practice 1997. Department of the Environment, Transport and Regions.

Planning permission reference 0/40597.

Roberts J. and R. Evans 2014. Esgyryn Site, Llandudno Junction Archaeological Assessment. Gwynedd Archaeological Trust Report 1179.

Standard and Guidance for Archaeological Excavation (Chartered Institute for Archaeologists, 1995, rev. 2001 & 2008).

Standard and Guidance for Archaeological Watching Brief (Chartered Institute for Archaeologists, 1995, rev. 2001 and 2008).

Standard and Guidance for the Creation, Compilation, Transfer and Deposition of Archaeological Archives (Chartered Institute for Archaeologists, 2009).

Standard and Guidance for the Collection, Documentation, Conservation and Research of Archaeological Materials (Chartered Institute for Archaeologists, 2008).

Esgyryn Site, Llandudno Junction. Geophysical Survey GAT-14-001 April 2014. Eden Mapping, Sunderland (2014)

Management of Archaeological Projects (English Heritage, 1991)

Management of Research Projects in the Historic Environment (English Heritage 2006)

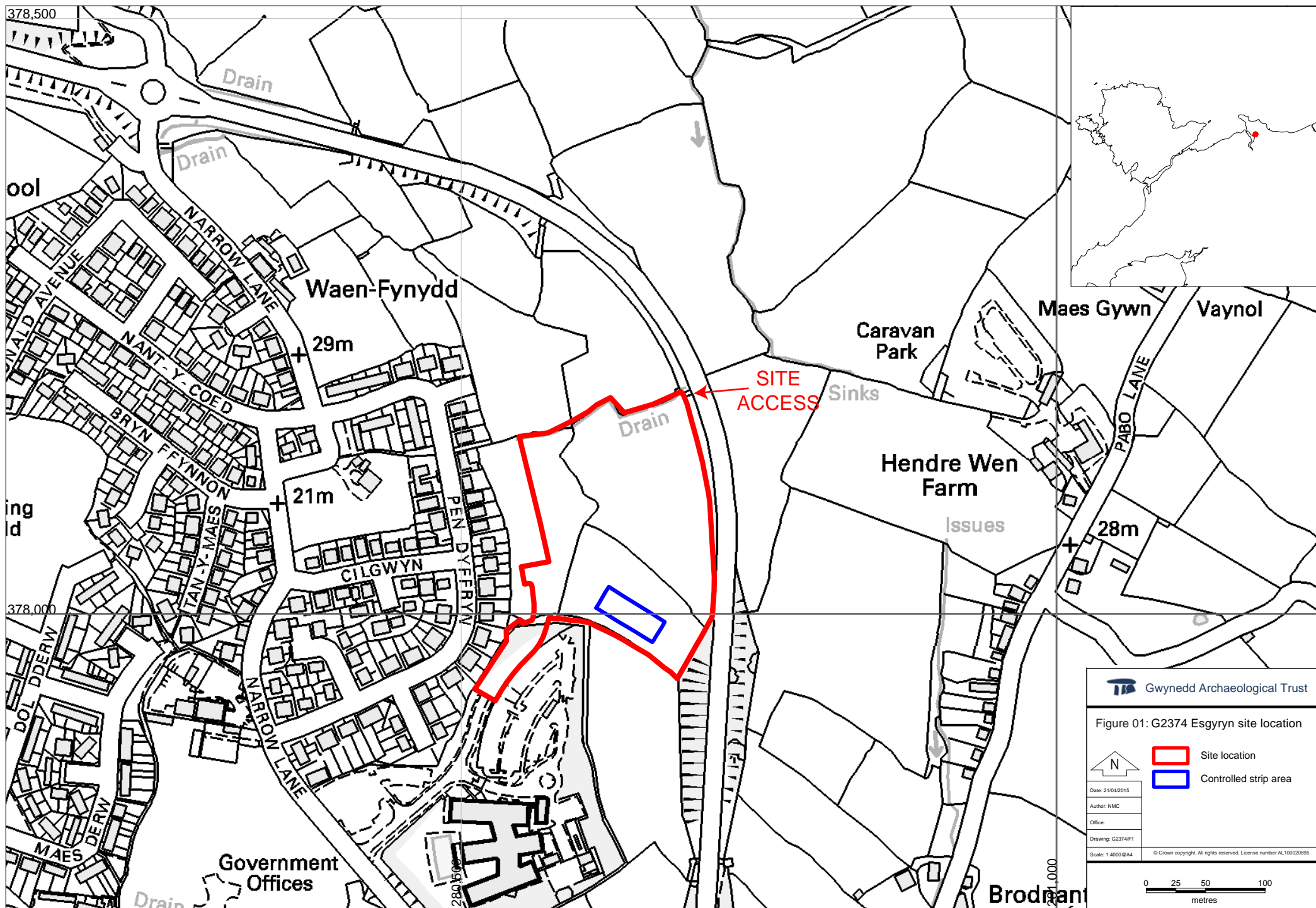


Figure 01: Location plan with the site outlined in red, showing the main access to the site



Figure 2: Reproduction of the Llangwstennin Parish Tithe Map 1840, with the proposed development site superimposed in RED.
Not to Scale



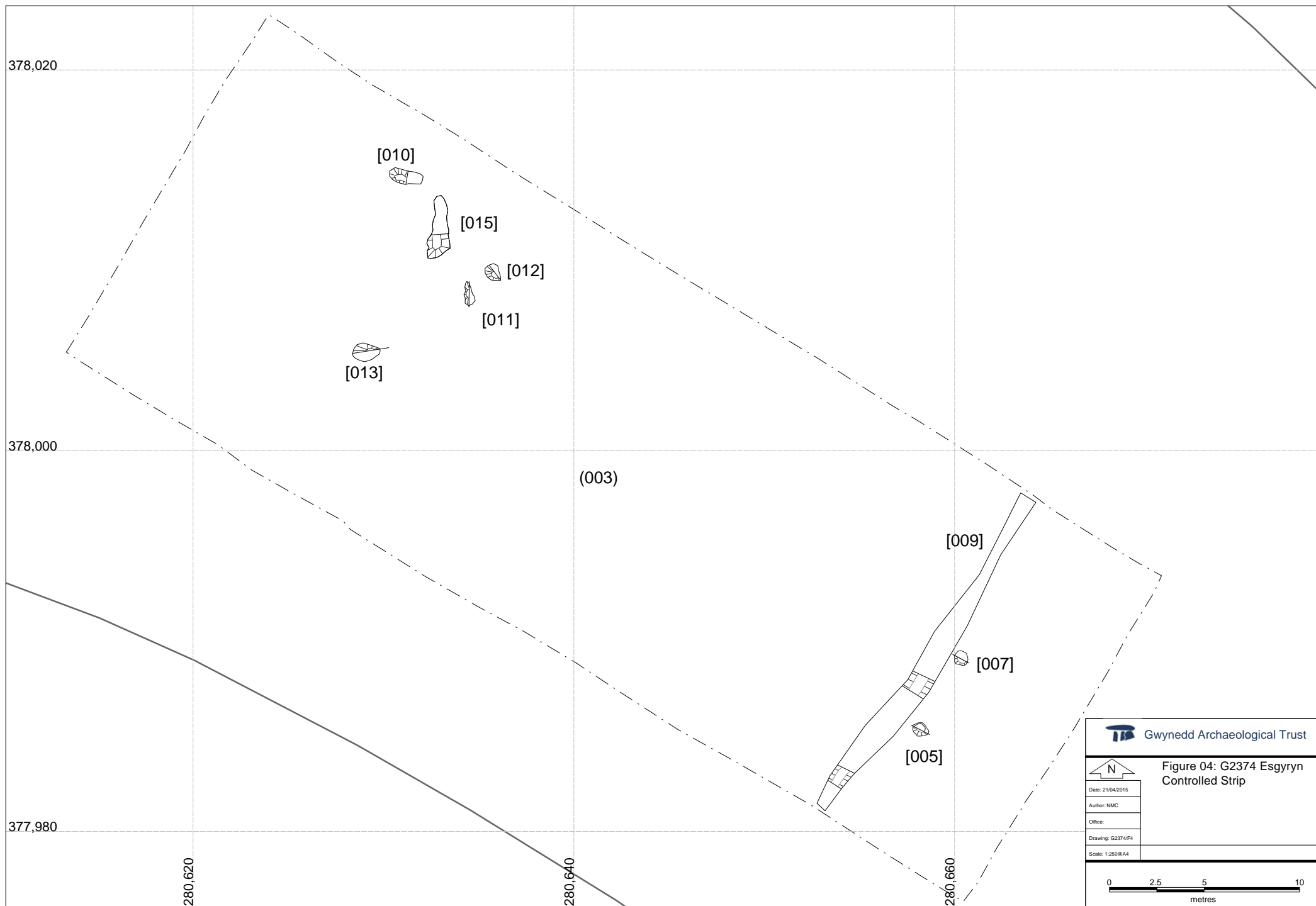
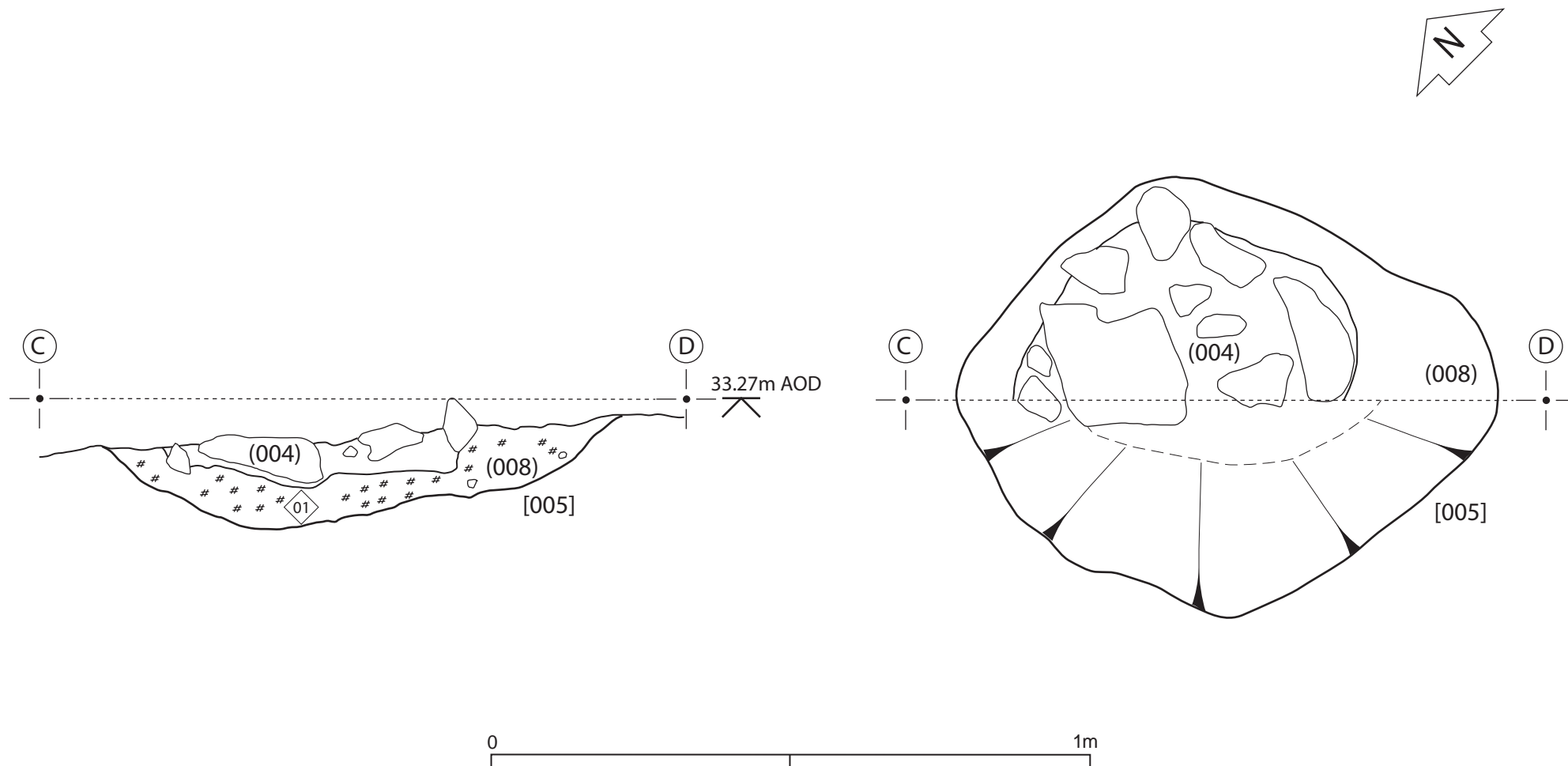
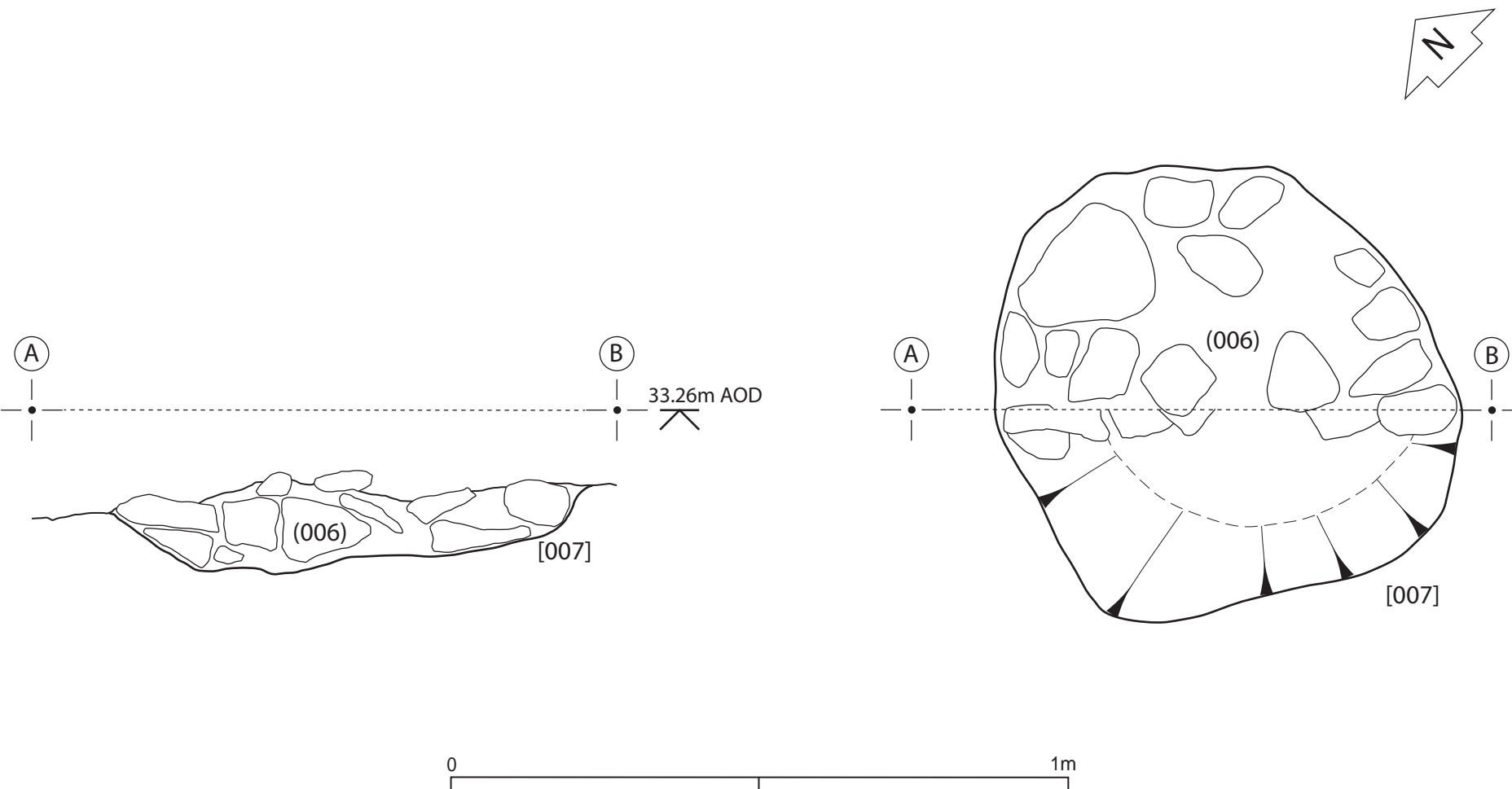


Figure 04: Location of features within the controlled strip area



- (004) Burnt cobbles in a mid brownish-grey clayey silt matrix
 - (008) Silty clay with lenses and patches of densely concentrated charcoal
 - [005] Cut of shallow sub-rectangular pit
- C = E 280,657.73 / N 377,985.59
D = E 280,658.69 / N 377,985.09

Figure 05: Section and Plan of Pit [005], Scale 1:10 @ A4



(006) Abundant small unburnt cobbles
in a mid brown-grey clayey silt matrix
[007] Cut of shallow sub-rectangular pit

A = E 280,659.89 / N 377,989.31
B = E 280,660.74 / N 377,988.85

Figure 06: Section and Plan of Pit [007], Scale 1:10 @ A4

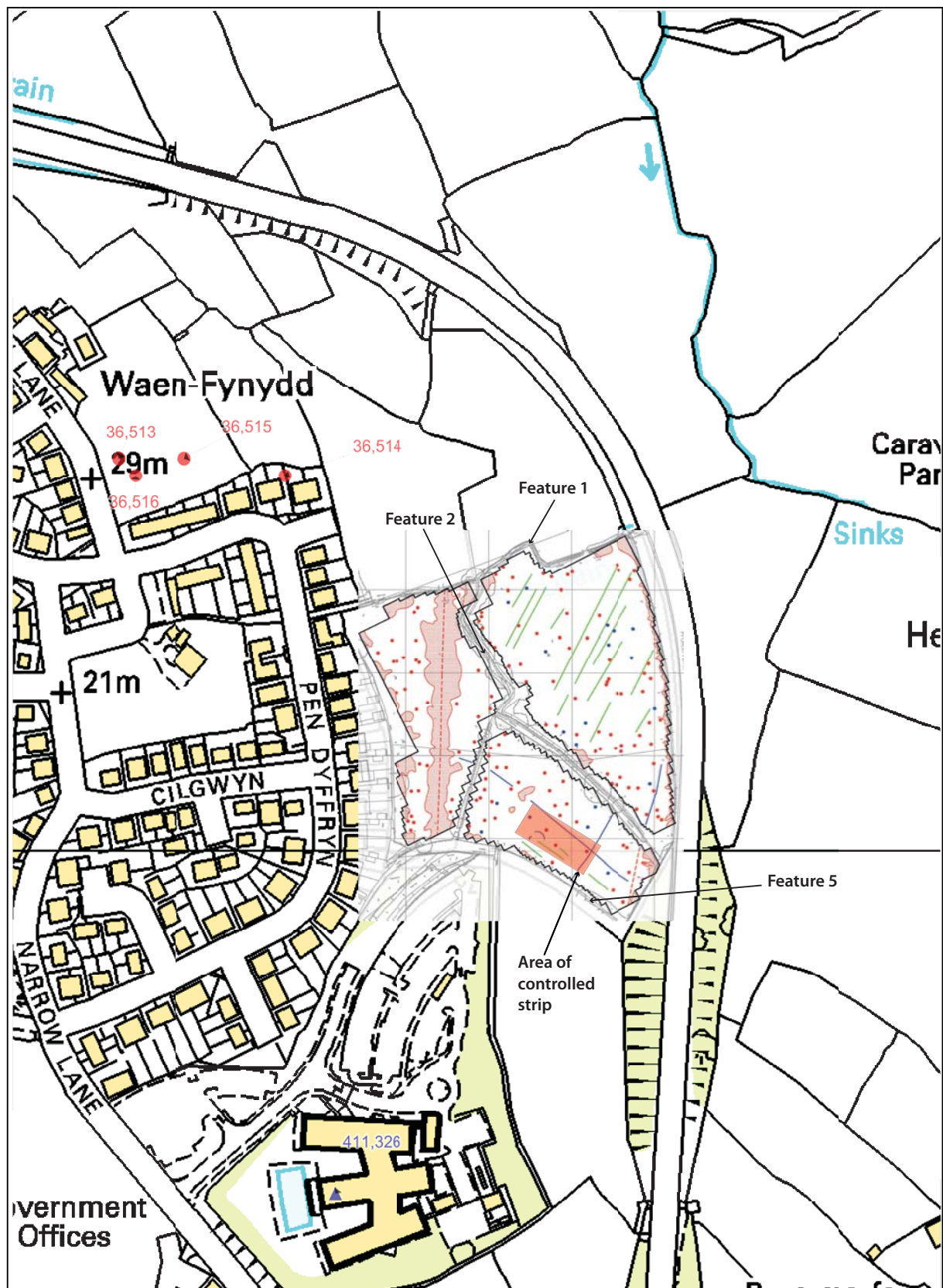


Figure 07: Location of the proposed development, geophysical and archaeological features and controlled strip.
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Plate 01: Boundary 1 (PRN 60139). General view showing young ornamental vegetation, government building carpark and landscaping. View from the SW.



Plate 02: Boundary 2 (PRN 60140). Showing hedge with an opening obscured by a pylon and metal trough. View from the W.



Plate 03: General view of Boundary 3 (PRN 60141), showing the somewhat wandering nature of the hedge. View from the SW.



Plate 04: General view of Boundary 4, showing one of the narrow openings within the boundary. View from the SW.



Plate 05: General view of boundary 5 (PRN 60142), showing the curving to the NW. View from the SE.



Plate 06: Topsoiling at the NW side of site, as viewed from the SW.



Plate 07: Topsoil and subsoil removed showing natural at the NW side of site, as seen from the SW.



Plate 08: Shot of the former hedgeline [009] showing the two excavated slots, also showing pits [005] (front) and [007] (rear) to the right side of the hedgeline. As viewed from the SW.



Plate 09: Pre-ex shot of pit [005], with burnt stone and charcoal in the fill. Stones on left dislodged from pit by machine. Scale 1m, and viewed from the north-east.



Plate 10: Half section of pit [005], containing fills (004) burnt stones, and (008) charcoal. 1m scale, viewed from the south-west.



Plate 11: Pre-ex shot of pit [007], filled by (006) and showing the stoney fill. 1m scale, and viewed from the NE.



Plate 12: Pit [007] half sectioned showing the extent of the stoney fill (006), with 1m scale. As seen from the SW.



Plate 13: View of an excavated slot through the former hedgeline near the southern end of the controlled strip, with a 1m scale. Viewed from the NW.



Plate 14: NW facing section through natural feature, possibly root bole [013], with 1m scale. Viewed from the NW.



Plate 15: Southern end of natural feature [015] and fill (016). Scales are 1m and 0.3m, as viewed from the SSW.



Plate 16: The northern end of natural feature [017], filled by (018). Scales 1m and 0.3m, as seen from the NW.

Appendix I

Project Design for Archaeological Mitigation

LLANDUDNO JUNCTION SCHOOL, ESGYRYN

PROJECT DESIGN FOR ARCHAEOLOGICAL
MITIGATION (G2374)

Prepared for

Ainsley Gommon Architects

January 2015

Ymddiriedolaeth Archaeolegol Gwynedd
Gwynedd Archaeological Trust

**LLANDUDNO JUNCTION SCHOOL, ESGYRYN
ARCHAEOLOGICAL MITIGATION**

Prepared for *Ainsley Gommon Architects*, January 2015

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1.0 INTRODUCTION

Gwynedd Archaeological Trust (GAT) has been asked by *Ainsley Gommon Architects* to provide a project design to conduct an archaeological mitigation of a 3.0ha plot of land, west of the A470 Road, at Llandudno Junction, county borough of Conwy (centred on **NGR SH80647804**; Figure 01). The plot is currently vacant pastureland. The mitigation will be conducted as outlined in the planning condition 7 (planning reference 0/40597).

Gwynedd Archaeological Planning Services (GAPS) have requested a staged programme of archaeological mitigation (per. comms. GAPS 6th January 2015). This staged programme will include the following elements:

- Controlled strip an approximate area of 55m east-west by 20m north-south located close to the southern limit of the proposed development;
- Record existing field boundaries/hedgerows within the proposed development;
- Watching brief of the removal of the affected hedgerows;

An archaeological watching brief will be conducted across the remainder of the development later in 2015. The scope of the archaeological watching brief will be outlined in a separate project design.

The scheme will be monitored by the Gwynedd Archaeological Planning Services (GAPS) and the content of this design must be approved by the GAPS Archaeologist prior to the start of the archaeological mitigation.

Reference will be made to the following guidelines:

- *Standard and Guidance for Archaeological Excavation* (Institute for Archaeologists, 1995, rev. 2001 and 2008).
- *Standard and Guidance for Archaeological Watching Brief* (Institute for Archaeologists, 1995, rev. 2001 and 2008).
- *Standard and Guidance for the Creation, Compilation, Transfer and Deposition of Archaeological Archives* (Institute for Archaeologists, 2009).
- *Standard and Guidance for the Collection, Documentation, Conservation and Research of Archaeological Materials* (Institute for Archaeologists, 2008).

1.0 ARCHAEOLOGICAL BACKGROUND

A brief examination of the regional Historic Environment Record (held by the Gwynedd Archaeological Trust, Craig Beuno, Garth Road, Bangor, Gwynedd LL57 2RT) identified a cluster of medieval field boundary remains to the immediate north west of the proposed development (Figure 1).

These include:

- PRN 36,513 – Medieval Field Boundary, Waen-fynydd (NGR SH80387823);
- PRN 36,515 – Medieval Field Boundary, south of Waen-fynydd (NGR SH80427823);
- PRN 36,516 – Medieval Field Boundary, south of Waen-fynydd (NGR SH80397822);
- PRN 36,514 – Ditch south of Waen-fynydd (unknown date; NGR SH80487822)

GAT previously conducted an archaeological assessment and evaluation (geophysical survey) of the proposed development (see GAT Report 1179). This report identified nine features within the development plot, including four field boundaries and a footpath, as well as four geophysical survey anomalies suggesting former field boundaries and plough markings. Two small curvilinear anomalies were also identified in the eastern field (Figure 1). The existing field boundaries separating the three current fields within the development are also evident on historic mapping, including the 1840 Llangwstennin Tithe Map that predates the Llangwstennin Enclosure Act of 1843. Under the terms of the Hedgerow Regulations 1997 they are potentially of historic value, as they form an integral part of a field system pre-dating the Enclosure Act (Hedgerow Regulations 1997 Schedule 1 Part II, 5). The footpath is evident on the First to Third Edition 25" Ordnance Survey maps of the area and partly runs through the development plot. It was not identified during the walkover survey and the report recommended a basic record of this feature during the development works if it is visible during initial groundworks.

The site is underlain by glacial till (boulder clay) overlying the Nantglyn Flags formation (mudstones and siltstones). A fault bisects the site, running north to south. Patrick Parsons Ltd were commissioned by Ainsley Gommon Architects to undertake a ground investigation at the proposed development site. The ground investigation comprised 18 trial pits and 6 mini percussive boreholes put down between the 13th and 14th March 2014. The summary report (Patrick Parsons Ltd. C13017) stated that:

A mantle of topsoil or reworked topsoil between 0.2 and 0.6m thick covered the site. Isolated made ground, comprising reworked firm and stiff gravelly clays with demolition material, was proved to depths of between 0.8 and 2.1m and confined to the raised spur of land in the south western part of the site. Natural soils, proved across the majority of the site, comprised predominantly firm and stiff gravelly, cobbly and bouldery clays, proved to a maximum depth of 3.3m. Locally, these soils graded into medium dense and dense clayey gravel, cobbles and boulders.

Based on the recommendations of Report 1179, a controlled strip will be conducted close to the southern boundary of the development, to determine the nature and scope of the more prominent geophysical anomalies. Dependant on the results of this evaluation, the area of the controlled strip could be extended to better understand the nature of the archaeology uncovered. Due to the historic value of the field boundaries within the proposed development area, these features will be recorded in detail before their removal and a watching brief will be conducted thereafter.

2.0 METHOD STATEMENT

2.1 Introduction

There will be a staged archaeological mitigation for the proposed school development at Esgyryn. This process will involve a controlled strip to investigate key anomalies uncovered in the geophysical survey in the southern field (Figure 1), along with a survey of historic hedgerows (features 2, 3 and 5) identified during the archaeological assessment, followed by a watching brief as the hedges are removed.

2.2 Controlled Strip

In advance of the controlled strip the area will be surveyed by a CAT scanner, operated by an HSG47 operative, to determine if there are modern services present. The controlled strip will be undertaken by an 8 tonne 360° excavator, fitted with a toothless bucket, under the supervision of GAT project archaeologists. The topsoil and subsoil will be cleared in stages, removed from the area of the controlled strip in two 6 tonne front tip dumpers and stored in separate bunds. The topsoil will have a depth of between 0.20m and 0.60m. The controlled strip will cover an approximate area of 55m east-west by 20m north-south and will be located close to the southern limit of the proposed development (Figure 1). The controlled strip will target a concentration of key archaeological features identified in the geophysical survey that include 2 linear field boundaries and a curvilinear feature. It is intended that the controlled strip in this area will better determine the nature and scope of these archaeological remains. This area may have to be extended to better understand said archaeological remains. In consultation with GAPS and the site owner, once the controlled strip has been completed, it will be determined if this is sufficient and a watching brief can commence for the remainder of the site or if additional controlled strips will need to be conducted.

The controlled strip is to be undertaken in a manner that allows for the immediate cessation of development for the recording of archaeological evidence. This will involve close liaison between the archaeologist and the site agent.

All machinery must avoid stripped areas until inspected and recorded by GAT personnel.

- All undifferentiated topsoil or overburden of recent origin will be removed down to the glacial horizon or archaeological horizon, whichever is encountered first, in successive, level spits. All investigation of archaeological levels will be by hand, with cleaning, examination and recording both in plan and section. Modern artefacts will be noted but not retained.
- Archaeological features identified within the controlled strip will be excavated by hand. Pits and postholes will be subject to a 50% sample by volume and 100% for any deposits directly relating to funerary and domestic activity (e.g. cremations, walls, hearths, floor surfaces and floor make-up deposits). A minimum of 10% of linear features will be excavated to provide stratigraphic relationships, to characterise feature morphology and to recover artefactual and ecofactual material. The focus of the excavation of linear features will be on terminals and interactions with other features.
- Sections of archaeological features will be drawn at a scale of 1:10 by hand on permatrace and plans of individual features and/or small clusters of features, in particular pits and postholes will be drawn at a scale of 1:20 on permatrace.

- The area of the controlled strip and any identified archaeological features within will be located and planned in a digital survey using a *Trimble R8 GNSS/R6/5800* GPS receiver.
- The completed controlled strip zone and any identified archaeological features will be located and planned digital survey completed using a *Trimble R8 GNSS/R6/5800* GPS receiver.
- A written record of all identified features will be completed via GAT pro-formas.
- All subsurface features will be recorded photographically using a digital SLR set to maximum resolution and shots will be taken in RAW format.
- Any further mitigation required will be subject to an additional Further Archaeological Works Design (FAWD).
- Recourse to specialist input should be considered during fieldwork as well as during the post-excavation programme, to accommodate any palaeoenvironmental, artefactual or other deposits or areas of archaeological significance identified during the course of the mitigation.

2.3 Hedgerow Recording and Watching Brief

In advance of the ground works, the hedgerow features 2, 3 and 5 (Figure 1) will be recorded, as they are of historic value and will be adversely affected by the foot print of the proposed school and related infrastructure. The field boundaries consist of a ditch along with hedgerows that are comprised of a mixture of thorn bushes and deciduous trees, interspersed by mature oak trees. The affected hedgerows will be recorded through:

- GAT pro-formas.
- A digital SLR set to highest resolution will be used throughout.
- Shots will be taken in RAW format.
- Appropriate scales will be used where possible.
- The detailed notes will be taken with regard to the Hedgerow Regulations Act 1997, in particular to section 6.10 on site survey.

Once the survey has been completed, a contractor will remove the relevant sections of the hedgerow and this will be conducted under an archaeological watching brief. During the watching brief, photographs and notes (in the same format as the survey) will be taken of the process and of sections through the affected hedgerows.

2.4 Environmental Samples

If encountered, relevant archaeological deposits will be sampled by taking bulk samples 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.

2.5 Human Remains

If encountered, 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. In order to excavate human remains, a licence is required under Section 25 of the Burials Act 1857 for the removal of any body or remains of any body from any place of burial. This will be applied for should human remains need to be investigated or moved.

2.6 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 and ARCUS at Sheffield.

Unexpected Discoveries: Treasure Trove

Treasure Trove law has been amended by the Treasure Act 1996. The following are Treasure under the Act:

- *Objects other than coins* any object other than a coin provided that it contains at least 10% gold or silver and is at least 300 years old when found.
- *Coins* all coins from the same find provided they are at least 300 years old when found (if the coins contain less than 10% gold or silver there must be at least 10. Any object or coin is part of the same find as another object or coin, if it is found in the same place as, or had previously been left together with, the other object. Finds may have become scattered since they were originally deposited in the ground. Single coin finds of gold or silver are not classed as treasure under the 1996 Treasure Act.
- *Associated objects* any object whatever it is made of, that is found in the same place as, or that had previously been together with, another object that is treasure.
- *Objects that would have been treasure trove* any object that would previously have been treasure trove, but does not fall within the specific categories given above. These objects have to be made substantially of gold or silver, they have to be buried with the intention of recovery and their owner or his heirs cannot be traced.

The following types of finds are not treasure:

- Objects whose owners can be traced.
- Unworked natural objects, including human and animal remains, even if they are found in association with treasure.
- Objects from the foreshore which are not wreck.

All finds of treasure must be reported to the coroner for the district within fourteen days of discovery or identification of the items. Items declared Treasure Trove become the property of the Crown, on whose behalf the National Museums and Galleries of Wales acts as advisor on technical matters, and may be the recipient body for the objects.

The National Museums and Galleries of Wales will decide whether they or any other museum may wish to acquire the object. If no museum wishes to acquire the object, then the Secretary of State will be able to disclaim it. When this happens, the coroner will notify the occupier and landowner that he intends to return the object to the finder after 28 days unless he receives no objection. If the coroner receives an objection, the find will be retained until the dispute has been settled.

2.7. Further Archaeological Works

The identification of significant archaeological features during the controlled strip may necessitate the production of a new project design and the submission of new cost estimates to the contractor.

The application of a further archaeological works design (FAWD) will be dependent on the initial identification, interpretation and examination of an archaeological feature and the establishment of a threshold of significance over which a FAWD might be triggered. This may include any features of demonstrable or likely prehistoric to medieval date and, for post-medieval features, any complex or unusual remains, including industrial activity. The requirement for an FAWD will be determined in conjunction with GAPS through established communication lines and the monitoring process.

The FAWD will be instigated through a GAT produced document that will include:

- feature specific methodologies;
- artefact and ecofact specialist requirements, with detail of appropriate sampling strategies and specialist analysis
- timings, staffing and resourcing.
- Additional costs

The FAWD document will need to be approved by the Gwynedd Archaeological Planning Service.

This design does not include a methodology or cost for examination of, conservation of, or archiving of finds discovered during the controlled strip, 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 Gwynedd Archaeological Planning Service.

2.8 Monitoring Arrangements

The Gwynedd Archaeological Planning Service will need to be informed of all start dates for the various elements of the scheme listed and of the subsequent progress and findings and enable discussion about the need or otherwise for FAWDs if features of potential archaeological significance are encountered.

2.8 Processing data, illustration, report and archiving

The level of post-excavation analysis and reporting for the purposes of the mitigation will be sufficient to establish the character, scale, date range, artefactual and palaeo-environmental potential and overall significance of the remains and will be based on the *Management of Archaeological Projects* (English Heritage, 1991).

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

3.0 PROCESSING DATA, ILLUSTRATION, REPORT AND ARCHIVING

Following completion of the controlled strip, hedge recording and removal as outlined above, a report will be produced incorporating the following:

1. Non-technical summary
2. Introduction
3. Project Design
4. Methods and techniques
5. Description of the results of the controlled strip and hedge recording/watching brief
6. Summary and conclusions
7. 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. The archaeological mitigation outlined in this project design will be conducted from the middle of February to the middle of March 2015. The report for the archaeological mitigation will be produced within one month of completion of the fieldwork.

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, Garth Road, 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) dependent upon their requirements.

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 an agreed submission period.

- Two copies of the paper report plus a digital report and archive on optical disc will be provided to GAPS;
- Two copies of the paper report plus a digital report and archive on optical disc will be provided to Historic Environment Record, Gwynedd Archaeological Trust; this will be submitted within six months of report completion

- A digital report and archive (including photographic and drawn) data will be provided to Royal Commission on Ancient and Historic Monuments, Wales.
- A paper report(s) plus digital report(s) will be provided to the client.

In line with the regional Historic Environment Record (HER) requirements, the HER must be contacted at the onset of the project to ensure that any data arising is formatted in a manner suitable for accession to the HER. At the onset, the HER Enquiry Form provided by the HER, will be completed and submitted.

4.0 PERSONNEL

The work will be managed by John Roberts, Principal Archaeologist GAT Contracts Section. The work will be undertaken by one of the Trust's Archaeologists experienced in the relevant skills/periods required.

5.0 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.

6.0 INSURANCE

Liability Insurance – Aviva Policy 24765101CHC/000405

- Employer's Liability: Limit of indemnity £10m in any one occurrence
- Public Liability: Limit of indemnity £5m in any one occurrence

The current period expires on the 21/06/2015

Professional Indemnity Insurance – RSA Insurance Plc RKK865819/1208

- Limit of Indemnity £2,000,000 any one claim

The current period expires 22/07/2015

7.0 SOURCES CONSULTED

The Hedgerow Regulations A Guide to the Law and Good Practice 1997. Department of the Environment, Transport and Regions.

Planning permission reference 0/40597.

Roberts J. and R. Evans 2014. Esgyryn Site, Llandudno Junction Archaeological Assessment. Gwynedd Archaeological Trust Report 1179.

Standard and Guidance for Archaeological Excavation (Institute for Archaeologists, 1994, rev. 2001 & 2008).

Figure 1

Location of the proposed development, geophysical and archaeological features and controlled strip.

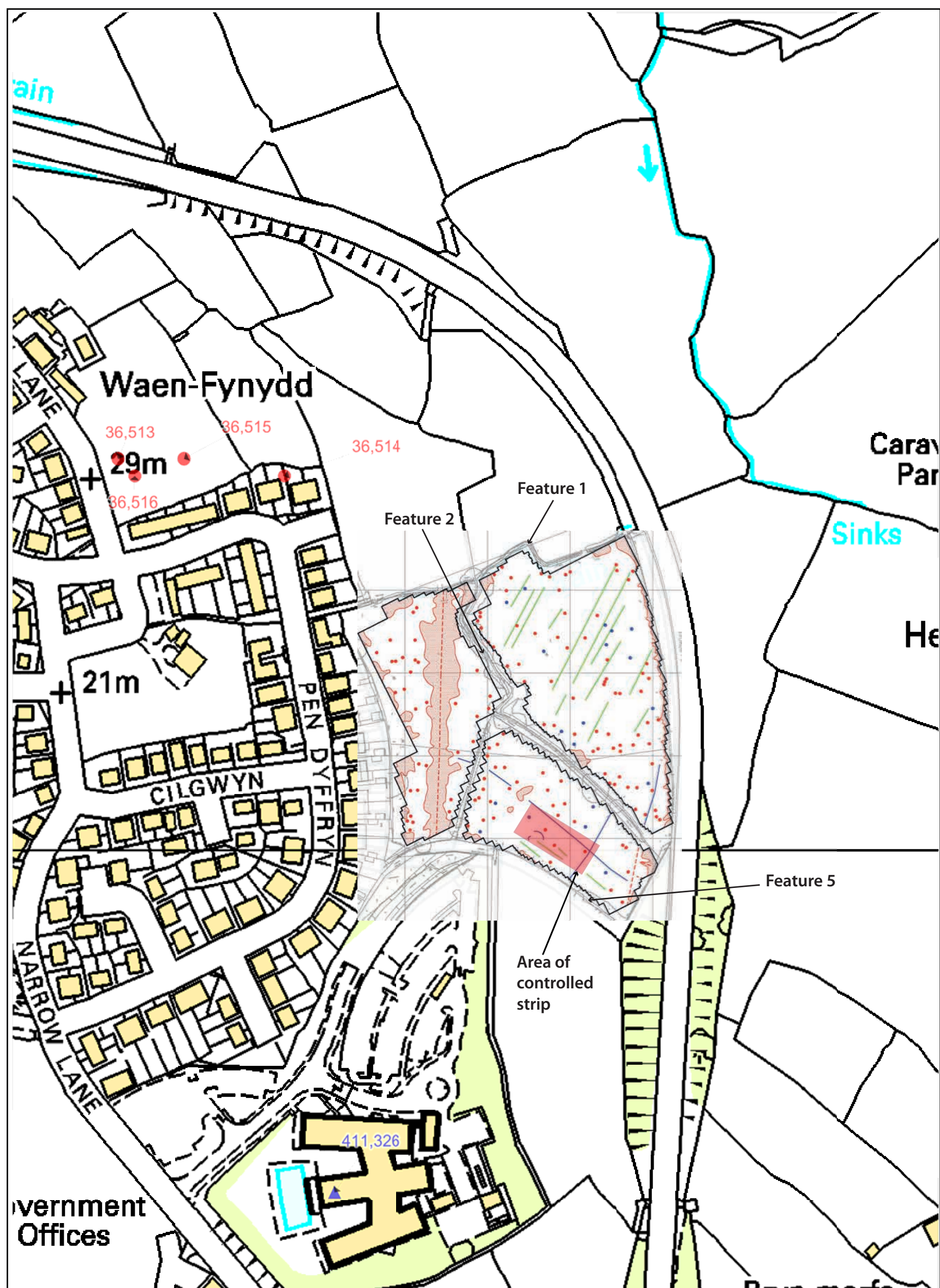


Figure 1: Location of the proposed development, geophysical and archaeological features and controlled strip.
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Appendix II

List of Context Numbers for Controlled Strip Excavation

Contexts	Project name	Type	Description	Person	Date
001	Esgyryn, Llandudno Junction	Topsoil	Dark grey-brown topsoil, with average depth of 0.2m	Ken Owen	02/03/2015
002	Esgyryn, Llandudno Junction	Subsoil	Generally a mid brownish-grey sandy silt with orange patches, average depth of 0.15m	Ken Owen	02/03/2015
003	Esgyryn, Llandudno Junction	Glacial Horizon	Mid/light yellow silty sand with frequent stones	Ken Owen	02/03/2015
004	Esgyryn, Llandudno Junction	Fill of [005]	Deposit of burnt cobble sized stone within a brownish grey clayey silt matrix. Upper fill of [005]	Neil McGiunness	02/03/2015
005	Esgyryn, Llandudno Junction	Cut for small pit	Small and relatively shallow sub-rectangular pit containing burnt stone and charcoal	Neil McGiunness	02/03/2015
006	Esgyryn, Llandudno Junction	Fill of [007]	Large amount of stone, mainly small cobble in size within a mid brown-grey clayey silt matrix. No evidence of burning	Neil McGiunness	02/03/2015
007	Esgyryn, Llandudno Junction	Cut for small pit	Small and shallow sub-rectangular pit with irregular base, contained a large amount of unburnt stone	Neil McGiunness	02/03/2015
008	Esgyryn, Llandudno Junction	Fill of [005]	Primary fill of fire-pit. Charcoal concentrated in dense lenses/patches mixed with a silty clay	Neil McGiunness	02/03/2015
009	Esgyryn, Llandudno Junction	Cut for hedgeline	Very shallow and irregularly shaped cut for former hedgeline. SW-NE orientation	Neil McGiunness	04/03/2015
010	Esgyryn, Llandudno Junction	Fill of [009]	Fill of [009]. A light grey-brown silty clay containing mainly Victorian pottery, 2 pieces of unworked chert was also found	Neil McGiunness	04/03/2015
011	Esgyryn, Llandudno Junction	Natural feature – tree bole	A shallow irregular shaped sub-oval feature containing a firm mottled cream/grey-brown clay silt fill with occasional stone and charcoal flecks	Jess Davidson	06/03/2015
012	Esgyryn, Llandudno Junction	Natural feature – tree bole	Another shallow sub-oval irregularly shaped feature filled by a firm mottled mid brown/yellow clay silt	Jess Davidson	06/03/2015
013	Esgyryn, Llandudno Junction	Natural feature – tree bole	Irregularly shaped sub-oval feature, filled by a soft, mid brown sandy silt with moderately frequent lumps of re-deposited natural.	Jess Davidson	06/03/2015

Contexts	Project name	Type	Description	Person	Date
014	Esgyryn, Llandudno Junction	Natural feature – tree bole	Irregularly shaped linear feature, partially obscured beneath the baulk. Filled by a mottled grey-brown clay with occasional sub- angular cobbles and pebbles	Anne Marie Oattes	06/03/2015
015	Esgyryn, Llandudno Junction	Cut for natural feature	Irregularly shaped short linear, tapers slightly to the north	Ken Owen	09/03/2015
016	Esgyryn, Llandudno Junction	Fill of [015]	Natural silts of a firm grey clay at the base, overlain by a sandy clay with frequent iron-pan and moderate stone	Ken Owen	09/03/2015
017	Esgyryn, Llandudno Junction	Cut for natural feature	Irregularly shaped short natural feature, initially thought to be part of [015], but proven to be a separate feature	Ken Owen	09/03/2015
018	Esgyryn, Llandudno Junction	Fill of [017]	Firmly compacted light grey alluvial sandy clay. Contained occasional small stone and iron-pan	Ken Owen	09/03/2015

Appendix III

Photographic Record Reference Table

File reference	Project name	Project phase	Site sub-division	PRN	Description	Contexts	View from	Scale (s)	Type	Date	Originating person	Originating organisation
G2374_Esgyryn_0001.jpg	Esgyryn, Llandudno Junction	Walkover			General shot of unloading area at Access 1	-	SSE	1x1m	Photograph	23/01/15	Ken Owen	Gwynedd Archaeological Trust
G2374_Esgyryn_0002.jpg	Esgyryn, Llandudno Junction	Walkover			Access 1 gate	-	ENE	1x1m	Photograph	23/01/15	Ken Owen	Gwynedd Archaeological Trust
G2374_Esgyryn_0003.jpg	Esgyryn, Llandudno Junction	Walkover			Watercourse between Field 1 and Field 3	-	ENE	1x1m	Photograph	23/01/15	Ken Owen	Gwynedd Archaeological Trust
G2374_Esgyryn_0004.jpg	Esgyryn, Llandudno Junction	Walkover			View of Field 1	-	NW	-	Photograph	23/01/15	Ken Owen	Gwynedd Archaeological Trust
G2374_Esgyryn_0005.jpg	Esgyryn, Llandudno Junction	Walkover			Boundary between Field 1 and Field 2	-	NE	1x1m	Photograph	23/01/15	Ken Owen	Gwynedd Archaeological Trust
G2374_Esgyryn_0006.jpg	Esgyryn, Llandudno Junction	Walkover			Watercourse between Field 1 and Field 2	-	NE	1x1m	Photograph	23/01/15	Ken Owen	Gwynedd Archaeological Trust
G2374_Esgyryn_0007.jpg	Esgyryn, Llandudno Junction	Walkover			Watercourse from Field 1 and housing estate entrance	-	E	1x1m	Photograph	23/01/15	Ken Owen	Gwynedd Archaeological Trust
G2374_Esgyryn_0008.jpg	Esgyryn, Llandudno Junction	Walkover			Entrance to field at Access 2	-	W	1x1m	Photograph	23/01/15	Ken Owen	Gwynedd Archaeological Trust
G2374_Esgyryn_0009.jpg	Esgyryn, Llandudno Junction	Walkover			Access 2 entrance from housing estate	-	E	-	Photograph	23/01/15	Ken Owen	Gwynedd Archaeological Trust
G2374_Esgyryn_0010.jpg	Esgyryn, Llandudno Junction	Walkover			Access 2 bridge to next field near 33Kv power lines	-	N	1x1m	Photograph	23/01/15	Ken Owen	Gwynedd Archaeological Trust
G2374_Esgyryn_0011.jpg	Esgyryn, Llandudno Junction	Walkover			Entrance to Field 2 (CS)	-	NE	1x1m	Photograph	23/01/15	Ken Owen	Gwynedd Archaeological Trust
G2374_Esgyryn_0012.jpg	Esgyryn, Llandudno Junction	Walkover			Wet area at entrance to Field 2	-	E	1x1m	Photograph	23/01/15	Ken Owen	Gwynedd Archaeological Trust
G2374_Esgyryn_0013.jpg	Esgyryn, Llandudno Junction	Walkover			View of Field 2	-	W	-	Photograph	23/01/15	Ken Owen	Gwynedd Archaeological Trust
G2374_Esgyryn_0014.jpg	Esgyryn, Llandudno Junction	Walkover			View of Field 2	-	E	-	Photograph	23/01/15	Ken Owen	Gwynedd Archaeological Trust

File reference	Project name	Project phase	Site sub-division	PRN	Description	Contexts	View from	Scale (s)	Type	Date	Originating person	Originating organisation
G2374_Esgyryn_0015.jpg	Esgyryn, Llandudno Junction	Walkover			CS area in Field 2	-	E	1x1m	Photograph	23/01/15	Ken Owen	Gwynedd Archaeological Trust
G2374_Esgyryn_0016.jpg	Esgyryn, Llandudno Junction	Boundaire s/hedgerow recording	Boundary 1	60139	General view of boundary 1		SW		Photograph	16/02/15	LWP	Gwynedd Archaeological Trust
G2374_Esgyryn_0017.jpg	Esgyryn, Llandudno Junction	Boundaire s/hedgerow recording	Boundary 1	60139	General view of boundary 1		SW		Photograph	16/02/15	LWP	Gwynedd Archaeological Trust
G2374_Esgyryn_0018.jpg	Esgyryn, Llandudno Junction	Boundaire s/hedgerow recording			Working shot, bronze alloy horse sculpture				Photograph	16/02/15	LWP	Gwynedd Archaeological Trust
G2374_Esgyryn_0019.jpg	Esgyryn, Llandudno Junction	Boundaire s/hedgerow recording	Boundary 2	60140	Photographic survey of boundary 2 moving NNE to SSW 1/3		SSE	2x1m	Photograph	16/02/15	JD	Gwynedd Archaeological Trust
G2374_Esgyryn_0020.jpg	Esgyryn, Llandudno Junction	Boundaire s/hedgerow recording	Boundary 2	60140	Photographic survey of boundary 2 moving NNE to SSW 2/3		SSE	2x1m	Photograph	16/02/15	JD	Gwynedd Archaeological Trust
G2374_Esgyryn_0021.jpg	Esgyryn, Llandudno Junction	Boundaire s/hedgerow recording	Boundary 2	60140	Photographic survey of boundary 2 moving NNE to SSW 3/3		SSE	2x1m	Photograph	16/02/15	JD	Gwynedd Archaeological Trust
G2374_Esgyryn_0022.jpg	Esgyryn, Llandudno Junction	Boundaire s/hedgerow recording	Boundary 2	60140	Photographic survey of boundary 2 moving SSW to NNE (other side) 1/3		NNW	2x1m	Photograph	16/02/15	JD	Gwynedd Archaeological Trust
G2374_Esgyryn_0023.jpg	Esgyryn, Llandudno Junction	Boundaire s/hedgerow recording	Boundary 2	60140	Photographic survey of boundary 2 moving SSW to NNE (other side) 2/3		NNW	2x1m	Photograph	16/02/15	JD	Gwynedd Archaeological Trust
G2374_Esgyryn_0024.jpg	Esgyryn, Llandudno Junction	Boundaire s/hedgerow recording	Boundary 2	60140	Photographic survey of boundary 2 moving SSW to NNE (other side) 3/3		NNW	2x1m	Photograph	16/02/15	JD	Gwynedd Archaeological Trust
G2374_Esgyryn_0025.jpg	Esgyryn, Llandudno Junction	Boundaire s/hedgerow recording	Boundary 3	60141	Photographic survey of boundary 3 running shots moving N to S (wandering) 1/8		W	2x1m	Photograph	16/02/15	JD	Gwynedd Archaeological Trust
G2374_Esgyryn_0026.jpg	Esgyryn, Llandudno Junction	Boundaire s/hedgerow recording	Boundary 3	60141	Photographic survey of boundary 3 running shots moving N to S (wandering) 2/8		W	2x1m	Photograph	16/02/15	JD	Gwynedd Archaeological Trust
G2374_Esgyryn_0027.jpg	Esgyryn, Llandudno Junction	Boundaire s/hedgerow recording	Boundary 3	60141	Photographic survey of boundary 3 running shots moving N to S (wandering) 3/8		W	2x1m	Photograph	16/02/15	JD	Gwynedd Archaeological Trust
G2374_Esgyryn_0028.jpg	Esgyryn, Llandudno Junction	Boundaire s/hedgerow recording	Boundary 3	60141	Photographic survey of boundary 3 running shots moving N to S (wandering) 4/8		W	2x1m	Photograph	16/02/15	JD	Gwynedd Archaeological Trust

File reference	Project name	Project phase	Site sub-division	PRN	Description	Contexts	View from	Scale (s)	Type	Date	Originating person	Originating organisation
G2374_Esgyryn_0029.jpg	Esgyryn, Llandudno Junction	Boundaire s/hedgerow recording	Boundary 3	60141	Photographic survey of boundary 3 running shots moving N to S (wandering) 5/8		W	2x1m	Photograph	16/02/15	JD	Gwynedd Archaeological Trust
G2374_Esgyryn_0030.jpg	Esgyryn, Llandudno Junction	Boundaire s/hedgerow recording	Boundary 3	60141	Photographic survey of boundary 3 running shots moving N to S (wandering) 6/8		W	2x1m	Photograph	16/02/15	JD	Gwynedd Archaeological Trust
G2374_Esgyryn_0031.jpg	Esgyryn, Llandudno Junction	Boundaire s/hedgerow recording	Boundary 3	60141	Photographic survey of boundary 3 running shots moving N to S (wandering) 7/8		W	2x1m	Photograph	16/02/15	JD	Gwynedd Archaeological Trust
G2374_Esgyryn_0032.jpg	Esgyryn, Llandudno Junction	Boundaire s/hedgerow recording	Boundary 3	60141	Photographic survey of boundary 3 running shots moving N to S (wandering) 8/8		W	2x1m	Photograph	16/02/15	JD	Gwynedd Archaeological Trust
G2374_Esgyryn_0033.jpg	Esgyryn, Llandudno Junction	Boundaire s/hedgerow recording	Boundary 3	60141	General view of boundary 3		SW	1x1m	Photograph	16/02/15	JD	Gwynedd Archaeological Trust
G2374_Esgyryn_0034.jpg	Esgyryn, Llandudno Junction	Boundaire s/hedgerow recording	Boundary 4		Photographic survey of boundary 4 running shots moving NE to SW 1/8		NW	2x1m	Photograph	16/02/15	LWP	Gwynedd Archaeological Trust
G2374_Esgyryn_0035.jpg	Esgyryn, Llandudno Junction	Boundaire s/hedgerow recording	Boundary 4		Photographic survey of boundary 4 running shots moving NE to SW 2/8		NW	2x1m	Photograph	16/02/15	LWP	Gwynedd Archaeological Trust
G2374_Esgyryn_0036.jpg	Esgyryn, Llandudno Junction	Boundaire s/hedgerow recording	Boundary 4		Photographic survey of boundary 4 running shots moving NE to SW 3/8		NW	2x1m	Photograph	16/02/15	LWP	Gwynedd Archaeological Trust
G2374_Esgyryn_0037.jpg	Esgyryn, Llandudno Junction	Boundaire s/hedgerow recording	Boundary 4		Photographic survey of boundary 4 running shots moving NE to SW 4/8		NW	2x1m	Photograph	16/02/15	LWP	Gwynedd Archaeological Trust
G2374_Esgyryn_0038.jpg	Esgyryn, Llandudno Junction	Boundaire s/hedgerow recording	Boundary 4		Photographic survey of boundary 4 running shots moving NE to SW 5/8		NW	2x1m	Photograph	16/02/15	LWP	Gwynedd Archaeological Trust
G2374_Esgyryn_0039.jpg	Esgyryn, Llandudno Junction	Boundaire s/hedgerow recording	Boundary 4		Photographic survey of boundary 4 running shots moving NE to SW 6/8		NW	2x1m	Photograph	16/02/15	LWP	Gwynedd Archaeological Trust
G2374_Esgyryn_0040.jpg	Esgyryn, Llandudno Junction	Boundaire s/hedgerow recording	Boundary 4		Photographic survey of boundary 4 running shots moving NE to SW 7/8		NW	2x1m	Photograph	16/02/15	LWP	Gwynedd Archaeological Trust
G2374_Esgyryn_0041.jpg	Esgyryn, Llandudno Junction	Boundaire s/hedgerow recording	Boundary 4		Photographic survey of boundary 4 running shots moving NE to SW 8/8		NW	2x1m	Photograph	16/02/15	LWP	Gwynedd Archaeological Trust
G2374_Esgyryn_0042.jpg	Esgyryn, Llandudno Junction	Boundaire s/hedgerow recording	Boundary 4		General view of boundary 4		SW		Photograph	16/02/15	LWP	Gwynedd Archaeological Trust

File reference	Project name	Project phase	Site sub-division	PRN	Description	Contexts	View from	Scale (s)	Type	Date	Originating person	Originating organisation
G2374_Esgyryn_0043.jpg	Esgyryn, Llandudno Junction	Boundaire s/hedgero w recording	Boundary 5	60142	Photographic survey of boundary 5 running shots moving NW to SE 1/12		NE	2x1m	Photograph	16/02/15	LWP	Gwynedd Archaeological Trust
G2374_Esgyryn_0044.jpg	Esgyryn, Llandudno Junction	Boundaire s/hedgero w recording	Boundary 5	60142	Photographic survey of boundary 5 running shots moving NW to SE 2/12		NE	2x1m	Photograph	16/02/15	LWP	Gwynedd Archaeological Trust
G2374_Esgyryn_0045.jpg	Esgyryn, Llandudno Junction	Boundaire s/hedgero w recording	Boundary 5	60142	Photographic survey of boundary 5 running shots moving NW to SE 3/12		NE	2x1m	Photograph	16/02/15	LWP	Gwynedd Archaeological Trust
G2374_Esgyryn_0046.jpg	Esgyryn, Llandudno Junction	Boundaire s/hedgero w recording	Boundary 5	60142	Photographic survey of boundary 5 running shots moving NW to SE 4/12		NE	2x1m	Photograph	16/02/15	LWP	Gwynedd Archaeological Trust
G2374_Esgyryn_0047.jpg	Esgyryn, Llandudno Junction	Boundaire s/hedgero w recording	Boundary 5	60142	Photographic survey of boundary 5 running shots moving NW to SE 5/12		NE	2x1m	Photograph	16/02/15	LWP	Gwynedd Archaeological Trust
G2374_Esgyryn_0048.jpg	Esgyryn, Llandudno Junction	Boundaire s/hedgero w recording	Boundary 5	60142	Photographic survey of boundary 5 running shots moving NW to SE 6/12		NE	2x1m	Photograph	16/02/15	LWP	Gwynedd Archaeological Trust
G2374_Esgyryn_0049.jpg	Esgyryn, Llandudno Junction	Boundaire s/hedgero w recording	Boundary 5	60142	Photographic survey of boundary 5 running shots moving NW to SE 7/12		NE	2x1m	Photograph	16/02/15	LWP	Gwynedd Archaeological Trust
G2374_Esgyryn_0050.jpg	Esgyryn, Llandudno Junction	Boundaire s/hedgero w recording	Boundary 5	60142	Photographic survey of boundary 5 running shots moving NW to SE 8/12		NE	2x1m	Photograph	16/02/15	LWP	Gwynedd Archaeological Trust
G2374_Esgyryn_0051.jpg	Esgyryn, Llandudno Junction	Boundaire s/hedgero w recording	Boundary 5	60142	Photographic survey of boundary 5 running shots moving NW to SE9/12		NE	2x1m	Photograph	16/02/15	LWP	Gwynedd Archaeological Trust
G2374_Esgyryn_0052.jpg	Esgyryn, Llandudno Junction	Boundaire s/hedgero w recording	Boundary 5	60142	Photographic survey of boundary 5 running shots moving NW to SE 10/12		NE	2x1m	Photograph	16/02/15	LWP	Gwynedd Archaeological Trust
G2374_Esgyryn_0053.jpg	Esgyryn, Llandudno Junction	Boundaire s/hedgero w recording	Boundary 5	60142	Photographic survey of boundary 5 running shots moving NW to SE 11/12		NE	2x1m	Photograph	16/02/15	LWP	Gwynedd Archaeological Trust
G2374_Esgyryn_0054.jpg	Esgyryn, Llandudno Junction	Boundaire s/hedgero w recording	Boundary 5	60142	Photographic survey of boundary 5 running shots moving NW to SE 12/12		NE	2x1m	Photograph	16/02/15	LWP	Gwynedd Archaeological Trust
G2374_Esgyryn_0055.jpg	Esgyryn, Llandudno Junction	Boundaire s/hedgero w recording	Boundary 5	60142	General view of boundary 5		NE	1x1m	Photograph	16/02/15	LWP	Gwynedd Archaeological Trust
G2374_Esgyryn_0056.jpg	Esgyryn, Llandudno Junction	Boundaire s/hedgero w recording	Boundary 3	60141	View of water filled ditch NE side of boundary 3		SE		Photograph	16/02/15	LWP	Gwynedd Archaeological Trust

File reference	Project name	Project phase	Site sub-division	PRN	Description	Contexts	View from	Scale (s)	Type	Date	Originating person	Originating organisation
G2374_Esgyryn_0057.jpg	Esgyryn, Llandudno Junction	Boundaires/hedgerow recording	Boundary 5	60142	Ditch running along NE side of boundary 5		SE	2x1m	Photograph	16/02/15	LWP	Gwynedd Archaeological Trust
G2374_Esgyryn_0058.jpg	Esgyryn, Llandudno Junction	Boundaires/hedgerow recording	Boundaries 3 and 2	60140, 60141	Junction of boundaries 3 and 2		E		Photograph	16/02/15	LWP	Gwynedd Archaeological Trust
G2374_Esgyryn_0059.jpg	Esgyryn, Llandudno Junction	Controlled Strip	Field 2		Controlled strip, progress of topsoiling at SE end	-	NE	-	Photograph	02/03/15	Ken Owen	Gwynedd Archaeological Trust
G2374_Esgyryn_0060.jpg	Esgyryn, Llandudno Junction	Controlled Strip	Field 2		Controlled strip, progress of topsoiling at SE end	-	E	-	Photograph	02/03/15	Ken Owen	Gwynedd Archaeological Trust
G2374_Esgyryn_0061.jpg	Esgyryn, Llandudno Junction	Controlled Strip	Field 2		Controlled strip, progress of topsoiling at SE end	-	SE	-	Photograph	02/03/15	Ken Owen	Gwynedd Archaeological Trust
G2374_Esgyryn_0062.jpg	Esgyryn, Llandudno Junction	Controlled Strip	Field 2		Controlled strip, progress of topsoiling at SE end	-	S	-	Photograph	02/03/15	Ken Owen	Gwynedd Archaeological Trust
G2374_Esgyryn_0063.jpg	Esgyryn, Llandudno Junction	Controlled Strip	Field 2		Controlled strip, progress of topsoiling at SE end	-	SW	-	Photograph	02/03/15	NMcG	Gwynedd Archaeological Trust
G2374_Esgyryn_0064.jpg	Esgyryn, Llandudno Junction	Controlled Strip	Field 2		Controlled strip, progress of topsoiling at SE end	-	N	-	Photograph	02/03/15	NMcG	Gwynedd Archaeological Trust
G2374_Esgyryn_0065.jpg	Esgyryn, Llandudno Junction	Controlled Strip	Field 2		General working shot	-	NE	-	Photograph	03/03/15	Ken Owen	Gwynedd Archaeological Trust
G2374_Esgyryn_0066.jpg	Esgyryn, Llandudno Junction	Controlled Strip	Field 2	60148	Pre-ex shot of pit [005], with burnt stone in fill, stones dislodged from pit by machine on left of shot.	(004)[005]	NE	1x1m	Photograph	03/03/15	NMcG	Gwynedd Archaeological Trust
G2374_Esgyryn_0067.jpg	Esgyryn, Llandudno Junction	Controlled Strip	Field 2	60149	Pre-ex shot of pit [007], with stoney fill	(006)[007]	NE	1x1m	Photograph	03/03/15	NMcG	Gwynedd Archaeological Trust
G2374_Esgyryn_0068.jpg	Esgyryn, Llandudno Junction	Controlled Strip	Field 2		General working shot	-	SW	-	Photograph	03/03/15	Ken Owen	Gwynedd Archaeological Trust
G2374_Esgyryn_0069.jpg	Esgyryn, Llandudno Junction	Controlled Strip	Field 2		General working shot	-	NW	-	Photograph	03/03/15	Ken Owen	Gwynedd Archaeological Trust
G2374_Esgyryn_0070.jpg	Esgyryn, Llandudno Junction	Controlled Strip	Field 2		General working shot	-	SE	-	Photograph	04/03/15	Ken Owen	Gwynedd Archaeological Trust

File reference	Project name	Project phase	Site sub-division	PRN	Description	Contexts	View from	Scale (s)	Type	Date	Originating person	Originating organisation
G2374_Esgyryn_0071.jpg	Esgyryn, Llandudno Junction	Controlled Strip	Field 2	60148	Pit[005], half section	(004)[005](008)	SW	1x1m	Photograph	04/03/15	NMcG	Gwynedd Archaeological Trust
G2374_Esgyryn_0072.jpg	Esgyryn, Llandudno Junction	Controlled Strip	Field 2	60149	Pit[007], half section	(006)[007]	SW	1x1m	Photograph	04/03/15	NMcG	Gwynedd Archaeological Trust
G2374_Esgyryn_0073.jpg	Esgyryn, Llandudno Junction	Controlled Strip	Field 2		General working shot	-	SSE	-	Photograph	04/03/15	Ken Owen	Gwynedd Archaeological Trust
G2374_Esgyryn_0074.jpg	Esgyryn, Llandudno Junction	Controlled Strip	Field 2		Stripped area at end of day	-	ESE	-	Photograph	04/03/15	Ken Owen	Gwynedd Archaeological Trust
G2374_Esgyryn_0075.jpg	Esgyryn, Llandudno Junction	Controlled Strip	Field 2		General working shot	-	SW	-	Photograph	05/03/15	Ken Owen	Gwynedd Archaeological Trust
G2374_Esgyryn_0076.jpg	Esgyryn, Llandudno Junction	Controlled Strip	Field 2	60150	NE facing section of former hedgeline, SW end Slot 1	[009](010)	NE	1x1m	Photograph	05/03/15	AMO	Gwynedd Archaeological Trust
G2374_Esgyryn_0077.jpg	Esgyryn, Llandudno Junction	Controlled Strip	Field 2	60150	Shot of slot through former hedgeline, SW end, Slot 1	[009](010)	NW	1x1m	Photograph	05/03/15	AMO	Gwynedd Archaeological Trust
G2374_Esgyryn_0078.jpg	Esgyryn, Llandudno Junction	Controlled Strip	Field 2	60150	NE facing section of former hedgerow, SW end of Slot 1	-	NE	1x1m	Photograph	05/03/15	AMO	Gwynedd Archaeological Trust
G2374_Esgyryn_0079.jpg	Esgyryn, Llandudno Junction	Controlled Strip	Field 2	60150	Length of former hedgerow	-	SW	-	Photograph	05/03/15	AMO	Gwynedd Archaeological Trust
G2374_Esgyryn_0080.jpg	Esgyryn, Llandudno Junction	Controlled Strip	Field 2	60150	SW facing section of Slot 2 in former hedgeline	-	SW	1x1m	Photograph	05/03/15	AMO	Gwynedd Archaeological Trust
G2374_Esgyryn_0081.jpg	Esgyryn, Llandudno Junction	Controlled Strip	Field 2	60150	SW facing section of Slot 2 in former hedgeline	-	SW	1x1m	Photograph	05/03/15	AMO	Gwynedd Archaeological Trust
G2374_Esgyryn_0082.jpg	Esgyryn, Llandudno Junction	Controlled Strip	Field 2		General working shot	-	ENE	-	Photograph	05/03/15	Ken Owen	Gwynedd Archaeological Trust
G2374_Esgyryn_0083.jpg	Esgyryn, Llandudno Junction	Controlled Strip	Field 2		General working shot	-	NE	-	Photograph	05/03/15	Ken Owen	Gwynedd Archaeological Trust
G2374_Esgyryn_0084.jpg	Esgyryn, Llandudno Junction	Controlled Strip	Field 2		Completed area	-	NE	-	Photograph	05/03/15	Ken Owen	Gwynedd Archaeological Trust

File reference	Project name	Project phase	Site sub-division	PRN	Description	Contexts	View from	Scale (s)	Type	Date	Originating person	Originating organisation
G2374_Esgyryn_0085.jpg	Esgyryn, Llandudno Junction	Controlled Strip	Field 2		View of topsoiled area	-	SW	-	Photograph	06/03/15	AMO	Gwynedd Archaeological Trust
G2374_Esgyryn_0086.jpg	Esgyryn, Llandudno Junction	Controlled Strip	Field 2		SW facing section through natural feature [011]	[011]	SW	1x1m	Photograph	06/03/15	Jess Davidson	Gwynedd Archaeological Trust
G2374_Esgyryn_0087.jpg	Esgyryn, Llandudno Junction	Controlled Strip	Field 2		S facing section through natural feature [012]	[012]	S	1x1m	Photograph	06/03/15	Jess Davidson	Gwynedd Archaeological Trust
G2374_Esgyryn_0088.jpg	Esgyryn, Llandudno Junction	Controlled Strip	Field 2	60148	Post-ex shot of pit [005]	[005]	NNE	1x1m	Photograph	06/03/15	Jess Davidson	Gwynedd Archaeological Trust
G2374_Esgyryn_0089.jpg	Esgyryn, Llandudno Junction	Controlled Strip	Field 2	60149	Post-ex shot of pit [007]	[007]	NNE	1x1m	Photograph	06/03/15	Jess Davidson	Gwynedd Archaeological Trust
G2374_Esgyryn_0090.jpg	Esgyryn, Llandudno Junction	Controlled Strip	Field 2		Post-ex shot of area	-	NE	-	Photograph	06/03/15	Jess Davidson	Gwynedd Archaeological Trust
G2374_Esgyryn_0091.jpg	Esgyryn, Llandudno Junction	Controlled Strip	Field 2		Post-ex shot of area	-	NE	-	Photograph	06/03/15	Jess Davidson	Gwynedd Archaeological Trust
G2374_Esgyryn_0092.jpg	Esgyryn, Llandudno Junction	Controlled Strip	Field 2		NW facing section through feature [013]	[013]	NW	1x1m	Photograph	06/03/15	Jess Davidson	Gwynedd Archaeological Trust
G2374_Esgyryn_0093.jpg	Esgyryn, Llandudno Junction	Controlled Strip	Field 2		SW facing section slot in linear	[014]	SW	1x1m	Photograph	06/03/15	AMO	Gwynedd Archaeological Trust
G2374_Esgyryn_0094.jpg	Esgyryn, Llandudno Junction	Controlled Strip	Field 2		Length of linear	[014]	SW	1x1m	Photograph	06/03/15	AMO	Gwynedd Archaeological Trust
G2374_Esgyryn_0095.jpg	Esgyryn, Llandudno Junction	Controlled Strip	Field 2		Southern end of [015], with board	[015] (016)	SSW	1x1m,1x0.3m	Photograph	09/03/15	Ken Owen	Gwynedd Archaeological Trust
G2374_Esgyryn_0096.jpg	Esgyryn, Llandudno Junction	Controlled Strip	Field 2		Southern end of [015], no board	[015] (016)	SSW	1x1m,1x0.3m	Photograph	09/03/15	Ken Owen	Gwynedd Archaeological Trust
G2374_Esgyryn_0097.jpg	Esgyryn, Llandudno Junction	Controlled Strip	Field 2		Northern end of [017], with board	[017] (018)	NW	1x1m,1x0.3m	Photograph	09/03/15	Ken Owen	Gwynedd Archaeological Trust
G2374_Esgyryn_0098.jpg	Esgyryn, Llandudno Junction	Controlled Strip	Field 2		Northern end of [017], no board	[017] (018)	NW	1x1m,1x0.3m	Photograph	09/03/15	Ken Owen	Gwynedd Archaeological Trust

File reference	Project name	Project phase	Site sub-division	PRN	Description	Contexts	View from	Scale (s)	Type	Date	Originating person	Originating organisation
G2374_Esgyryn_0099.jpg	Esgyryn, Llandudno Junction	Controlled Strip	Field 2		General shot of [015] and [017]	[015] [017]	NE	1x1m	Photograph	09/03/15	Ken Owen	Gwynedd Archaeological Trust
G2374_Esgyryn_0100.jpg	Esgyryn, Llandudno Junction	Controlled Strip	Field 2		General shot of backfilling	-	NNW	-	Photograph	09/03/15	Ken Owen	Gwynedd Archaeological Trust
G2374_Esgyryn_0101.jpg	Esgyryn, Llandudno Junction	Controlled Strip	Field 2		Southern end of [015] re-excavated, with board	[015] (016)	SSW	1x1m,1x0.3m	Photograph	09/03/15	Ken Owen	Gwynedd Archaeological Trust
G2374_Esgyryn_0102.jpg	Esgyryn, Llandudno Junction	Controlled Strip	Field 2		Southern end of [015] re-excavated, no board	[015] (016)	SSW	1x1m,1x0.3m	Photograph	09/03/15	Ken Owen	Gwynedd Archaeological Trust
G2374_Esgyryn_0103.jpg	Esgyryn, Llandudno Junction	Controlled Strip	Field 2		Shot of re-instatement	-	NW	-	Photograph	10/03/15	Ken Owen	Gwynedd Archaeological Trust
G2374_Esgyryn_0104.jpg	Esgyryn, Llandudno Junction	Controlled Strip	Field 2		Shot of re-instatement	-	SE	-	Photograph	10/03/15	Ken Owen	Gwynedd Archaeological Trust

Appendix IV

Hedgerow Regulation Act 1997

STATUTORY INSTRUMENTS

1997 No. 1160

COUNTRYSIDE

The Hedgerows Regulations 1997

Made - - - - 24th March 1997

Coming into force - - 1st June 1997

The Secretary of State for the Environment and the Minister of Agriculture, Fisheries and Food, acting jointly as respects England, and the Secretary of State for Wales, as respects Wales, in exercise of the powers conferred by section 97 of the Environment Act 1995⁽¹⁾, and of all other powers enabling them in that behalf, having undertaken the consultations required by section 97(6) of that Act, hereby make the following Regulations, a draft of which has been laid before, and has been approved by resolution of, both Houses of Parliament:

Citation and commencement

1. These Regulations may be cited as the Hedgerows Regulations 1997 and shall come into force on 1st June 1997.

Interpretation

2.—(1) In these Regulations—

“the 1990 Act” means the Town and Country Planning Act 1990⁽²⁾;

“the 1995 Act” means the Environment Act 1995;

“agriculture” includes horticulture, fruit growing, seed growing, dairy farming, the breeding and keeping of livestock (including any creature kept for the production of food, wool, skins or fur, or for the purposes of its use in the farming of land), the use of land as grazing land, meadow land, osier land, market gardens and nursery grounds, and the use of land for woodlands where that use is ancillary to the farming of land for other agricultural purposes, and “agricultural” shall be construed accordingly;

“agricultural holding” has the same meaning as in the Agricultural Holdings Act 1986⁽³⁾;

“common land” has the same meaning as in the Commons Registration Act 1965⁽⁴⁾, and references to common land include town or village green within the meaning of that Act;

(1) 1995 c. 25; See the definition of “the appropriate Ministers” in section 97(8).

(2) 1990 c. 8.

(3) 1986 c. 5; See section 1 of that Act.

(4) 1965 c. 64; See section 22 of that Act.

- “farm business tenancy” has the same meaning as in the Agricultural Tenancies Act 1995⁽⁵⁾;
- “gap”, in relation to a hedgerow⁽⁶⁾, means any opening (whether or not it is filled);
- “hedgerow removal notice” means a notice under regulation 5(1)(a);
- “hedgerow retention notice” means a notice referred to in regulation 5(2);
- “local planning authority”, except in paragraph 5(b)(ii) of Part II of Schedule 1, means—
- (a) as regards land within a National Park, the National Park Authority for that Park⁽⁷⁾,
 - (b) as regards land within the Broads, within the meaning of the Norfolk and Suffolk Broads Act 1988, the Broads Authority⁽⁸⁾,
 - (c) as regards the Isles of Scilly, the Council of the Isles of Scilly,
 - (d) as regards any other land in England, the district planning authority within the meaning of the 1990 Act,
 - (e) as regards any other land in Wales, the county council or county borough council;
- “notice” means notice in writing;
- “owner”—
- (a) in relation to a hedgerow growing on any land which comprises part of an agricultural holding or which is subject to a farm business tenancy, means the person who owns the freehold of the land or the tenant;
 - (b) in relation to a hedgerow growing on any other land, means the person who owns the freehold of the land,
- and “owns the freehold” means is entitled, otherwise than as a mortgagee not in possession, to dispose of the fee simple;
- “protected land” means—
- (a) land managed as a nature reserve in pursuance of section 21 (establishment of nature reserves by local authorities) of the National Parks and Access to the Countryside Act 1949⁽⁹⁾,
 - (b) land in relation to which a notification under section 28 (areas of special scientific interest) of the Wildlife and Countryside Act 1981⁽¹⁰⁾ is in force;
- “relevant utility operator”, in relation to any hedgerow, means—
- (a) any person who holds a licence granted under section 6 of the Electricity Act 1989⁽¹¹⁾ (power to grant licences for the generation, transmission or supply of electricity) and who wishes to remove or, as the case may be, removes the hedgerow in question for the purpose of carrying out any activity authorised by that licence;
 - (b) any person who holds a licence granted or treated as granted under section 7 of the Gas Act 1986⁽¹²⁾ (power to grant licences for the conveyance of gas through pipes) and

(5) 1995 c. 8; See sections 1 and 2 of that Act.

(6) Section 97(8) of the Environment Act 1995 defines “hedgerow” as including any stretch of hedgerow.

(7) See Part III of the Environment Act 1995, the National Park Authorities (Wales) Order 1995 (S.I. 1995/2803, amended by S.I. 1996/534 and 1996/1224) and the National Park Authorities (England) Order 1996 (S.I. 1996/1243).

(8) 1988 c. 4. See section 1(1) and the definition of “the Broads” in section 2(3).

(9) 1949 c. 97. Section 21 was amended by the Local Government Act 1972 (c. 70), Schedule 30, the Local Government (Scotland) Act 1973 (c. 65), Schedule 29 and the Nature Conservancy Council Act 1973 (c. 54), section 1(1)(b) and (7) and Schedule 1, paragraph 1.

(10) 1981 c. 69. Section 28 was amended by the Wildlife and Countryside (Amendment) Act 1985 (c. 31), section 2, the Norfolk and Suffolk Broads Act 1988 (c. 4), Schedule 3, paragraph 31, and the Wildlife and Countryside (Service of Notices) Act 1985 (c. 59), section 1(2).

(11) 1989 c. 29.

(12) 1986 c. 44; section 7 was substituted by section 5 of the Gas Act 1995 (c. 45).

who wishes to remove or, as the case may be, removes the hedgerow in question for the purpose of carrying out any activity authorised by that licence;

- (c) any person who holds a licence granted under section 7 of the Telecommunications Act 1984⁽¹³⁾ (power to licence telecommunications systems) which applies to him the telecommunications code contained in Schedule 2 to that Act and who wishes to remove or, as the case may be, removes the hedgerow in question in pursuance of a right conferred by the telecommunications code and in accordance with the provisions of his licence;
- (d) a sewerage undertaker or a water undertaker which wishes to remove or, as the case may be, removes the hedgerow in question for the purpose of carrying out its functions, within the meaning of the Water Industry Act 1991⁽¹⁴⁾.

(2) In these Regulations a reference to a numbered regulation or Schedule is to the regulation in, or Schedule to, these Regulations which is so numbered and a reference in a regulation or Schedule to a numbered paragraph, or in a paragraph to a numbered sub-paragraph, is to a paragraph or sub-paragraph of that regulation, Schedule or paragraph.

(3) Part I of Schedule 1 shall have effect for the purposes of interpretation of that Schedule, and Schedules 2 and 3 shall have effect for the purposes of that Part.

Application of Regulations

3.—(1) Subject to paragraph (3), these Regulations apply to any hedgerow growing in, or adjacent to, any common land, protected land, or land used for agriculture, forestry or the breeding or keeping of horses, ponies or donkeys, if—

- (a) it has a continuous length of, or exceeding, 20 metres; or
- (b) it has a continuous length of less than 20 metres and, at each end, meets (whether by intersection or junction) another hedgerow.

(2) Subject to paragraph (3), a hedgerow is also one to which these Regulations apply if it is a stretch of hedgerow forming part of a hedgerow such as is described in paragraph (1).

(3) These Regulations do not apply to any hedgerow within the curtilage of, or marking a boundary of the curtilage of, a dwelling-house.

(4) A hedgerow which meets (whether by intersection or junction) another hedgerow is to be treated as ending at the point of intersection or junction.

(5) For the purposes of ascertaining the length of any hedgerow—

- (a) any gap resulting from a contravention of these Regulations; and
- (b) any gap not exceeding 20 metres,

shall be treated as part of the hedgerow.

Criteria for determining “important” hedgerows

4. For the purposes of section 97 (hedgerows) of the Environment Act 1995 and these Regulations, a hedgerow is “important” if it, or the hedgerow of which it is a stretch,—

- (a) has existed for 30 years or more; and
- (b) satisfies at least one of the criteria listed in Part II of Schedule 1.

⁽¹³⁾ 1984 c. 12.

⁽¹⁴⁾ 1991 c. 56. See the definitions of “function” and “relevant undertaker” in section 219(1).

Removal of hedgerows

5.—(1) Subject to the exceptions specified in regulation 6, the removal⁽¹⁵⁾ of a hedgerow to which these Regulations apply is prohibited unless—

- (a) the local planning authority in whose area the hedgerow is situated or, where it is situated in the area of more than one such authority, the local planning authority in whose area the greater part of the hedgerow is situated, have received from an owner of the hedgerow (subject to paragraph (10)) notice in the form set out in Schedule 4, or a form substantially to the same effect, of his proposal to remove the hedgerow (“hedgerow removal notice”) together with the plan and evidence mentioned in the form set out in Schedule 4; and
- (b)
 - (i) the authority have given to the person who gave the hedgerow removal notice written notice stating that the hedgerow may be removed; or
 - (ii) the period specified in paragraph (6) has expired without the authority having given to that person a hedgerow retention notice stating that the work may not be carried out; and
- (c) the removal is carried out in accordance with the proposal specified in the hedgerow removal notice; and
- (d) the hedgerow is removed within the period of two years beginning with the date of service of the hedgerow removal notice.

(2) A local planning authority which has received a hedgerow removal notice shall, consistently with paragraph (5) and within the period specified in paragraph (6), decide whether or not to give notice to that person stating that the work or, where the hedgerow removal notice refers to more than one hedgerow, so much of the work as may be specified by the authority in their notice, may not be carried out (“hedgerow retention notice”).

(3) Where a hedgerow in respect of which the local planning authority has received a hedgerow removal notice is situated in a parish in England for which there is a parish council, or in a community in Wales for which there is a community council, that authority shall consult that council (or, where there is more than one such council, each of them) on the proposal to remove that hedgerow.

(4) The consultation referred to in paragraph (3) shall be completed before the period specified in paragraph (6) expires and before the giving of a notice under paragraph (1)(b)(i) or a hedgerow retention notice.

(5) A local planning authority—

- (a) shall not give a hedgerow retention notice in respect of a hedgerow which is not an “important” hedgerow;
- (b) shall give such a notice, within the period specified in paragraph (6), in respect of an “important” hedgerow unless satisfied, having regard in particular to the reasons given for its proposed removal in the hedgerow removal notice, that there are circumstances which justify the hedgerow’s removal.

(6) The period referred to in paragraphs (1)(b)(ii), (2), (4) and (5)(b) is that of 42 days beginning with the date on which the hedgerow removal notice is received by the local planning authority or such longer period as may be agreed between the person who gave the notice and the authority.

(7) A hedgerow retention notice shall, except where regulation 8(4) applies, specify each criterion (of those listed in Schedule 1) which applies to the hedgerow to which the notice relates.

(8) A hedgerow retention notice may be withdrawn at any time by the local planning authority by giving written notice of the withdrawal to the person to whom the hedgerow retention notice was given.

⁽¹⁵⁾ See the definition of “remove” in section 97(8) of the Environment Act 1995.

(9) Where a hedgerow retention notice has been given stating that work relating to a hedgerow may not be carried out, and that notice has not been withdrawn, removal of the hedgerow consisting of or including any such work is prohibited.

(10) Where a hedgerow is or is to be removed by or on behalf of a relevant utility operator from land of which it is not the owner, paragraph (1)(a) shall apply as though the reference to the owner were instead a reference to the relevant utility operator.

Permitted work

6.—(1) The removal of any hedgerow to which these Regulations apply is permitted if it is required—

- (a) for making a new opening in substitution for an existing opening which gives access to land, but subject to paragraph (2);
- (b) for obtaining temporary access to any land in order to give assistance in an emergency;
- (c) for obtaining access to land where another means of access is not available or is available only at disproportionate cost;
- (d) for the purposes of national defence;
- (e) for carrying out development for which planning permission has been granted or is deemed to have been granted, except development for which permission is granted by article 3 of the Town and Country Planning General Permitted Development Order 1995⁽¹⁶⁾ in respect of development of any of the descriptions contained in Schedule 2 to that Order other than Parts 11 (development under local or private Acts or orders) and 30 (toll road facilities);
- (f) for carrying out, pursuant to, or under, the Land Drainage Act 1991⁽¹⁷⁾, the Water Resources Act 1991⁽¹⁸⁾ or the Environment Act 1995⁽¹⁹⁾, work for the purpose of flood defence or land drainage;
- (g) for preventing the spread of, or ensuring the eradication of—
 - (i) any plant pest, within the meaning of the Plant Health (Great Britain) Order 1993⁽²⁰⁾, in respect of which any action is being, or is to be, taken under Article 22 or 23 of that Order, or
 - (ii) any tree pest, within the meaning of the Plant Health (Forestry) (Great Britain) Order 1993⁽²¹⁾, in respect of which any action is being, or is to be, taken under Article 21 or 22 of that Order;
- (h) for the carrying out by the Secretary of State of his functions in respect of any highway for which he is the highway authority⁽²²⁾ or in relation to which, by virtue of section 4(2) of the Highways Act 1980, he has the same powers under that Act as the local highway authority;
- (i) for carrying out any felling, lopping or cutting back required or permitted as a consequence of any notice given or order made under paragraph 9 of Schedule 4 to the Electricity Act 1989⁽²³⁾ (felling, lopping or cutting back to prevent obstruction of or interference with electric lines and plant or to prevent danger); or

⁽¹⁶⁾ S.I. 1995/418.

⁽¹⁷⁾ 1991 c. 59. See the definition of “drainage” in section 72(1), as substituted by the Environment Act 1995 (c. 25), section 100(2).

⁽¹⁸⁾ 1991 c. 57. See the definition of “drainage” in section 113(1), as amended by the Environment Act 1995, section 100(1).

⁽¹⁹⁾ 1995 c. 25. See, in particular, section 2(1)(a)(iii).

⁽²⁰⁾ S.I. 1993/1320; a relevant amending instrument is S.I. 1995/1358. The definition of “plant pest” is contained in article 2(1) of the Order.

⁽²¹⁾ S.I. 1993/1283. The definition of “tree pest” is contained in article 2(1) of the Order.

⁽²²⁾ See Part I of the Highways Act 1980 (c. 66).

⁽²³⁾ 1989 c. 29.

(j) for the proper management of the hedgerow.

(2) Where the removal of a hedgerow to which these Regulations apply is permitted by these Regulations only by paragraph (1)(a), the person removing it shall fill the existing opening by planting a hedge within 8 months of the making of the new opening.

(3) The fact that work is permitted under these Regulations does not affect any prohibition or restriction imposed by or under any other enactment or by any agreement.

Offences

7.—(1) A person who intentionally or recklessly removes, or causes or permits another person to remove, a hedgerow in contravention of regulation 5(1) or (9) is guilty of an offence.

(2) A person who contravenes or fails to comply with regulation 6(2) is guilty of an offence.

(3) Hedgerows to which these Regulations apply are prescribed for the purposes of section 97(4)(d) of the 1995 Act (which relates to offences triable either way).

(4) A person guilty of an offence under paragraph (1) shall be liable—

(a) on summary conviction, to a fine not exceeding the statutory maximum; or

(b) on conviction on indictment, to a fine.

(5) A person guilty of an offence under paragraph (2) shall be liable on summary conviction to a fine not exceeding level 3 on the standard scale.

(6) In determining the amount of any fine to be imposed on a person convicted of an offence under paragraph (1) or (2), the court shall in particular have regard to any financial benefit which has accrued or appears likely to accrue to him in consequence of the offence.

(7) Section 331 (offences by corporations) of the 1990 Act shall apply in relation to offences under paragraph (1) or (2) committed by a body corporate as it applies in relation to offences under that Act committed by a body corporate.

Replacement of hedgerows

8.—(1) Subject to regulation 15, where it appears to the local planning authority that a hedgerow has been removed in contravention of regulation 5(1) or (9), the authority may (whether or not proceedings are instituted under regulation 7), give a notice to the owner, requiring him to plant another hedgerow or, where the hedgerow has been removed by or on behalf of a relevant utility operator, give a notice to that operator requiring it to plant another hedgerow.

(2) A notice under paragraph (1) shall specify the species and position of the shrubs, or trees and shrubs, to be planted and the period within which the planting is to be carried out.

(3) Subsections (1), (2) and (6) of section 209 (execution and cost of works required by s.207 notice) of the 1990 Act shall apply, with the necessary modifications, to shrubs and trees whose planting is required by a notice under paragraph (1) as if they were trees whose planting was required by a notice under subsection (1) of section 207 (enforcement of duties as to replacement of trees) of that Act.

(4) A hedgerow planted in compliance with a notice under paragraph (1) or by virtue of paragraph (3) shall be treated—

(a) for the purposes of these Regulations;

(b) for the period of 30 years beginning with the date of substantial completion of the planting, as if it were an “important” hedgerow within the meaning of regulation 4.

Appeals

9.—(1) Subject to regulation 15, a person to whom a hedgerow retention notice or a notice under regulation 8(1) is given may, by notice given within 28 days from the date on which the notice was given to him, or such longer period as the Secretary of State may allow, appeal to the Secretary of State.

(2) The notice of appeal shall state the grounds for the appeal and the appellant shall serve a copy of it on the local planning authority which gave the hedgerow retention notice or notice under regulation 8(1).

(3) In determining the appeal the Secretary of State—

- (a) may allow or dismiss it, either as to the whole or as to part;
- (b) shall give any directions necessary to give effect to his determination, including directions for quashing or modifying any notice,

and he shall notify the appellant and the local planning authority of his determination of the appeal.

(4) Before determining the appeal, the Secretary of State shall afford to the appellant and the local planning authority an opportunity, if they so wish, of appearing before, and being heard by, a person appointed by the Secretary of State for the purpose.

(5) The Secretary of State may cause a local inquiry to be held in connection with an appeal and subsections (2) to (5) of section 250 of the Local Government Act 1972 (local inquiries: evidence and costs) shall apply to any such inquiry.

(6) The Secretary of State shall have the same powers to appoint a person to exercise functions in connection with appeals under this regulation as he is given by section 114 of the 1995 Act in relation to his functions specified in that section; and the provisions of Schedule 20 to that Act shall apply with respect to any such appointment as it applies to appointments under that section.

(7) The Secretary of State and any person appointed by him for any purpose of this regulation shall, except where the appeal is disposed of on the basis of written representations and other documents, have the same power to make orders under section 250(5) of the Local Government Act 1972 (orders with respect to costs of the parties) in relation to proceedings on an appeal under this regulation which do not give rise to an inquiry as he has in relation to an inquiry and section 322A(24) (orders as to costs: supplementary) of the 1990 Act shall apply to proceedings on an appeal under this regulation as if they were proceedings under that Act.

Records

10. Each local planning authority shall compile and keep available for public inspection free of charge at all reasonable hours and at a convenient place a record containing a copy of—

- (a) every hedgerow removal notice received by them;
- (b) every hedgerow retention notice issued by them;
- (c) every notice given by them under regulation 5(1)(b)(i);
- (d) every determination notified to them under regulation 9(3).

Injunctions

11.—(1) Where a local planning authority consider it necessary or expedient for an actual or apprehended offence under these Regulations to be restrained by injunction, they may apply to the court for an injunction, whether or not they have exercised or are proposing to exercise any of their other powers under these Regulations.

(24) Section 322A was added by the Planning and Compensation Act 1991 (c. 34), section 30.

(2) On an application under paragraph (1) the court may grant such an injunction as the court thinks appropriate for the purpose of restraining the offence.

(3) In this regulation “the court” means the High Court or the county court.

Rights to enter without a warrant

12.—(1) Any person duly authorised in writing by a local planning authority may enter any land for the purpose of—

- (a) surveying it in connection with any hedgerow removal notice received by the authority;
- (b) ascertaining whether an offence under regulation 7 has been committed;
- (c) determining whether a notice should be given under regulation 8,

if there are reasonable grounds for entering for the purpose in question.

(2) Any person duly authorised in writing by the Secretary of State may enter any land for the purpose of surveying it in connection with any appeal made under regulation 9, if there are reasonable grounds for entering for that purpose.

(3) Any right to enter by virtue of paragraph (1) or (2) shall be exercised at a reasonable hour.

(4) No right to enter by virtue of paragraph (1)(a) or (2) shall be exercised in relation to land which—

- (a) adjoins that in respect of which a hedgerow removal notice has been given or an appeal made; and
- (b) is occupied by a person other than the person who gave the hedgerow removal notice or made the appeal,

unless at least 24 hours’ notice of the intended entry has been given to the occupier of that adjoining land.

(5) In a case to which regulation 5(10) applies, no right to enter any land by virtue of paragraph (1) (a) or (2) shall be exercised unless at least 24 hours’ notice of the intended entry has been given to the occupier of the land.

Right to enter under warrant

13.—(1) If it is shown to the satisfaction of a justice of the peace on sworn information in writing —

- (a) that there are reasonable grounds for entering any land for any of the purposes mentioned in regulation 12(1) or (2); and
- (b) that—
 - (i) admission to the land has been refused, or a refusal is reasonably apprehended; or
 - (ii) the case is one of urgency,

the justice may issue a warrant authorising any person duly authorised in writing by a local planning authority or, as the case may be, the Secretary of State to enter the land.

(2) For the purposes of paragraph (1)(b)(i) admission to land shall be regarded as having been refused if no reply is received to a request for admission within a reasonable period.

(3) A warrant authorises entry on one occasion only and that entry must be—

- (a) within one month from the date of the issue of the warrant; and
- (b) at a reasonable hour, unless the case is one of urgency.

Rights of entry: supplementary provisions

14.—(1) Any power conferred by virtue of regulation 12 or 13 to enter land (“a right of entry”) shall be construed as including power to take samples from any hedgerow on the land and samples of the soil.

(2) A person authorised to enter land in the exercise of a right of entry—

- (a) shall, if so required, produce evidence of his authority and state the purpose of his entry before so entering;
- (b) may take with him such other persons as may be necessary; and
- (c) on leaving the land shall, if the occupier is not then present, leave it as effectively secured against trespassers as he found it.

(3) Any person who wilfully obstructs a person acting in the exercise of a right of entry shall be guilty of an offence and liable on summary conviction to a fine not exceeding level 3 on the standard scale.

(4) If any damage is caused to land or chattels in the exercise of a right of entry, compensation may be recovered by any person suffering the damage from the authority who gave the written authority for the entry or, as the case may be, the Secretary of State.

(5) Any question of disputed compensation under this regulation shall be referred to and determined by the Lands Tribunal.

(6) In relation to the determination of any such question, the provisions of sections 2 and 4 of the Land Compensation Act 1961⁽²⁵⁾ shall apply subject to any necessary modifications.

Local planning authorities as owners of hedgerows

15.—(1) This regulation applies where a local planning authority are the owners (whether alone or jointly with others) of a hedgerow to which these Regulations apply.

(2) Notwithstanding anything in section 101 (arrangements for the discharge of functions by local authorities) of the Local Government Act 1972⁽²⁶⁾, a hedgerow removal notice given in a case to which this regulation applies may not be considered—

- (a) by a committee or sub-committee of the authority concerned if that committee or sub-committee is responsible (wholly or partly) for the management of the land in which is situated the hedgerow to which the notice relates; or
- (b) by an officer of the authority concerned if his responsibilities include any aspect of the management of the land in which is situated the hedgerow to which the notice relates.

(3) Regulations 8 and 9 do not apply in a case to which this regulation applies.

Application of other provisions of the 1990 Act

16.—(1) Subsections (1), (3) and (6) of section 318 (ecclesiastical property) of the 1990 Act⁽²⁷⁾ shall apply—

- (a) to notices required to be served under these Regulations on an owner of land as if those notices were notices required to be served on an owner of land under a provision of the 1990 Act; and
- (b) to compensation payable under regulation 14 of these Regulations as if that compensation were compensation payable under Part IV of the 1990 Act.

⁽²⁵⁾ 1961 c. 33.

⁽²⁶⁾ 1972 c. 70.

⁽²⁷⁾ Section 318(3) and (6) was amended by the Planning and Compensation Act 1991, Schedule 15, paragraph 30.

(2) Subsections (1), (2) and (4) of section 329 (service of notices) of the 1990 Act⁽²⁸⁾ shall apply to notices under these Regulations as if those notices were notices required or authorised to be given or served under that Act.

23rd March 1997

John Selwyn Gummer
Secretary of State for the Environment

24th March 1997

Tim Boswell
Paliamentary Secretary, Ministry of Agriculture,
Fisheries and Food

21st March 1997

William Hague
Secretary of State for Wales

(28) Subsection (4) was inserted by the Planning and Compensation Act 1991, Schedule 7, paragraph 51.

SCHEDULE 1

Regulations 2(3) and 4

ADDITIONAL CRITERIA FOR DETERMINING “IMPORTANT” HEDGEROWS

PART I INTERPRETATION

In this Schedule—

“building” includes structure;

“Record Office” means—

- (a) a place appointed under section 4 of the Public Records Act 1958⁽²⁹⁾ (place of deposit of public records),
- (b) a place at which documents are held pursuant to a transfer under section 144A(4) of the Law of Property Act 1922⁽³⁰⁾ or under section 36(2) of the Tithe Act 1936⁽³¹⁾, including each of those provisions as applied by section 7(1) of the Local Government (Records) Act 1962⁽³²⁾, or
- (c) a place at which documents are made available for inspection by a local authority pursuant to section 1 of the Local Government (Records) Act 1962;

“relevant date” means the date on which these Regulations are made;

“Sites and Monuments Record” means a record of archaeological features and sites adopted—

- (a) by resolution of a local authority within the meaning of the Local Government Act 1972⁽³³⁾, or
- (b) in Greater London, by the Historic Buildings and Monuments Commission⁽³⁴⁾;

“standard tree”—

- (a) in the case of a multi-stemmed tree, means a tree which, when measured at a point 1.3 metres from natural ground level, has at least two stems whose diameters are at least 15 centimetres;
- (b) in the case of a single-stemmed tree, means a tree which, when measured at a point 1.3 metres from natural ground level, has a stem whose diameter is at least 20 centimetres;

“woodland species” means the species listed in Schedule 2; and

“woody species” means the species and sub-species listed in Schedule 3, and any hybrid, that is to say, any individual plant resulting from a cross between parents of any species or sub-species so listed, but does not include any cultivar; and

references to the documents in paragraph 6(3)(b) and (4) are to those documents as at the relevant date, without taking account of any subsequent revisions, supplements or modifications.

⁽²⁹⁾ 1958 c. 51.

⁽³⁰⁾ 1922 c. 16; section 144A was inserted by the Law of Property (Amendment) Act 1924 (c. 5), Schedule 2.

⁽³¹⁾ 1928 c. 2.

⁽³²⁾ 1962 c. 56.

⁽³³⁾ 1972 c. 70.

⁽³⁴⁾ The Commission was established by section 32 of the National Heritage Act 1993 (c. 47).

PART II

CRITERIA

Archaeology and history

1. The hedgerow marks the boundary, or part of the boundary, of at least one historic parish or township; and for this purpose “historic” means existing before 1850.
2. The hedgerow incorporates an archaeological feature which is—
 - (a) included in the schedule of monuments compiled by the Secretary of State under section 1 (schedule of monuments) of the Ancient Monuments and Archaeological Areas Act 1979⁽³⁵⁾; or
 - (b) recorded at the relevant date in a Sites and Monuments Record.
3. The hedgerow—
 - (a) is situated wholly or partly within an archaeological site included or recorded as mentioned in paragraph 2 or on land adjacent to and associated with such a site; and
 - (b) is associated with any monument or feature on that site.
4. The hedgerow—
 - (a) marks the boundary of a pre-1600 AD estate or manor recorded at the relevant date in a Sites and Monuments Record or in a document held at that date at a Record Office; or
 - (b) is visibly related to any building or other feature of such an estate or manor.
5. The hedgerow—
 - (a) is recorded in a document held at the relevant date at a Record Office as an integral part of a field system pre-dating the Inclosure Acts⁽³⁶⁾; or
 - (b) is part of, or visibly related to, any building or other feature associated with such a system, and that system—
 - (i) is substantially complete; or
 - (ii) is of a pattern which is recorded in a document prepared before the relevant date by a local planning authority, within the meaning of the 1990 Act⁽³⁷⁾, for the purposes of development control within the authority’s area, as a key landscape characteristic.

Wildlife and landscape

- 6.—(1) The hedgerow—
 - (a) contains species listed or categorised as mentioned in sub-paragraph (3); or
 - (b) is referred to in a record held immediately before the relevant date by a biological record centre maintained by, or on behalf of, a local authority within the meaning of the Local Government Act 1972⁽³⁸⁾, and in a form recognised by the Nature Conservancy Council for England, the Countryside Council for Wales⁽³⁹⁾ or the Joint Nature Conservation Committee⁽⁴⁰⁾, as having contained any such species—

⁽³⁵⁾ 1979 c. 46.

⁽³⁶⁾ See the Short Titles Act 1896 (c. 14).

⁽³⁷⁾ See section 1 of the Town and Country Planning Act 1990, as amended by the Local Government (Wales) Act 1994 (c. 19).

⁽³⁸⁾ See the definition of “local authority” in section 270(1), as amended by the Local Government Act 1985 (c. 51), Schedule 17 and the Local Government (Wales) Act 1994, Schedule 1, paragraphs 1 and 57.

⁽³⁹⁾ See section 128(1) of the Environmental Protection Act 1990 (c. 43); subsection (1) of section 128 was amended by the National Heritage (Scotland) Act 1991 (c. 28).

⁽⁴⁰⁾ See section 128(4) of the Environmental Protection Act 1990.

- (i) in the case of animals and birds, subject to sub-paragraph (2), within the period of five years immediately before the relevant date.
 - (ii) in the case of plants, subject to sub-paragraph (2), within the period of ten years immediately before the relevant date;
- (2) Where more than one record referable to the period of five or, as the case may be, ten years before the relevant date is held by a particular biological record centre, and the more (or most) recent record does not satisfy the criterion specified in sub-paragraph (1)(b), the criterion is not satisfied (notwithstanding that an earlier record satisfies it).
- (3) The species referred to in sub-paragraph (1) are those—
- (a) listed in Part I (protection at all times) of Schedule 1 (birds which are protected by special penalties), Schedule 5 (animals which are protected) or Schedule 8 (plants which are protected) to the Wildlife and Countryside Act 1981⁽⁴¹⁾;
 - (b) categorised as a declining breeder (category 3) in “Red Data Birds in Britain” Batten LA, Bibby CJ, Clement P, Elliott GD and Porter RF (Eds.), published in 1990 for the Nature Conservancy Council and the Royal Society for the Protection of Birds (ISBN 0 85661 056 9); or
 - (c) categorised as “endangered”, “extinct”, “rare” or “vulnerable” in Britain in a document mentioned in sub-paragraph (4).
- (4) The documents referred to in sub-paragraph (3)(c) are—
- (a) of the books known as the British Red Data Books:
 - (1) “Vascular Plants” Perring FH and Farrell L, 2nd Edition, published in 1983 for the Royal Society for Nature Conservation (ISBN 0 902484 04 4);
 - (2) “Insects” Shirt DB (Ed.), published in 1987 for the Nature Conservancy Council (ISBN 0 86139 380 5); and
 - (3) “Invertebrates other than insects” Bratton JH (Ed.), published in 1991 for the Joint Nature Conservation Committee (ISBN 1 873701 00 4); and
 - (b) of the books known as the Red Data Books of Britain and Ireland:
 - “Stoneworts” Stewart NF and Church JM, published in 1992 for the Joint Nature Conservation Committee (ISBN 1 873701 24 1).
- 7.—(1) Subject to sub-paragraph (2), the hedgerow includes—
- (a) at least 7 woody species;
 - (b) at least 6 woody species, and has associated with it at least 3 of the features specified in sub-paragraph (4);
 - (c) at least 6 woody species, including one of the following—
 - black-poplar tree (*Populus nigra* ssp *betulifolia*);
 - large-leaved lime (*Tilia platyphyllos*);
 - small-leaved lime (*Tilia cordata*);
 - wild service-tree (*Sorbus torminalis*); or
 - (d) at least 5 woody species, and has associated with it at least 4 of the features specified in sub-paragraph (4),
- and the number of woody species in a hedgerow shall be ascertained in accordance with sub-paragraph (3).

⁽⁴¹⁾ 1981 c. 69. Schedule 5 is amended by S.I. 1988/288, 1989/906, 1991/367 and 1992/2350.

(2) Where the hedgerow in question is situated wholly or partly in the county (as constituted on 1st April 1997) of the City of Kingston upon Hull, Cumbria, Darlington, Durham, East Riding of Yorkshire, Hartlepool, Lancashire, Middlesbrough, North East Lincolnshire, North Lincolnshire, Northumberland, North Yorkshire, Redcar and Cleveland, Stockton-on-Tees, Tyne and Wear, West Yorkshire or York⁽⁴²⁾, the number of woody species mentioned in paragraphs (a) to (d) of sub-paragraph (1) is to be treated as reduced by one.

(3) For the purposes of sub-paragraph (1) (and those of paragraph 8(b))—

- (a) where the length of the hedgerow does not exceed 30 metres, count the number of woody species present in the hedgerow;
- (b) where the length of the hedgerow exceeds 30 metres, but does not exceed 100 metres, count the number of woody species present in the central stretch of 30 metres;
- (c) where the length of the hedgerow exceeds 100 metres, but does not exceed 200 metres, count the number of woody species present in the central stretch of 30 metres within each half of the hedgerow and divide the aggregate by two;
- (d) where the length of the hedgerow exceeds 200 metres, count the number of woody species present in the central stretch of 30 metres within each third of the hedgerow and divide the aggregate by three.

(4) The features referred to in sub-paragraph (1)(b) and (d) (which include those referred to in paragraph 8(b)) are—

- (a) a bank or wall which supports the hedgerow along at least one half of its length;
- (b) gaps which in aggregate do not exceed 10% of the length of the hedgerow;
- (c) where the length of the hedgerow does not exceed 50 metres, at least one standard tree;
- (d) where the length of the hedgerow exceeds 50 metres but does not exceed 100 metres, at least 2 standard trees;
- (e) where the length of the hedgerow exceeds 100 metres, such number of standard trees (within any part of its length) as would when averaged over its total length amount to at least one for each 50 metres;
- (f) at least 3 woodland species within one metre, in any direction, of the outermost edges of the hedgerow;
- (g) a ditch along at least one half of the length of the hedgerow;
- (h) connections scoring 4 points or more in accordance with sub-paragraph (5);
- (i) a parallel hedge within 15 metres of the hedgerow.

(5) For the purposes of sub-paragraph (4)(h) a connection with another hedgerow scores one point and a connection with a pond or a woodland in which the majority of trees are broad-leaved trees scores 2 points; and a hedgerow is connected with something not only if it meets it but also if it has a point within 10 metres of it and would meet it if the line of the hedgerow continued.

8. The hedgerow—

- (a) is adjacent to a bridleway or footpath, within the meaning of the Highways Act 1980⁽⁴³⁾, a road used as a public path, within the meaning of section 54 (duty to reclassify roads used as public paths) of the Wildlife and Countryside Act 1981⁽⁴⁴⁾, or a byway open to all traffic, within the meaning of Part III of the Wildlife and Countryside Act 1981⁽⁴⁵⁾, and

⁽⁴²⁾ In relation to the City of Kingston upon Hull, North and North East Lincolnshire and the East Riding of Yorkshire, see S.I. 1995/600; to Darlington and Durham, see S.I. 1995/1772; to Hartlepool, Middlesbrough, Redcar and Cleveland and Stockton-on-Tees, see S.I. 1995/1747; to Lancashire, see S.I. 1996/1868; and to North Yorkshire and York, see S.I. 1995/610.

⁽⁴³⁾ 1980 c. 66. See the definition of “bridleway” and “footpath” in section 3.

⁽⁴⁴⁾ 1981 c. 69.

⁽⁴⁵⁾ See the definition in section 66(1).

- (b) includes at least 4 woody species, ascertained in accordance with paragraph 7(3) and at least 2 of the features specified in paragraph 7(4)(a) to (g).

SCHEDULE 2

Regulation 2(3) and Schedule 1, Part I

WOODLAND SPECIES

Barren strawberry (*Potentilla sterilis*)
Bluebell (*Hyacinthoides non-scriptus*)
Broad buckler fern (*Dryopteris dilatata*)
Broad-leaved helleborine (*Epipactis helleborine*)
Bugle (*Ajuga reptans*)
Common cow-wheat (*Melampyrum pratense*)
Common dog violet (*Viola riviniana*)
Common polypody (*Polypodium vulgare*)
Dog's mercury (*Mercurialis perennis*)
Early dog violet (*Viola reichenbachiana*)
Early purple orchid (*Orchis mascula*)
Enchanter's nightshade (*Circaea lutetiana*)
Giant fescue (*Festuca gigantea*)
Goldilocks buttercup (*Ranunculus auricomus*)
Great bell-flower (*Campanula latifolia*)
Greater wood-rush (*Luzula sylvatica*)
Hairy brome (*Bromus ramosus*)
Hairy woodrush (*Luzula pilosa*)
Hard fern (*Blechnum spicant*)
Hard shield fern (*Polystichum aculeatum*)
Hart's tongue (*Asplenium scolopendrium*)
Heath bedstraw (*Galium saxatile*)
Herb paris (*Paris quadrifolia*)
Herb-robert (*Geranium robertianum*)
Lady fern (*Athyrium filix-femina*)
Lords-and-ladies (*Arum maculatum*)
Male fern (*Dryopteris filix-mas*)
Moschatel (*Adoxa moschatellina*)
Narrow buckler-fern (*Dryopteris carthusiana*)
Nettle-leaved bell-flower (*Campanula trachelium*)
Oxlip (*Primula elatior*)
Pignut (*Conopodium majus*)
Primrose (*Primula vulgaris*)

Ramsons (*Allium ursinum*)
 Sanicle (*Sanicula europaea*)
 Scaly male-fern (*Dryopteris affinis*)
 Small cow-wheat (*Melampyrum sylvaticum*)
 Soft shield fern (*Polystichum setiferum*)
 Sweet violet (*Viola odorata*)
 Toothwort (*Lathraea squamaria*)
 Tormenitil (*Potentilla erecta*)
 Wild strawberry (*Fragaria vesca*)
 Wood anemone (*Anemone nemorosa*)
 Wood avens/Herb bennet (*Geum urbanum*)
 Wood false-brome (*Brachypodium sylvaticum*)
 Wood horsetail (*Equisetum sylvaticum*)
 Wood meadow-grass (*Poa nemoralis*)
 Wood melick (*Melica uniflora*)
 Wood millet (*Millium effusum*)
 Wood sage (*Teucrium scorodonia*)
 Wood sedge (*Carex sylvatica*)
 Wood sorrel (*Oxalis acetosella*)
 Wood speedwell (*Veronica montana*)
 Wood spurge (*Euphorbia amygdaloides*)
 Woodruff (*Galium odoratum*)
 Yellow archangel (*Lamium galeobdolon*)
 Yellow pimpernel (*Lysimachia nemorum*)

SCHEDULE 3

Regulation 2(3) and Schedule 1, Part I

WOODY SPECIES

Alder (*Alnus glutinosa*)
 Apple, crab (*Malus sylvestris*)
 Ash (*Fraxinus excelsior*)
 Aspen (*Populus tremula*)
 Beech (*Fagus sylvatica*)
 Birch, downy (*Betula pubescens*)
 Birch, silver (*Betula pendula*)
 Black-poplar (*Populus nigra sub-species betulifolia*)
 Blackthorn (*Prunus spinosa*)
 Box (*Buxus sempervirens*)
 Broom (*Cytisus scoparius*)

Buckthorn (*Rhamnus cathartica*)
Buckthorn, alder (*Frangula alnus*)
Butcher's-broom (*Ruscus aculeatus*)
Cherry, bird (*Prunus padus*)
Cherry, wild (*Prunus avium*)
Cotoneaster, wild (*Cotoneaster integerrimus*)
Currant, downy (*Ribes spicatum*)
Currant, mountain (*Ribes alpinum*)
Dogwood (*Cornus sanguinea*)
Elder (*Sambucus nigra*)
Elm (*Ulmus species*)
Gooseberry (*Ribes uva-crispa*)
Gorse (*Ulex europaeus*)
Gorse, dwarf (*Ulex minor*)
Gorse, western (*Ulex gallii*)
Guelder rose (*Viburnum opulus*)
Hawthorn (*Crataegus monogyna*)
Hawthorn, midland (*Crataegus laevigata*)
Hazel (*Corylus avellana*)
Holly (*Ilex aquilifolium*)
Hornbeam (*Carpinus betulus*)
Juniper, common (*Juniperus communis*)
Lime, large-leaved (*Tilia platyphyllos*)
Lime, small-leaved (*Tilia cordata*)
Maple, field (*Acer campestre*)
Mezereon (*Daphne mezereum*)
Oak, pedunculate (*Quercus robur*)
Oak, sessile (*Quercus petraea*)
Osier (*Salix viminalis*)
Pear, Plymouth (*Pyrus cordata*)
Pear, wild (*Pyrus pyraster*)
Poplar, grey (*Populus x canescens*)
Poplar, white (*Populus alba*)
Privet, wild (*Ligustrum vulgare*)
Rose (*Rosa species*)
Rowan (*Sorbus aucuparia*)
Sea-buckthorn (*Hippophae rhamnoides*)
Service-tree, wild (*Sorbus torminalis*)
Spindle (*Euonymus europaeus*)
Spurge-laurel (*Daphne laureola*)

Status: This is the original version (as it was originally made). This item of legislation is currently only available in its original format.

Walnut (*Juglans regia*)
 Wayfaring-tree (*Viburnum lantana*)
 Whitebeam (*Sorbus species*)
 Willow (*Salix species*)
 Yew (*Taxus baccata*)

SCHEDULE 4

Regulation 5(1)

FORM OF HEDGEROW REMOVAL NOTICE

The Environment Act 1995 The Hedgerows Regulations 1997

To: (Name and address of local planning authority).....

From: (Name and address of person giving the notice)

1. I give you notice under regulation 5(1)(a) of the above Regulations that I propose to remove the [stretch(es) of] hedgerow(s) indicated on the attached plan. (If possible, please provide a plan to a scale of 1:2500. A different scale can be used so long as it shows clearly the location and length of the hedgerow or hedgerows that you wish to remove.)

2. The reasons why I propose to remove it/them are the following:—

3. Of the [stretch(es) of] hedgerow(s) indicated, those marked with an “X” were planted less than 30 years ago. Evidence of the date of planting is attached.

4. I am/We are the owner(s) of the freehold of the land concerned.

OR (please delete as appropriate)

I am/We are the tenant(s) of the agricultural holding concerned.

OR (please delete as appropriate)

I am/We are the tenant(s) under the farm business tenancy concerned

OR (please delete as appropriate)

I am/act for the utility operator concerned.

.....
 (Signature of person giving notice)

.....
 (Date)

EXPLANATORY NOTE

(This note is not part of the Regulations)

These Regulations make provision for the protection of important hedgerows in England and Wales. To facilitate the protection of those hedgerows, the Regulations apply to a wider class of hedgerows, described in regulation 3 (in particular to hedgerows which are 20 metres or more long or which

meet another hedgerow at each end and which, in each case, are on or adjacent to land used for certain specified purposes).

Before removing any hedgerow, including a stretch of hedgerow, to which these Regulations apply the owner (or in certain cases a relevant utility operator) must notify the local planning authority (regulation 5). The hedgerow may then not be removed if the local planning authority serves a hedgerow retention notice, which may be done only if the hedgerow is important according to the criteria set out in regulation 4 and Schedules 1 to 3. The requirement for the owner (or utility operator) to notify the local planning authority does not apply to the permitted work described in regulation 6.

There are provisions for criminal offences (regulation 7), replacement of hedgerows removed in contravention of the regulations (regulation 8), appeals against hedgerow retention and other notices (regulation 9), record-keeping by the local planning authority (regulation 10), enforcement by injunction (regulation 11) and rights of entry (regulations 12 to 14). There are also provisions for hedgerows owned by the local planning authority (regulation 15) and ecclesiastical property (regulation 16(1)). Some of these further provisions apply provisions of planning legislation and others make provision comparable to that to be found in the planning legislation in connection with appeals or with the preservation of trees.

The criterion for determining important hedgerows set out in paragraph 6 of Part II of Schedule 1 refers to publications known as Red Data Books. Copies of those publications are available from specialist bookshops and are available for inspection between the hours of 9 a.m. and 5 p.m. Monday to Friday at the offices of the Department of the Environment, Eland House, Bressenden Place, London SW1 and of the Welsh Office at Cathay's Park, Cardiff.

Appendix V

Post Excavation Project Design (Controlled Strip Stage):

Map 2 Phases 3 To 5 (G2374)

ESGYRYN, LLANDUDNO JUNCTION

POST EXCAVATION PROJECT DESIGN (CONTROLLED STRIP STAGE):

MAP 2 Phases 3 to 5 (G2374)

Prepared for

Ainsley Gommon, Architects

April 2015

Ymddiriedolaeth Archaeolegol Gwynedd
Gwynedd Archaeological Trust

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Figure 01: Location of features within the controlled strip area, sample <01> obtained from (008), within pit [005].

Figure 02: Section and Plan of Pit [005], Scale 1:10 @ A4, containing Sample <01>

1 INTRODUCTION

Gwynedd Archaeological Trust (GAT) has been commissioned by *Ainsley Gommon Architects* to undertake a phased programme of archaeological mitigation at the location of a proposed 420 place Area Primary School, located within 3.0ha of vacant pasture west of the A470, Llandudno Junction, Conwy (**NGR SH80647804C**; Figure 01). The mitigation is being completed as part of planning reference 0/40597 condition 7. Further archaeological mitigation will be completed during the main construction phase and will be covered in the appropriate project design and report. It is intended that the post-excavation for the controlled strip will be completed and a report issued, prior to the start of the construction stage, and will help inform the scope of the project design associated with that stage.

The current design has been completed in response to the results of a targeted controlled strip, located at the southern end of the site (Figure 01). The controlled strip was completed in March 2015 and comprised the topsoil and subsoil removal of a 55m x 20m area positioned over geophysical anomalies identified during the assessment/evaluation phase. The current design is for the post-excavation analysis and assessment of the results from the controlled strip, including an ecofact sample recovered from an isolated pit within the strip area. The analysis and assessment of the results will be completed in accordance with guidelines specified in *Management of Archaeological Projects* (English Heritage, 1991), and relevant guidelines from *Management of Research Projects in the Historic Environment* (English Heritage 2006); the proposed post-excavation methodology is summarised in para. 7.0 and preceded by a summary and quantification of results from the controlled strip.

In advance of the development, the existing field boundaries within the development site were removed by an arboricultural team. As part of the archaeological mitigation, the field boundaries were recorded prior to removal and the removal process was monitored. The results of the field boundary mitigation will be included in the final report that will also include the post-excavation results from the controlled strip.

The archaeological mitigation programme is being monitored by the Gwynedd Archaeological Planning Services (GAPS) and the content of this design must be approved by the GAPS Archaeologist prior to the start of the post-excavation.

Reference will also be made to the following guidelines:

- *Standard and Guidance for Archaeological Excavation* (Chartered Institute for Archaeologists, 1995, rev. 2001, 2008 and 2014).

- *Standard and Guidance for Archaeological Watching Brief* (Chartered Institute for Archaeologists, 1995, rev. 2001, 2008 and 2014).
- *Standard and Guidance for the Creation, Compilation, Transfer and Deposition of Archaeological Archives* (Chartered Institute for Archaeologists, 2009 and 2014).
- *Standard and Guidance for the Collection, Documentation, Conservation and Research of Archaeological Materials* (Chartered Institute for Archaeologists, 2008 and 2014).

2 ARCHAEOLOGICAL BACKGROUND

GAT previously conducted an archaeological assessment and evaluation (geophysical survey) of the proposed development (see GAT Report 1179). The assessment/evaluation report identified nine features within the development plot, including four field boundaries and a footpath, as well as four geophysical survey anomalies suggesting former field boundaries and plough markings. Two small curvilinear anomalies were also identified in the eastern field.

The existing field boundaries separating the three current fields within the development are also evident on historic mapping, including the 1840 Llangwstennin Tithe Map that predates the Llangwstennin Enclosure Act of 1843. Under the terms of the Hedgerow Regulations 1997 they are potentially of historic value, as they form an integral part of a field system pre-dating the Enclosure Act (Hedgerow Regulations 1997 Schedule 1 Part II, 5). The footpath is evident on the First to Third Edition 25" Ordnance Survey maps of the area and partly runs through the development plot. It was not identified during the walkover survey and the report recommended a basic record of this feature during the development works if it is visible during initial groundworks.

Due to the historic value of the field boundaries within the proposed development area, these features were recorded in detail before their removal and a watching brief was conducted thereafter.

The archaeological assessment had indicated that there were no known prehistoric, Roman or early medieval archaeological sites within the boundary of the proposed development or the surrounding area, although recently on an adjacent development roughly 300m to the north, a small pit was uncovered which contained carbonised hazel that produced a C14 date of 3319 BP (before 1950) or 1519 BC. Later activity, in the form of a cluster of medieval field boundaries (PRNs 36,513; 36,515; 36,516) were located to the immediate north west of the development area.

Based on the recommendations of Report 1179, a controlled strip was conducted close to the southern boundary of the development, to determine the nature and scope of the more prominent geophysical anomalies, including the small curvilinear anomalies. Two pits and a linear feature were uncovered during the controlled strip. A sample was taken from one of the pits as it had a charcoal rich fill and it was similar in nature to the dated feature excavated in the adjacent development. A secure radio carbon date, in conjunction with that obtained from the pit in the adjacent development, would help to underline prehistoric activity in the local vicinity.

3 AIMS AND OBJECTIVES

The controlled strip is one element of a phased programme of archaeological mitigation at a proposed 420 place Area Primary School, located within 3.0ha of vacant pasture west of the A470, Llandudno Junction, Conwy.

The aims and objectives of this design are:

- To retrieve environmental data from the soil sample;
- To retrieve a C14 date from the soil sample;
- The long term curation of the recovered material and data, and the dissemination of results to a broad audience through reporting and publication in line with nationally defined guidelines.

The last phase of the current mitigation will involve a watching brief of the removal of topsoil and subsoil during groundworks within the boundary of the proposed development. The C14 date of 3319 BP (before 1950) or 1519 BC obtained from the pit in the adjacent development and a C14 date from the pit excavated during the controlled strip would help inform this stage of the project. In addition the C14 date from the pit would provide further information to the archaeological record, as at present, beyond the medieval and post-medieval period, little is known within the investigative area. Therefore a date for the soil sample and any associated features found during the forthcoming watching brief will be beneficial for our understanding and knowledge of the Llandudno Junction area.

4 METHODOLOGY – CONTROLLED STRIP

The controlled strip was excavated between the 2nd and 11th March 2015. The surface dimensions of the area was 55m x 20m and was set out accurately using a Trimble R8 GPS receiver, followed by a HSG47 survey of the site conducted by a trained operative to assist in detecting any possible unknown underground services.

After the setting up of the trench an 8 tonne tracked 360 excavator was used to initially remove the topsoil in small areas of roughly 7m x 20m, followed by the subsoil to the natural ground level. The topsoil and subsoils were kept separate during this process and were removed using two 6 tonne dumper trucks and stored in individual spoil bunds.

Archaeological features found during this phase were excavated, fully recorded on GAT proformas, photographed, hand drawn to scale (sections 1:10, plans 1:20), soil samples acquired if deemed suitable, possible finds recovered, and surveyed in with the Trimble.

The amount of excavation required on individual feature types are generally that 10% of linears would be excavated, pits and postholes 50%, fire pits and funerary deposits 100%. Natural features that had been excavated to check their authenticity would have a basic written record, photograph and a sketch section for future reference, and also surveyed in with the Trimble.

The re-instatement of the ground did not take place until authorisation had been obtained from GAPS, following a site visit. The ground re-instatement involved replacing the subsoil and tracking it in, followed by the topsoil.

5 SUMMARY OF RESULTS

Context numbers for the mitigation work will be fully dealt with in the final report, but for the production of this Project Design, the context numbers within square boxes [005] represent cuts for pits, ditches etc. and the rounded boxes (008) represent any other context numbers.

The controlled strip produced very little in the form of archaeological features (Figure 01). Hedgerow [009] did not seem to appear on the 1840 Tithe map, although during excavation all the finds within the fills suggested a Victorian date, and therefore only a confirmation of the feature by limited excavation was necessary. Two small pits were found to the east of hedgerow [009] that were very similar in size and contained a similar amount of stone within the fills. Pit [005] (Figure 02) showed evidence of burning while pit [007] did not, but they can still be regarded as contemporary due to the similarities within the fills. We may be able to accrue some dating evidence from the single soil sample we took from pit [005], as no other dating material such as pottery was recovered from either pit.

All other features that were excavated turned out to be natural features and do not require further interpretation, they were excavated to evaluate if archaeological deposits could be camouflaged by natural root action disturbing the cut edges of small pits/postholes.

The half circular feature seen as a geophysical anomaly (Eden Mapping, Report GAT-14-001, 2014) at the SW half of the trench and which was targeted for investigation was not seen during the controlled strip excavation, and therefore it is assumed it may have been a feature within the topsoil, or topsoil/subsoil horizon, although there was no indication of the feature during our soil reduction of those levels either.

Therefore if we dismiss the hedgeline as Victorian or at earliest post-Medieval in date the only definite archaeological features were the two small pits of as yet unknown function and date. Modern pottery which was recovered from hedgerow [009] and within the topsoil and subsoil were noted but not retained.

6 QUANTIFICATION OF RESULTS

Below is a summary of the controlled strip archive.

Item	Quantity	Comments
Context sheets	18	Context Numbers 001-018
Drawings	4	Sheet 01, Drawings 01-04
Ecofact sample	1	Sample Number <01> Context (008)
Digital photographs	104	001-104

7 POST-EXCAVATION ASSESSMENT AND ANALYSIS

7.1 Introduction

The management of this project follows guidelines specified in *Management of Archaeological Projects* (English Heritage, 1991), and relevant guidelines from *Management of Research Projects in the Historic Environment* (English Heritage 2006). Five stages are specified:

- Phase 1: Project Planning
- Phase 2: Fieldwork
- Phase 3: Assessment of Potential for Analysis
- Phase 4: Analysis and Report Preparation
- Phase 5: Dissemination

The post-excavation stage of the project includes phases 3 to 5. The guidelines indicate that the assessment of potential for analysis (phase 3) should be carried out and a report produced before the full analysis and report completion are undertaken (phases 4 and 5). Due to the relatively small size of this project phases 3 to 5 will be combined, but this structure must still be held in mind.

7.2 Aims and Objectives

The purpose of post-excavation work is to ensure appropriate analyses are undertaken, that site records are studied, compiled and that a coherent report on the results is produced with appropriate illustrations. It also involves ensuring that site records, both paper and digital are in a format suitable for long term storage and curation.

The results of all archaeological projects need to be disseminated. In this case the main product of the work will be a discussion of the controlled strip area and possible dating evidence from the soil sample recovered from pit [005].

7.3 Post-Excavation Methods

7.3.1 Data Collection from Site Records

All identified features were recorded in writing on GAT pro-forma sheets, significant features were drawn to scale, and a photographic record was maintained throughout. All written and drawn records will be cross referenced and digital copies made. A database of photographs will be created to provide appropriate metadata to allow for the active curation of the digital

photographs. Newly identified archaeology will be allocated Primary Reference Numbers (PRN) and added to the regional Historic Environment Record (HER).

7.3.2 Specialist Analysis

Only one bulk soil sample was collected during the excavation, which will need to be analysed by specialists to obtain any dating information from carbon analysis, seed or faunal remains which may be obtained from the pit, and will be expertly cleaned, analysed and assessed. A complete list of specialists cannot be fully compiled until all material has been retrieved from the soil sample, however it is likely that the specialists presented here would be able to provide analysis of the majority of items which one would expect to be present.

7.3.3 Environmental Samples

A single soil sample was collected to retrieve charred organic remains which can be radiocarbon dated and for possible macroscopic artefacts which may otherwise be missed during conventional excavation.

In order to maximise the efficiency of the specialists employed to analyse artefacts from the excavation it is essential that the soil samples are processed before any material is submitted for specialist analysis. This will ensure that all relevant material is received by the specialists in one package and can be reported upon as a complete collection in a single report. Failure to do this may result in additional costs being incurred through additional postage costs and the amendment of reports.

7.3.4 Specialists

7.3.4.1 Environmental Samples

The environmental sample will be processed by Iwan Parry (Brython Archaeology).

Charred plant remains will be analysed by Rosalind McKenna.

7.3.4.2 Radiocarbon Dating

Material suitable for radiocarbon dating will be selected and prepared by Rosalind McKenna following the environmental assessment. Deposits from which dates are required will be selected by Gwynedd Archaeological Trust and confirmed with Gwynedd Archaeological Planning Services. Radiocarbon dating will be undertaken by Scottish Universities Environmental Research Centre (SUERC), East Kilbride. In order to avoid errors in dating it is standard practice that two samples are submitted for dating from the selected deposit.

7.3.5 *Reporting and Dissemination*

The primary product of this project is to be a full report to be held in the Gwynedd Historic Environment Record and to be available for public and academic consultation. The report will also be made available on the website of the Royal Commission on the Ancient and Historical Monuments of Wales (RCAHMW). Copies of the report will be sent to (Gwynedd Archaeological Planning Services (GAPS).

7.3.6 *Archiving*

The paper archive and a copy of the digital photographs will be held by Gwynedd Archaeological Trust under site code G2374. The digital photographs will be actively curated by the Royal Commission on Ancient and Historical Monuments of Wales.

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Appendix VI

**An assessment of the palaeoenvironmental potential of deposits from
Esgyryn Site, Llandudno Junction (Project Number: G2374)**

An assessment of the palaeoenvironmental potential of deposits from Esgyryn Site, Llandudno Junction (Project Number: G2374)

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Introduction

A single sample was submitted in April 2015 from deposits excavated at Esgyryn site, Llandudno Junction, for an evaluation of the environmental remains, the identification of charcoal visibly present and the possible preparation of material for radiocarbon dating. The excavation was centred on NGR SH80647804. The excavation was carried out by Gwynedd Archaeological Trust in March 2015. The sample is of yet undated, and it is hoped this assessment will provide material for dating.

A programme of soil sampling from sealed contexts was implemented during the excavation. The aim of the sampling was to:

- assess the type of preservation and the potential of the biological remains
- provide C14 material for assistance in dating features
- identify if any human activities were undertaken on the site
- reconstruct the environment of the surrounding area

Methods

The initial material was submitted to the author in a processed state. It was processed by staff at Brython Archaeology using their standard water flotation methods. The flot (the sum of the material from each sample that floats) was sieved to 0.25mm and air dried. The heavy residue (the material which does not float) was sieved to 0.5mm to separate the coarse residue. This material was examined under a low-power binocular microscope at magnifications between x12 and x40.

A four point semi quantitative scale was used, from '1' – one or a few specimens (less than an estimated six per kg of raw sediment) to '4' – abundant remains (many specimens per kg or a major component of the matrix). Data were recorded on paper and subsequently on a personal computer using a Microsoft Access database.

Identification was carried out using published keys (Jacomet 2006, Biejerinkc 1976, Jones – unpublished and Zohary & Hopf 2000), online resources (<http://www.plantatlas.eu/za.php>), the authors own reference collection. Taxonomy and nomenclature follow Stace (1997).

The flot was then sieved into convenient fractions (4, 2, 1 and 0.3mm) for sorting and identification of charcoal fragments. Identifiable material was only present within the 4 and 2mm fractions. A random selection of ideally 100 fragments of charcoal of varying sizes was made, which were then identified. Where samples did not contain 100 identifiable fragments, all fragments were studied and recorded. This information

is recorded with the results of the assessment in Table 1 below. Identification was made using the wood identification guides of Schweingruber (1978) and Hather (2000). Taxa identified only to genus cannot be identified more closely due to a lack of defining characteristics in charcoal material.

Results

A single sample was submitted for assessment. No charred plant macrofossils were present in either the coarse or fine flot sections.

Charcoal remains were present in both the fine sieve and the coarse sieved fractions of the sample, and scored a '4' on the abundance scale. The flots were basically composed of pure charcoal with some small amounts of root / rootlets. There were identifiable remains in both of the fractions. The preservation of the charcoal fragments was relatively variable even within the samples. Most of the charcoal was firm and crisp and allowed for clean breaks to the material permitting clean surfaces where identifiable characteristics were visible. However, some of the fragments were very brittle, and the material tended to crumble or break in uneven patterns making the identifying characteristics harder to distinguish and interpret. Table 1 below shows the results of the charcoal assessment. Oak was the only identified species amongst the coarse sieved fraction, which was dominated by large fragments of charcoal. The fine sieved flot was again dominated by oak charcoal but also contained some willow / poplar fragments amongst the smaller pieces.

The total range of taxa comprises oak (*Quercus*), and willow/poplar (*Salix/Populus*). These taxa belong to the groups of species represented in the native British flora. A local environment with a range of trees and shrub is indicated from the charcoal of the site. As seen in Table 1, oak is by far the most numerous of the identified charcoal fragments, and it is possible that this was the preferred fuel wood obtained from a local environment containing a broader choice of species. Oak is probably the first choice, and with a local abundance it may have been used instead of oak, thereby providing more by-product fire fuel. Bark was also present on some of the charcoal fragments, and this indicates that the material is more likely to have been firewood, or the result of a natural fire.

Generally, there are various, largely unquantifiable, factors that effect the representation of species in charcoal samples including bias in contemporary collection, inclusive of social and economic factors, and various factors of taphonomy and conservation (Thiery-Parisot 2002). On account of these considerations, the identified taxa are not considered to be proportionately representative of the availability of wood resources in the environment in a definitive sense, and are possibly reflective of particular choice of fire making fuel from these resources.

Root / rootlet fragments were also present within the sample. This indicates disturbance of the archaeological features, and this may be due to the nature of some features being relatively close to the surface, as well as deep root action from vegetation that covered the site.

If radiocarbon dates are required then it is recommended that the willow / poplar charcoal fragments are selected and submitted.

Conclusion

The samples produced some environmental material, with the identifiable charcoal remains.

These charcoal remains showed the exploitation of several species native to Britain, with the prevalence of ash being selected and used as fire wood. Oak is a particularly useful fire fuel as well as being a commonly used structural/artefactual wood that may have had subsequent use as a fire fuel (Rossen and Olsen 1985). Willow/Poplar are species that are ideal to use for kindling. They are anatomically less dense than for example, oak and ash and burn quickly at relatively high temperatures (Gale & Cutler 2000, 34, 236, Grogan *et al.* 2007, 29-31). This property makes them good to use as kindling, as the high temperatures produced would encourage the oak to ignite and start to burn.

Dryland wood species indicates the presence of an oak-ash woodland close to the site. This would have consisted of oak and ash which would be the dominant large tree species (Gale & Cutler 2000, 120, 205). The evidence of carr fen woodland indicates a damp environment close to the site. This type of woodland would have consisted of alder, willow and poplar which are all trees that thrive in waterlogged and damp soils, particularly in areas close to streams or with a high water table (Stuitts 2005, 143 and Gale & Cutler 2000), perhaps indicating such an environment within close proximity to the site.

As asserted by Scholtz (1986) cited in Prins and Shackleton (1992:632), the “Principle of Least Effort” suggests that communities of the past collected firewood from the closest possible available wooded area, and in particular the collection of economically less important kindling fuel wood (which was most likely obtained from the area close to the site), the charcoal assemblage does suggest that the local vegetation would have consisted of an oak woodland close to the site.

It is thought to be problematic using charcoal and plant macrofossil records from archaeological sites, as they do not accurately reflect the surrounding environment. Wood was gathered before burning or was used for building which introduces an element of bias. Plant remains were also gathered for food, and were generally only burnt by accident. Despite this, plant and charcoal remains can provide good information about the landscapes surrounding the sites presuming that people did not travel too far to gather food and fuel.

Recommendations

The samples have been assessed, and any interpretable data has been retrieved. No further work is required on any of the samples. Any material recovered by further excavations should be processed to 0.3mm in accordance with standardised processing methods such as Kenward *et al.* 1980, and the English Heritage guidelines for Environmental Archaeology.

Archive

All extracted fossils and flots are currently stored with the site archive in the stores at Gwynedd Archaeological Trust, along with a paper and electronic record pertaining to the work described here.

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Table 1: Charcoal. Complete list of taxa recovered from deposits at deposits Esgyryn Site, Llandudno Junction (G2374).

Taxonomy and nomenclature follow Schweingruber (1978). Numbers are identified charcoal fragment for each sample.

Sample Number		1	1
Context Number		008	008
Context type		Pit	Pit
		Flot	Coarse sieve
No. of fragments		10,000+	2000+
Max. size (mm)		32	62
Latin	Common Name		
<i>Salix / Populus</i>	Willow / Poplar	9	
<i>Quercus</i>	Oak	91	100



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