
Llandygai Industrial Estate Unit 1



Archaeological Evaluation Report

GAT Project No. G2089

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Archaeological Evaluation: **Llandygai Industrial Estate**

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UNIT 01 LLANDYGAI INDUSTRIAL ESTATE, BANGOR

ARCHAEOLOGICAL EVALUATION REPORT (G2089)

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SUMMARY

Gwynedd Archaeological Trust were commissioned by Aurora Property Company to conduct an archaeological evaluation prior to the construction of a new access road for Unit 01, Llandygai Industrial Estate. The area is currently under grass with a soil/rubble bund placed along the eastern edge.

Previous excavation in the vicinity revealed a complex multi-period site with elements ranging from the early Neolithic through to the Medieval Period. Two features were identified as falling within the proposed development area: a Neolithic Cursus and an Early Medieval Cemetery.

A trial trench measuring approximately 3m x 15m was excavated using a JCB 3CX machine. Nine E-W orientated graves were identified in plan, one of which was partially excavated. The tip of a further grave was discovered in the north-east facing section. A linear feature identified as part of the aforementioned Neolithic Cursus was revealed in the north-east end of the trench. A grey silty clay layer was observed sealing the archaeological deposits which is similar to a deposit recorded and removed in the 1966-67 excavation. This would imply that the archaeological remains identified in this evaluation lie outside the original excavation area.

The cursus and cemetery are part of a nationally important site and it is recommended that the archaeology is either preserved in situ, and protected over the long term, or that it is fully excavated and recorded.

1. INTRODUCTION

Gwynedd Archaeological Trust (GAT) was commissioned by Aurora Property Company to conduct an archaeological evaluation in advance of the proposed development at Unit 01 Llandygai Industrial Estate, Bangor (figure 1). The current proposal involves the construction of a second access road to the unit (as detailed on Howard & Seddon A.R.I.B.A drawing no. 9402/12/A). The access route measures c.40.0m in length and 4.80m in width.

A single evaluation trench located to the immediate east of the concrete pad representing the foundation of one of the former ancillary buildings was excavated. The trench measured approximately 3m x 15m.

Due to the identification of live services the trench was positioned slightly further to the south-west than was originally planned.

A mitigation brief was prepared by Gwynedd Archaeological Planning Services, and a project design was produced by Gwynedd Archaeological Trust to the requirements of the brief, and to the guidelines specified in *Standard and Guidance for Archaeological Evaluation* (Institute of Field Archaeologists, 1994, rev. 2001).

The initial desk based assessment of the Unit 01 plot was undertaken in 2007 and the results were reported in Gwynedd Archaeological Trust Report **697**. The report determined that the construction of the industrial estate had an impact on the known archaeological remains but it was unclear to what extent the archaeological features had survived. An evaluation was carried out of deposits in part of the site and this demonstrated that much of the development area had been reduced down into the glacial layers during construction of the existing buildings and that no archaeological deposits existed (GAT report **691**). However it was not known if any archaeological deposits survived along the south-eastern side of the site to be impacted by the proposed access road. This could not be determined by the assessment and a phased

programme of archaeological works was recommended as suitable mitigation in advance of development. This report presents the results of the first phase of evaluation.

2. SPECIFICATION AND PROJECT DESIGN

A brief has been prepared by Gwynedd Archaeological Planning Service (GAPS; reference D1086, see appendix I). The brief states that the programme of archaeological works to mitigate the impact of the development will comprise a two phased approach (D1086; para. 4.1):

- **Mitigation Phase 1: Archaeological Assessment.** This should comprise a site visit and careful analysis of the original excavation report (Lynch & Musson 2001); detailed soil and geological information, including borehole data (if available); the siting of existing and demolished structures, below ground interventions and substantial programmes of earth moving. This phase will be subdivided into two parts, of which the first part will be a desk-based analysis and field visit, whilst the second part will consist of field evaluation. The exact nature of the second phase of the works will be dependant upon the results of the initial assessment.
- **Mitigation Phase 2: Archaeological Excavation.** The purpose of the excavation would be to create an archive record (preservation by record) of archaeological deposits or structures. Excavation, comprising open area excavation, should consist of areas identified as a result of the archaeological assessment.

This report is an element of **Mitigation Phase 1** and comprises the field evaluation, which will inform any excavation to take place under mitigation phase 2.

The project has been undertaken according to guidelines specified in *Standard and Guidance for Archaeological Evaluation* (Institute of Field Archaeologists, 1994, rev. 2001). The basic requirement was for this evaluation was to establish the survival of known archaeological features and to record their nature and location.

3. METHODS AND TECHNIQUES

A single trench measuring approximately 3m x 15m was excavated as near to the proposed secondary access route as possible. It had been intended that the trench would establish the relationship of the concrete pad and current access path to any below ground remains but the presence of services near the current access path necessitated the relocation of the trench.

The trench was initially excavated using a JCB 3CX machine fitted with a wide toothless ditching bucket. All modern overburden, the soil/rubble bund and non-archaeological subsoils were removed down to the level of the first recognisable archaeological horizon. Thereafter all identified archaeological contexts were excavated manually. All trench sides and the trench base was cleaned manually by trowelling to reveal contexts in plan and profile. The machine was used to test the level of natural soils below the archaeology in the north-west end of the trench.

Ten probable graves were revealed in plan and it was agreed with Gwynedd Archaeological Planning Services that one of these features be excavated to aid interpretation.

The site was planned to scale and a digital survey completed using a *Leica TCR805* Total Station

A written record of the trench content and all identified features was completed via GAT pro-formas

All subsurface features were recorded photographically using a Nikon D40 DSLR.

4. ARCHAEOLOGICAL BACKGROUND

4.1 Topographic Description

The development area (SH59507120) lies on a flat summit of a gravel ridge flanked by the deep valleys of the Cegin and Ogwen rivers (figure 1). The ridge rises 40.0m OD on the Arfon plateau between the Menai Strait and the hills of Archllechwedd. The area is good agricultural land with deep soils, sands and gravels of the Arfon (Wick 1) series. The aspect is open but often windswept and cold. The site is currently occupied by an industrial estate, originally built in the late 1960's.

4.2 Previous Archaeological Work

Archaeological excavations were undertaken in 1966 and 1967 within an area of some 15 hectares that underlies and surrounds the development area (Lynch and Musson 2001). These excavations are described in greater detail below, but the sites examined included an Early Neolithic rectangular timber building, two Neolithic henges, a cursus, later settlement sites, and an Early Medieval cemetery (figure 2). The excavations were in advance of the construction of the Industrial Estate but insufficient funds were available at the time to allow the excavation of more than a small proportion of the site.

To the south of the development area is the site of the Parc Bryn Cegin excavations (centred on SH 59207050) (figure 1), conducted by GAT between 2005 and 2006 in advance of the construction of a business park. This revealed features dating from the Early Neolithic to the medieval period overlaid by eighteenth and nineteenth-century field boundaries.

The two areas of excavation (those undertaken in 1966/7 and those in 2005/6) are no more than 90.0m apart at the closest point and together form an area of landscape in which the prehistoric activity is more extensively and intensively recorded than any comparable area in north-west Wales (Kenney 2007).

A geophysical survey of the area to the east of the proposed development was undertaken in 1992 at what is currently the location of the Bangor Cricket Club (Smith, 2005: 11; see Figure 3). Both magnetometer and resistivity surveys were undertaken. Numerous "anomalies" were recorded, including post-medieval field boundaries and tracks. The most significant feature was the continuation of the Cursus recorded during the 1966-67 excavation programme. Several circular features were also detected as are identified as potential Bronze Age burial mounds (*ibid.*). Aerial photographs also clearly show the cursus extending into this area. Due to the preservation of archaeology Cadw scheduled the cricket pitch and neighbouring field as SAM Cn 153 (figure 2).

An aerial reconnaissance survey of northwest Wales was undertaken by RCAHWM in July 2005 (Toby Driver, *Archaeology in Wales*. Volume 45, 2005: 148). This revealed new sites seen as cropmarks and parchmarks within Penrhyn Park close to the development site.

4.3 General Archaeological and Historical Background

The archaeological results presented here are based on the findings of the 1966-67 excavation programme at the location of the proposed development (Lynch, F. & Musson, C.R. (eds) 2001) and of the Parc Bryn Cegin excavations to the southeast, undertaken by GAT between 2005 and 2006 (Kenney, J. 2008. GAT Report 764). The results of the Parc Bryn Cegin excavation suggest the extent to which prehistoric activity within this area dominates the landscape and the results are discussed in tandem with those from the 1966-67 excavations.

4.3.1 Mesolithic

Mesolithic groups do seem to have been present in the area but the results of the Llandygai Industrial Estate and Parc Bryn Cegin excavations demonstrate that their occupation sites were elsewhere, or do not survive in the archaeological record (Davidson and Kenney 2007: 9). On both sites evidence of Mesolithic activity

was restricted to scattered finds of occasional microliths and other Mesolithic style flints (Lynch 2001, 24; Kenney, J. 2008. GAT Report 764). These few scattered artefacts, mainly found as residual pieces in later contexts can do no more than suggest a relatively low-level presence in the area in the Late Mesolithic.

4.3.2 Neolithic

Within the development area, the principal discoveries included a rectangular timber post-built house dated to the Early Neolithic (sometime shortly after 3900 cal BC) and a complex of Late Neolithic ritual monuments (figure 2). These comprised a henge (a large circular monument defined by a ditch and bank) with a single entrance, constructed c.3100 cal BC (Site A), within which was found Peterborough Ware pottery and an axe of Langdale stone. A contemporary cremation circle lay at the entrance. A second henge (B) with a double entrance (*terminus ante quem* 2700 BC) enclosed two cremation burials and several other pits containing Late Neolithic and Beaker pottery (2300-1800 cal BC). A short narrow cursus, a linear ditched monument, (site C) dated to c.2600 cal BC lay between the two henges but there were no finds to confirm the date or explain its role. Beyond the west end of the cursus lay a small hengiform monument (E) which produced no finds. Further to the west was a large ditched enclosure (D).

The Parc Bryn Cegin site also produced the remains of an early Neolithic rectangular post-built building. This was well preserved with numerous related features and assemblages of artefacts and charred plant remains. This structure was radiocarbon dated to between 3760-3700 cal BC and 3670-3620 cal BC. Elsewhere on the site there were several clusters of Mid to Late Neolithic pits, which contained a large assemblage of pottery and other artefacts.

4.3.3 Bronze Age

Within the development area, a small barrow (F) of Early Bronze Age date was identified at the southern end of the excavation area. The barrow was enlarged twice, the final stage covering a cremation and a Food Vessel. In the Late Bronze Age (c.1100 cal BC) an informal hearth was built in the ditch of Henge B and at this or a later period at Henge A, a more significant settlement was established with at least two round wooden houses and several four-post structures.

On the Parc Bryn Cegin site sixteen burnt mounds were found, some very well preserved, dating from the late Neolithic and Bronze Age.

4.3.4 Iron Age

On the development site Henge A was reused as a later prehistoric settlement with a central roundhouse, second house and numerous pits and postholes, some defining four-poster structures. There was no dating material from these features but they were suggested as being possibly Early Iron Age. This was supported by the excavation of a similar house on the Parc Bryn Cegin site that was dated to the Early or Mid Iron Age.

Two enclosures were identified by aerial reconnaissance several hundred metres to the north of the development area: Penrhyn Park Enclosure I (SH59627204) NPRN 403359 and Penrhyn Park Enclosure II (SH59667175) NPRN 403367 (Driver 2005: 148). The first (Penrhyn Park Enclosure I (SH59627204) NPRN 403359) is an oval enclosure defined by a narrow ditch c.148m east-west by c.84m north-south. It tapers to the west, towards the summit of a low ridge. Within the eastern part of the enclosure is a smaller square enclosure at c.SH59547204 of unknown date. Some 280m to the south is a second enclosure in a lower-lying setting: Penrhyn Park Enclosure II (SH59667175) NPRN 403367. This is a D-shaped ditched enclosure, possibly defensive, measuring c.63m northwest/southeast by 56m northeast/southwest. Surrounding these two main enclosures are extensive areas of pitting, linear features and smaller possible enclosures. The enclosures and associated markings were thought to, “most likely to belong to the prehistoric period” (Driver 2005: 148).

4.3.5 Roman

At the end of the 1st century AD there was some short-lived activity outside the entrance of Henge A with evidence for Romano-British activity in the partially filled henge ditch, which included hearths, furnaces and postholes that seem to result from a short-lived settlement.

At the Bryn Cegin site a Late Iron Age/Romano-British settlement was almost completely excavated and the associated finds included a Roman seal box and evidence for glass bead making. A large cache of glass beads dating to the Roman period was probably related to the settlement despite being found some distance from it.

4.3.6. Early Medieval

Within the current development area an inhumation cemetery was found to overlie the Neolithic cursus. The cemetery probably dates from between the sixth to eighth centuries AD, and 62 graves were revealed in the excavation as well as a small rectangular mortuary enclosure with a central grave. However the limits of the cemetery were not found and the cemetery was almost certainly very much larger. Similar square mortuary enclosures were identified from the air within Penrhyn Park (PRN 404666) just over 200m from the excavated cemetery (Driver 2006).

On the Parc Bryn Cegin site the Mid Iron Age roundhouse was overlaid by early medieval smithing activity.

4.4 Archaeological features lying within the Development Area

4.4.1 The Cursus (PRN 2314)

A cursus monument was identified and recorded during the 1966/67 excavation. A cursus is a long narrow enclosure bounded on each side by a bank and external ditch. The precise purpose of these monuments is unknown but they are frequently found in close proximity to henge monuments and it is likely that the function of these monuments is primarily ritual (Adkins & Adkins 1998: 30). Cursus monuments vary greatly in size, with the larger examples covering several kilometres (Russell 2002: 115) although at just 170m the Llandygai Cursus is one of the smallest examples in Britain (Barclay & Harding 1999: 02).

The Llandygai cursus was situated across the summit of the gravel ridge aligned east to west and comprised two parallel ditches and a U-shaped western end. The cursus had a projected total length of 170m and the U-shaped western end reached 91.4m into the excavation area with the remainder continuing into the cricket field to the east of the industrial estate. The width between the parallel ditches that formed the cursus was estimated at 12.0m. During the 1966/67 excavation programme, about half of the cursus was exposed in three trenches, but only short lengths of the ditches were emptied, due to the discovery of an early medieval cemetery, which covered a large portion of the cursus. A total of five sections were recorded across the south ditch, with a width of between 2.5 to 3.0m and a depth between 0.65m and 1.00m. A section was also cut through the north ditch, which measured 2.5m wide and 0.5m deep. The composition of the ditch infill suggested that an internal bank was also present. The cursus ditches were interrupted by four narrow causeways, three at the southwest corner and one in the northern side. The causeways measured between 1.5m and 2.0m in width. In terms of dimensions, the cursus was one of the smallest recorded in Britain. The date of the cursus was suggested to be later than Henges A and B and was thought to belong to the mid third millennium (Lynch & Musson 2001).

4.4.2 Medieval Cemetery (PRN 2313)

An extended inhumation cemetery was identified during the 1966/67 excavations, overlying the cursus, c.50.0m from the western terminal. Over sixty graves were recorded within the areas excavated, lying within the cursus and extending beyond the ditches to the north and south. A particularly significant feature of this group was a single grave lying within a rectangular mortuary enclosure on the south side. The graves were identified during surface cleaning of the cursus area and covered a total excavation area of c.380m². A characteristic dark fill identified the features and their interpretation as graves was dependant on their elongated shape (the dimensions were consistent with known extended inhumations), a generally west-east alignment and the evidence from excavation or partial excavation of eighteen examples. A small rectangular enclosure, 4.33m by 3.62m internally, was recorded at the southern periphery of the main concentration of graves. The enclosure was defined by a trench 0.6m wide and 0.3m deep. A grave, 2.20m long and 0.8m wide lay centrally within the enclosure. This mortuary enclosure may represent the interment of a particularly important or revered individual.

The limits of the cemetery were not found by the excavation and it is possible that the graves surrounded the mortuary enclosure and extended for a considerable distance in all directions.

5. RESULTS OF STRATEGIC TRIAL TRENCHING

5.1 Description

(see figures 3 to 7 and plates 1-5)

The depth of the archaeological horizon varied between 0.20m and 0.45m below the present turf layer. The first archaeological deposit encountered below the existing topsoil was a grey silty clay layer of relic soil (007). This layer was on average approximately 0.20m in depth and extended for a maximum length of 7.20m from the north-eastern end of the trench. Two pieces of possible Late Neolithic/Bronze Age flint were recovered from the deposit, one a large flake with hinge fracture and some cortex, the other a smaller flake with hinge fracture and cortex remaining on the dorsal side. They are not contemporary with the soil horizon as all archaeological features (including those of early medieval date) were sealed by this deposit. A similar deposit was encountered elsewhere on the site in the 1966-67 excavations and the interpretation of the layer as representing a medieval or later ploughsoil would seem consistent with our findings (Lynch & Musson 2001).

Below the buried soil horizon the remains of nine probable east – west orientated graves were revealed in plan (plates 1 & 4). The tip of a further grave was also observed in the north-east facing section. The darker fill of the graves was clearly visible in the surrounding gravels and the features were identified by their darker fill and characteristic shape. Of a total of ten graves only three were fully exposed within the trench limits. The dimensions of these graves were 1.92m x 0.52m, 1.84m x 0.54m and 1.16m x 0.32m and all were roughly rectangular with rounded ends. It must however be noted that these figures are approximate and the one example excavated was found to be slightly larger than shown on the original plan. The size range observed in the evaluation trench corresponds with that of the previous excavation where a typical adult grave was found to measure 1.95m x 0.60m. The smaller grave is presumably that of juvenile as comparable data from Capel Eithin, Anglesey gives a juvenile grave length range of 1.00m – 1.60m (Lynch & Musson 2001: 108).

As mentioned above one grave was excavated to confirm the hypothesis that the features identified were graves. Excavation was carried out following consultation with Gwynedd Archaeological Planning Services and a grave which was only partially within the trench was selected. This allowed the profile of the grave to be recorded in section (plate 3). The grave was found to have steeply sloping sides and a flat base and survived to a depth of 0.42m. The other example viewed in section had a shallower profile and survived to a depth of 0.20m. It must however be noted that this description is not necessarily representative of the feature as a whole as only the very end of the grave is exposed.

Eight of the graves were cut into the natural gravels and two (graves 001 and 004) were cut into the top of the Late Neolithic cursus monument identified in the 1966-7 excavations. The feature was not initially seen during the machining of the trench and was only identified in section following the differential drying of the features fill and the surrounding gravels. Similar problems were encountered during the previous excavation and areas had to be restriped on a number of occasions. The report describes the natural as “highly variable in texture and colour, and was broken up by meandering frost cracks and pockets of orange brown soil. Like most gravel subsoils it revealed archaeological features only reluctantly, many becoming visible only briefly as the surface dried after rain or overnight dew” (Lynch & Musson 2001: 37).

The Llandygai Cursus was found to run on an E-W alignment and contained a number fills which appear to have been the result of natural silting as opposed to deliberate backfilling (plates 2 & 5). No archaeological finds or datable material was recovered from the cursus fill. In the north-west/south-west facing sections the cursus was found to be almost 2.90m wide, but this does not bisect the cursus at a 90 degree angle. When the sections were projected through the trench the cursus was found to be 2.14m wide, which is slightly narrower than was observed in the previous excavation, and survived to a maximum depth of 0.5m.

5.2 Discussion

The presence of a relic soil layer sealing the archaeological features would indicate that the north-west half of the trench was undisturbed and lay outside the 1966-7 excavation area. Overlaying the plans as accurately as possible places the current evaluation trench largely within the previously excavated area (figure 3), but the evidence from the trench suggests that this location is not quite correct and that the published plans may not be perfectly correct at this large scale. The inset on figure 3 suggests the probable location of the evaluation trench in relation to the previous excavation. This would extend the size of the known medieval cemetery of over sixty known graves by ten and demonstrates the likelihood that the remains of a large number of graves are yet to be uncovered. Graves could potentially radiate in all directions along the strip of undeveloped land as there are a number of graves extending beyond the excavation limits of both the 1966-7 and evaluation trench.

In the grave excavated during the evaluation process no artefactual material was recovered but in the earlier excavation small fragments of burnt human bone and teeth were found in two of the eighteen excavated/partially excavated graves. Wooden lining was indicated in a further three graves and a possible stone lining was observed in a number of instances (Lynch & Musson 2001: 108-9). Further excavation would provide invaluable information as to how representative of the cemetery as a whole these findings are, and allow comparisons to be drawn with observed burial practices at contemporary sites. For a full discussion of the social and regional context of the cemetery see Lynch & Musson 2001: 106-115.

The section through the Neolithic cursus monument corresponds with that described by Lynch & Musson and supports their hypothesis of an internal bank. As was observed in 1967 there is an increase in silting on the inner side of the ditch indicative of a bank (Lynch & Musson 2001: 77). The survival of at least part of the cursus is significant as only limited excavation of the monument was possible during the 1960's. Using modern excavation and dating techniques there is a potential wealth of information to be gleaned from further excavation of the Llandygai Cursus. Information would be of national significance as to date few cursus monuments have been adequately excavated and the monuments are poorly understood (Russell 2002: 115). The size of the cursus makes excavation of the monument a less daunting project than with larger examples and excavation would greatly enhance our knowledge of these enigmatic structures.

6. ASSESMENT OF IMPACTS

The presence of surviving archaeological features within the evaluation area demonstrates a high possibility of their survival in the adjacent site area. The features were encountered at 0.20 -0.50m below the current ground surface and there is a strong likelihood that despite disturbance from known modern services some archaeological remains will be encountered during the proposed groundworks.

7. PROPOSALS FOR MITIGATION

Both cursuses and henges are very rare in Wales. Of several features identified on aerial photographs throughout Wales Harding (1987) found only 7 that were possibly henges. Of these only the two at Llandygai had been definitely confirmed as henges. Since that report another two sites, both in Powys, have been confirmed as henges (Gibson and Jones 2006, Jones 2007). Gibson's survey of cursuses in Wales (Gibson 1999) found 11 possible sites in Wales of which he discarded three as 'unlikely', and classed only three as 'definite'. These three definite cursuses are the only ones to have been excavated to any degree and include the Llandygai cursus as well as two in Powys. Although there are occasional groups of monuments, especially in the Severn valley, nowhere else in Wales is there a group of two henges plus a cursus in close proximity. The Llandygai complex is therefore unique in Wales making this a site of undoubted national importance. Due to the importance of the site Cadw has scheduled the remaining part of the cursus, which survives under the cricket pitch, in order to ensure its preservation (SAM number 153).

The mechanisms were not in place in the 1960s to ensure the preservation of a large part of this complex. It is likely that the groundworks and foundations for the existing buildings on the Industrial Estate have removed much of the archaeology. However, the present evaluation has proved that despite the development small areas do survive undisturbed. These surviving remains must also be considered to be of national importance as they can contribute to the understanding of the site as a whole. The present evaluation has clearly demonstrated that part of the cursus and some early medieval burials do still survive. This gives the potential to further investigate the cursus and potentially to define the limits of the cemetery, at least on the northern side. It is possible that further square ditched enclosures also survive.

The importance of the archaeology means that either its protection must be ensured for the long term or the archaeological information that it holds must be preserved by record. This would require full and careful excavation of all areas in advance of any direct impact.

In places the graves are within 0.20m from the present ground surface and nowhere in the evaluation trench are they greater than 0.50m from the surface. This makes them vulnerable not only to obvious groundworks such as service pipe trenches but also to disturbance by the roots of trees and bushes. The grave that was partially excavated in the evaluation was only 0.42m deep and root damage could easily obscure the grave cuts to such an extent that their layout might never be recovered if an excavation was carried out in the future. If it is decided to preserve the archaeology *in situ* procedures must be in place to ensure its long term preservation and to prevent works such as tree planting and significant soil disturbance such as rotivation. Advice should be sought from Cadw on the merits of extending the scheduled area to include the surviving remains within this area.

This may not necessarily hinder the current development if a method can be established to construct the proposed access road by building up deposits and laying it over the archaeology without any immediate direct impact or long-term impact on the archaeological resource.

If long term protection is not feasible or direct impact is unavoidable then preservation by record, involving full excavation of the area, is recommended.

8. SUMMARY AND CONCLUSIONS

The development area is on the site of one of the most important prehistoric complexes in Britain. Its value is further enhanced by the archaeological work done on the Parc Bryn Cegin development to the south. Together these sites provide a view into the landscape of prehistoric Wales not matched anywhere else in Wales and rarely in Britain.

Much of the henge complex has been destroyed by the construction of the Llandygai Industrial Estate after only limited archaeological excavation in the 1960s. However, this evaluation has demonstrated that small pockets of archaeology still survive. These provide valuable opportunities to add to the understanding of the site gained in the 1960s excavation, and should either be preserved or fully recorded.

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APPENDIX I: DESIGN BRIEF FOR ARCHAEOLOGICAL MITIGATION

Gwynedd Archaeological Planning Service

Site: Unit 1 (Ex Wardle's), Llandygai Industrial Estate, Bangor

Applicant/Company: Aurora Property Company Ltd.

Date: 8 March 2007

National Grid Reference: 259400 371180

Planning reference: C06A/0648/16/AM granted outline planning permission

This design brief is only valid for six months after the above date. After this period Gwynedd Archaeological Planning Service should be contacted.

It is recommended that the contractor appointed to carry out the archaeological work visits the site of the proposed development and consults the Regional Historic Environment Record (HER) for north-west Wales before completing their specification. Gwynedd Archaeological Planning Service cannot guarantee the inclusion of all relevant information in the design brief.

1.0 Site Location and Description

- 1.1 For the purposes of this brief the site comprises a plot of land, as shown on the location plan accompanying planning application C06A/0648/16/AM.
- 1.2 This plot of land comprises an area of approximately 4.5 hectares; a factory was previously sited across part of the area.
- 1.3 Bangor is located on the north coast of Gwynedd, within the valley of the Afon Adda, and is the largest commercial centre in Gwynedd.

2.0 Archaeological Background

- 2.1 Llandygai Industrial Estate was built in the 1960s. Excavations in advance of its construction in the late 1960s revealed one of the most important archaeological discoveries in Wales in recent times: an extensive, multi-period site which included a group of Late Neolithic monuments, an Iron Age settlement and an early Christian cemetery (Lynch & Musson 2004).
- 2.1 Recent excavation in advance of construction at Bryn Cegin Business Park to the north of Llandygai Industrial Estate has revealed further archaeological remains. Preliminary results indicate that they include an early Neolithic building, late Neolithic pits, fourteen burnt stone mounds, a Bronze Age ring groove round house and late prehistoric settlement (Kenney & Davidson 2006).
- 2.2 The plot area affected by the proposed development encompasses a Neolithic Henge monument, 90m in diameter, dating to the third and fourth millennia BC. This large earthwork circle was only partly excavated.

2.3 Comparison between the detailed excavated records and the current development plot area suggests that only about 25% of the total area was excavated in the 1960s. It is not known what impact the construction of Unit 1 had on archaeological remains. Nationally important archaeological remains could still survive within the proposed development plot area.

2.4 Documentation:

Kenney, J. & Davidson, A. 2006. Parc Bryn Cegin, Llandygai: assessment of potential for analysis report. Gwynedd Archaeological Trust report 640. Unpublished report held by the Historic Environment Record for north-west Wales, Gwynedd Archaeological Trust.

Lynch, F. & Musson, C.R. (eds). 2004. A Prehistoric and early Mediaeval Complex at Llandegai, near Bangor, North Wales: Excavations directed by C.H. Houlder 1966-67. *Archaeologia Cambrensis* volume 150 (2001): 17-142.

Smith, G. 2005. Parc Bryn Cegin, Bangor: revised archaeological assessment. Gwynedd Archaeological Trust report 565. Unpublished report held by the Historic Environment Record for north-west Wales, Gwynedd Archaeological Trust.

3.0 The nature of the development and archaeological requirements

- 3.1 The proposals comprise plans to demolish the existing buildings and partially change the use of land to provide buildings consisting of classes D2, B1, B2 and B8. Planning consent was granted subject to a number of conditions, including an archaeological condition requiring a programme of archaeological works.
- 3.2 This is a *design brief* for a programme of archaeological works to **mitigate** the impact of the development to be undertaken following outline planning consent, according to guidelines set out in Welsh national planning guidance (*Planning Policy Guidance Wales 2002*) and Welsh Office Circular 60/96 (*Planning and the Historic Environment: Archaeology*).
- 3.3 This programme of archaeological works will comprise a programme of archaeological works to ensure **preservation by record (excavation)** where archaeological remains are affected by the proposed works.
- 3.4 This *design brief* should be used by the archaeological contractor as the basis for the preparation of a detailed written archaeological *specification*. The specification must be submitted to the Gwynedd Archaeological Planning Service for approval before the work commences.

3.5 The *specification* should contain, as a minimum, the following elements:

- Non-technical summary.
- Details of the proposed works as precisely as is reasonably possible, indicating clearly on a plan their location and extent.
- A research design which sets out the site-specific objectives of the archaeological works.
- Reference to the relevant legislation.
- Health and Safety considerations.
- Monitoring procedures.
- Field methodology.

- Methods of recording, including the collection and disposal strategy for artefacts and ecofacts.
- Arrangement for immediate conservation of artefacts.
- Post-fieldwork methodology.
- The level and grade of all key project staff.
- Details of all specialists.
- A timetable for the proposed works including contingency costs (if appropriate).
- The intended method of publication.
- Archive deposition.

4.0 Programme of archaeological works (detail)

4.1 The programme of archaeological works to **mitigate** the impact of the development will comprise a phased approach, to include:-

- Mitigation phase 1: archaeological assessment
- Mitigation phase 2: programme of excavation where archaeological remains are potentially threatened by the proposed development (see 4.4 below).

4.2 Mitigation phase 1: archaeological assessment

The archaeological assessment should comprise, as a minimum, a site visit and careful analysis of the following, in order to assess the nature of the archaeological resource within the development area:

- The original excavation report (Lynch & Musson 2004);
- Detailed soil and geological information, including bore-hole data;
- The siting of existing and demolished structures, below-ground interventions and substantial programmes of earth moving.

4.3 Mitigation phase 2: excavation

The purpose of excavation is to create an archive record (preservation by record) of archaeological deposits or structures.

4.4 Excavation, comprising open-area excavation, should consist of areas identified as a result of the archaeological assessment.

4.5 Excavation methodology should be in accordance with Institute of Field Archaeologists guidance (see general requirements below). The use of metal detectors on site to aid the recovery of artefacts is encouraged. Recording will comprise appropriate plans, elevation and photographs.

5.0 Results

5.1 The archaeological contractor must ensure that sufficient resource is made available for any post-excavation programme to result in an archive report.

- 5.2 The results must be presented in a report and should be detailed and laid out in such a way that data and supporting text are readily cross-referenced.
- 5.3 **The HER Officer should be contacted to ensure that any sites or monuments not previously recorded in the HER are given a Primary Recognition Number (PRN) and that data structure is compatible with the HER.**
- 5.4 A deposit model should be presented graphically in plan and, where appropriate, in profile and at a scale that is commensurate with subsequent use as a working document.
- 5.5 The archaeological report should specifically include the following:
- a) a copy of the design brief and agreed specification,
 - b) a location plan,
 - c) all located sites plotted on an appropriately scaled plan of the development,
 - d) a gazetteer of all located sites, including full dimensional and descriptive detail,
 - e) a full bibliography of sources consulted.

6.0 General requirements

- 6.1 The archaeological assessment must be undertaken by an appropriately qualified individual or organisation, fully experienced in work of this character.
- 6.2 Details, including the name, qualifications and experience of the project director and all other key project personnel (including specialist staff) should be communicated to the development control archaeologist and all written work attributed to an author (s).
- 6.3 Contractors and subcontractors are expected to conform to standard professional guidelines, including the following:-
- English Heritage's 1991 Management of Archaeological Projects (MAP2).
 - Richards, J. & Robinson, D. 2000. Digital Archives from Excavation and Fieldwork: *Guide to Good Practice*. Second Edition. The Archaeology Data Service Guide to Good Practice. Oxbow Books.
<http://ads.ahds.ac.uk/project/goodguides/excavation/>
 - The Institute of Field Archaeologists 1985 (revised 2006) Code of Conduct.
 - The Institute of Field Archaeologists 1990 (revised 2002) Code of Approved Practice for the Regulation of Contractual Arrangements in Field Archaeology.
 - The Institute of Field Archaeologists 1994 (revised 2001) Standard and Guidance for Archaeological Watching Briefs.
 - The Institute of Field Archaeologists 1994 (revised 2001) Standard and Guidance for Archaeological Desk-Based Assessment.
 - The Institute of Field Archaeologists 1994 (revised 2001) Standard and Guidance for Archaeological Field Evaluation.

- The Institute of Field Archaeologists 1994 (revised 2001) Standard and Guidance for an Archaeological Watching Brief.
 - The Institute of Field Archaeologists 1995 (revised 2001) Standard and Guidance for Archaeological Excavation.
 - The Institute of Field Archaeologists 1996 (revised 2001) Standard and Guidance for the Archaeological Investigation and Recording of Standing Buildings or Structures.
 - The Institute of Field Archaeologists 2001 Standard and Guidance for the Collection, Documentation, Conservation and Research of Archaeological Materials.
- 6.4 Many people in North Wales speak Welsh as their first language, and many of the archive and documentary references are in Welsh. Contractors should therefore give due consideration to their ability to understand and converse in Welsh.
- 6.5 Where relevant, specialist studies of environmental, economic and historical data must include a *statement of potential*. All specialist reports used in the preparation of this study must be reproduced **in full** in the desk-based study.
- 6.6 A full archive including plans, photographs, written material and any other material resulting from the project should be prepared. All plans, photographs and descriptions should be labelled, cross-referenced and lodged in an appropriate place (to be agreed with the archaeological curator) within six months of the completion of the project.
- 6.7 Care must be taken in the siting of offices and other support structures in order to minimise the impact on the environment. Extreme care must also be taken in the structure and maintenance of spoil heaps for the same reasons and to facilitate a high quality reinstatement. This is particularly important in relation to pasture land.
- 6.8 The archaeological contractor must satisfy themselves that all constraints to groundworks have been identified, including the siting of live services, Tree Preservation Orders and public footpaths. Gwynedd Archaeological Planning Service bears no responsibility for the inclusion or exclusion of such information within this brief.
- 6.9 Any changes to the specifications that the archaeological contractor may wish to make after approval by this office should be communicated to Gwynedd Archaeological Planning Service and approved.
- 6.10 Care must be taken in dealing with human remains and the appropriate environmental health regulations followed. Gwynedd Archaeological Planning Service and the local Coroner must be informed immediately human remains are discovered.
- 6.11 Arrangements for the long-term storage and deposition of all artefacts must be agreed with the landowner and Gwynedd Archaeological Planning Service before the commencement of investigation.
- 6.12 A full archive including plans, photographs, written material and any other material resulting from the project should be prepared in accordance with standard guidance. All plans, photographs and descriptions should be labelled,

cross-referenced and lodged in an appropriate place (to be agreed with Gwynedd Archaeological Planning Service) within six months of the completion of the project.

- 6.13 Two copies of the bound report must be sent to the address below, one copy marked for the attention of the Development Control Archaeologist, the other for attention of the HER Officer, who will deposit the copy in the HER.
- 6.14 The involvement of Gwynedd Archaeological Planning Service should be acknowledged in any report or publication generated by this project.

7.0 Glossary of terms

- 7.1 *The project will be monitored by the development control archaeologist at Gwynedd Archaeological Planning Service to ensure the fulfilment of the brief and specifications. The development control archaeologist will normally inspect site works and review the progress of excavation reports and archive preparation. The archaeological contractor must inform Gwynedd Archaeological Planning Service in writing of the proposed start dates for the project.*

8.0 Glossary of terms

- 8.1 *Archaeological Contractor*
A professionally qualified individual or an organisation containing professionally qualified archaeological staff, able to offer an appropriate and satisfactory treatment of the archaeological resource, retained by the developer to carry out archaeological work either prior to the submission of a planning application or as a requirement of the planning process.
- 8.2 *Archaeological Curator*
A person, or organisation, responsible for the conservation and management of archaeological evidence by virtue of official or statutory duties. In north-west Wales the archaeological advisor to the Local Planning Authorities is the development control archaeologist, who works to the Welsh Archaeological Trust's Curators' Code of Practice.
- 8.3 *Archive*
An ordered collection of all documents and artefacts from an archaeological project, which at the conclusion of the work should be deposited at a public repository, such as the local museum.
- 8.4 *Assessment*
A desk-based archaeological assessment (also known as a *desk-top assessment*) is a detailed consideration of the known or potential archaeological resource within a specified area or site (land-based, intertidal or underwater), consisting of a collation of existing written and graphic information in order to identify the likely character, extent, quality and worth of the known or potential archaeological resource in a local, regional or national context as appropriate.
- 8.5 *Brief*
The Association of County Archaeological Officers (1993) defines a *brief* as an outline framework of the planning and archaeological situation which has to be addressed, together with an indication of the scope of works that will be required.

8.6 *Evaluation*

A limited programme of non-intrusive and/or intrusive fieldwork which determines the presence or absence of archaeological features, structures, deposits, artefacts or ecofacts within a specified area or site; and, if present, defines their character and extent, and relative quality. It enables an assessment of their worth in a local, regional, national or international context, as appropriate. The programme of work will result in the preparation of a report and archive.

8.7 *Historic Environment Record (HER)*

A documentary record of known sites in a given area. In north-west Wales the HER is curated by the curatorial division of the Gwynedd Archaeological Trust.

8.8 *Specification*

The Association of County Archaeological Officers (1993) defines a *specification* as a schedule of works outlined in sufficient detail to be quantifiable, implemented and monitored.

8.9 *Watching brief*

A formal programme of observation during non-archaeological excavation works in order to identify, investigate and record any Archaeological Remains which may be present, in accordance with the Archaeological Standards.

9.0 Further information

9.1 This document outlines best practice expected of an archaeological assessment but cannot fully anticipate the conditions that will be encountered as work progresses. If requirements of the brief cannot be met they should only be excluded or altered after gaining written approval of the Gwynedd Archaeological Planning Service.

9.2 Further details or clarification of any aspects of the brief may be obtained from the Development Control Archaeologist at the address below.

Emily La Trobe-Bateman

Uwch Swyddog Rheolaeth Datblygiad - Senior Development Control Officer
GWASANAETH CYNLLUNIO ARCHAEOLEGOL GWYNEDD - GWYNEDD
ARCHAEOLOGICAL PLANNING SERVICE
Craig Beuno, Ffordd Y Garth, Bangor, Gwynedd LL57 2RT
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Archaeological Evaluation:

Llandygai Industrial Estate Unit 1

Figures

Figure 1. Location map showing site position

Figure 2. Location of Unit 1, Llandygai detailing henges and cursus excavated 1966-7

Figure 3. Location of the evaluation trench in relation to archaeological features excavated during the 1966-7 season

Figure 4. South-west facing trench section

Figure 5. North-west facing trench section

Figure 6. North-east facing trench section

Figure 7. Post excavation trench plan

Plates

Plate 1. North-east facing view of graves in the south-east end of the evaluation trench

Plate 2. South-east facing view of trench

Plate 3. Post excavation shot of grave [005]

Plate 4. North-east facing view of evaluation trench detailing the position of Early Medieval graves

Plate 5. North-west facing section of evaluation trench showing Neolithic Cursus

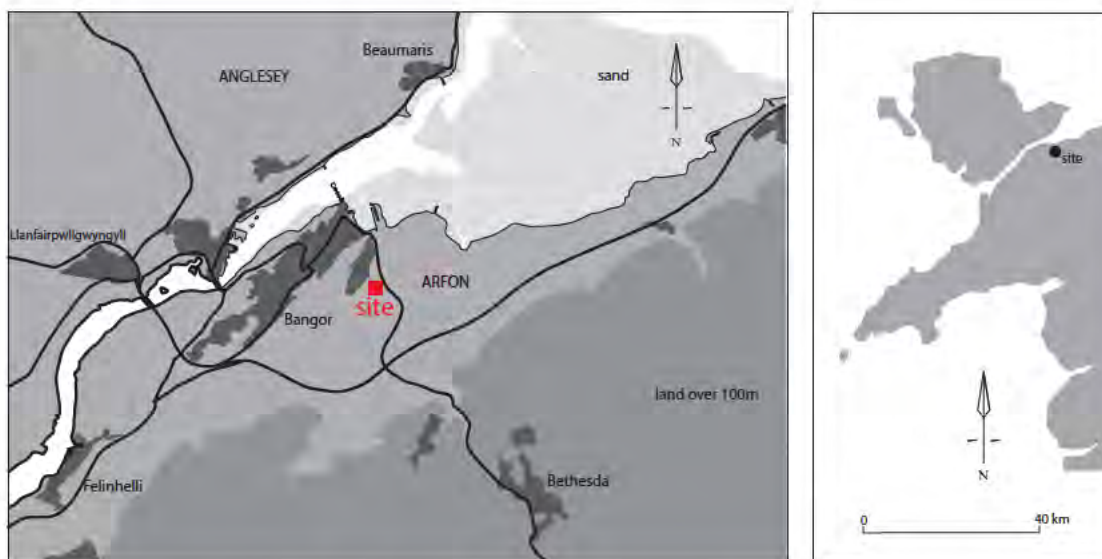


Figure 1. Location Map showing site position.

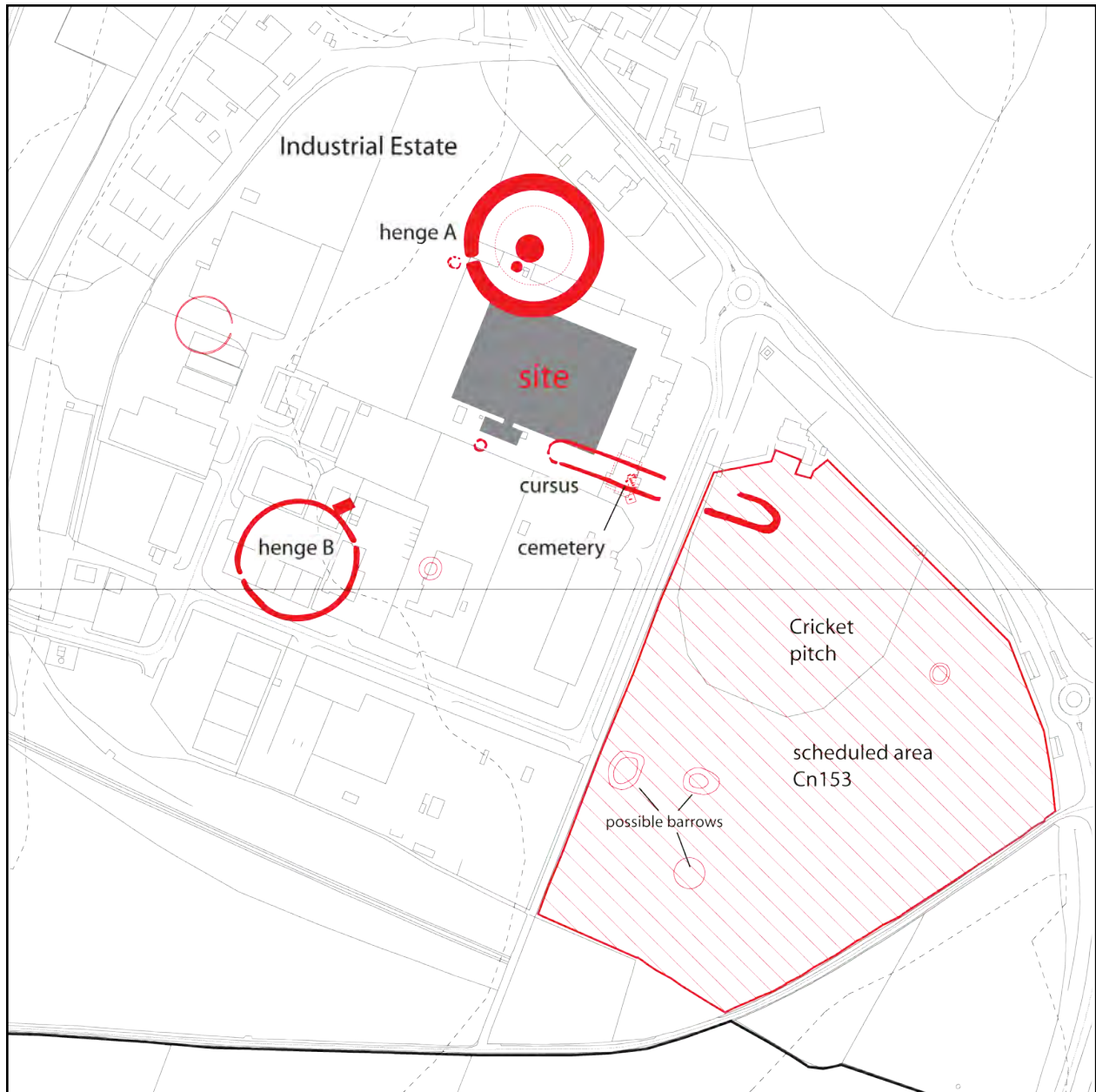


Figure 2. Location of Unit 1, Llandygai detailing henges and cursus excavated 1966-7 by Houlder and the scheduled area opposite.

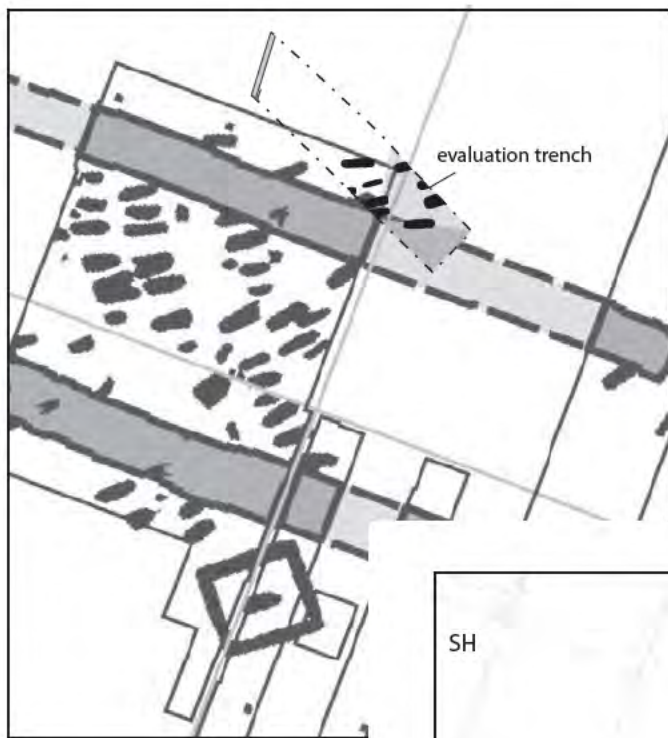
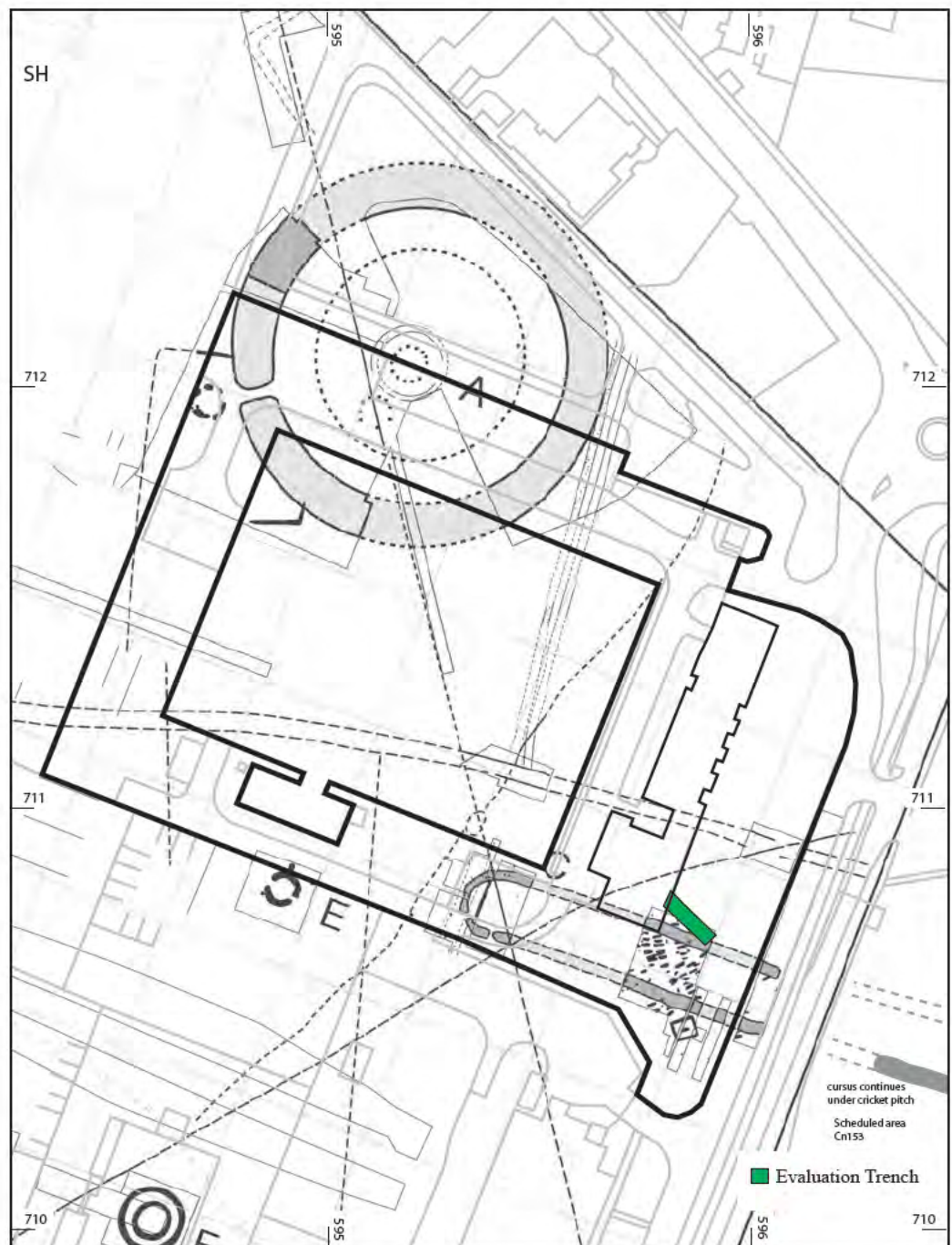


Figure 3. Location of the evaluation trench in relation to archaeological features excavated during the 1966-7 season, based on available maps. (Inset showing probable actual relationship between features in the evaluation trench and previous excavation)



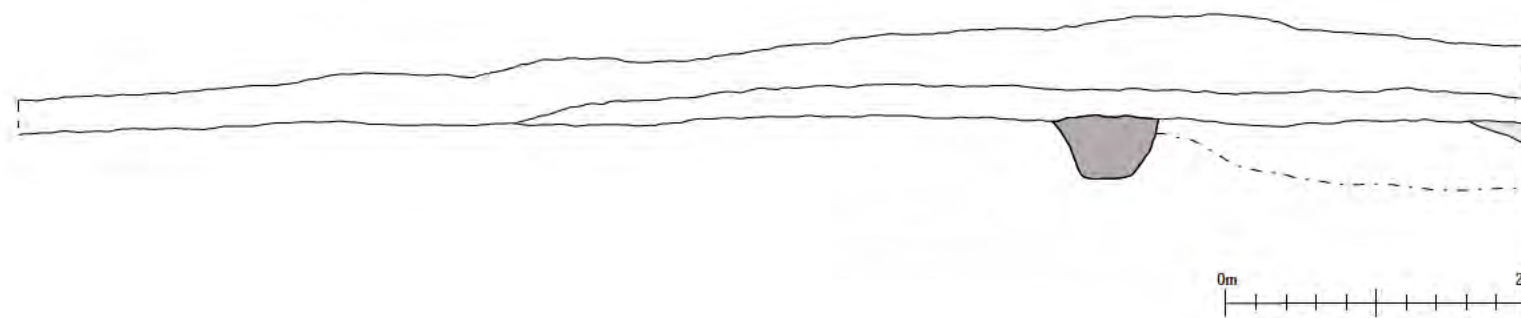


Figure 4. South - west Facing Trench Section

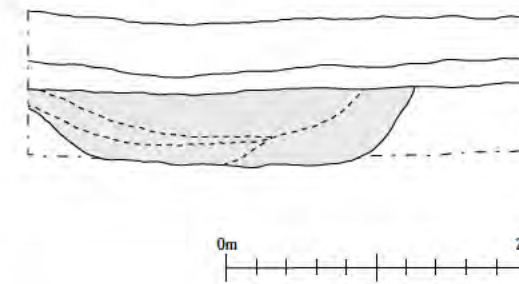


Figure 5. North - west Facing Trench Section

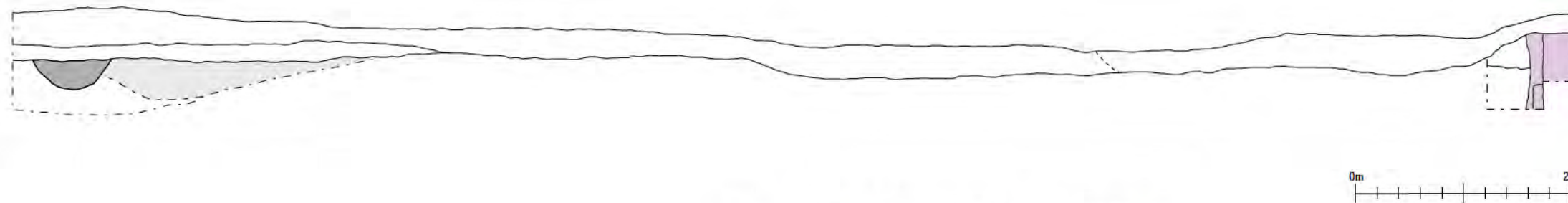
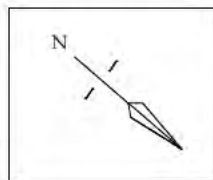
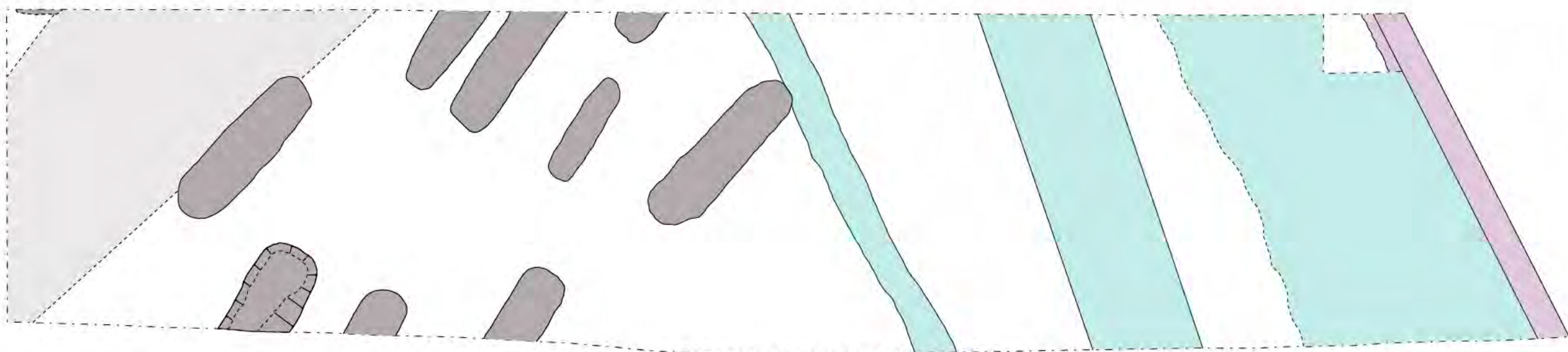


Figure 6. North - east Facing Trench Section



- Early Medieval Grave
- Neolithic Cursus
- Modern Disturbance
- Building Footings

Figure 7. Post Excavation Trench Plan.

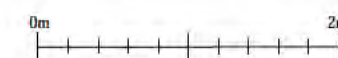




Plate 1: North-east facing view of graves in the south-east end of evaluation trench



Plate 2. South-east facing view of trench



Plate 3. Post excavation shot of grave [005]



Plate 4. North-west facing view of evaluation trench detailing the position of Early Medieval Graves



Plate 5. North-west facing section of evaluation trench showing the Neolithic Cursus



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