
Alternative Site for the Proposed Pumping Station, Rhiwgoch, Harlech



Assessment Report

GAT Project No. 2064.3
Report No. 810
June 2009

**ALTERNATIVE SITE FOR THE PROPOSED PUMPING
STATION, RHIWGOCH, HARLECH**

AN ARCHAEOLOGICAL ASSESSMENT

GAT Project no. G2064.3

GAT Report No. 810

**Prepared for Egniol Consulting
on behalf of Dŵr Cymru/Welsh Water**

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Cover: View of the dam from the east

**Gwynedd Archaeological Trust
Ymddiriedolaeth Archaeolegol Gwynedd**

G2064.3 ALTERNATIVE SITE FOR THE PROPOSED PUMPING STATION, RHIWGOCH, HARLECH

ARCHAEOLOGICAL ASSESSMENT

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ALTERNATIVE SITE FOR THE PUMPING STATION, RHIWGOCH, HARLECH (G2064)

ARCHAEOLOGICAL ASSESSMENT

SUMMARY

An archaeological assessment was carried out in advance of an alternative location for a proposed pumping station near Harlech. A pond and other features relating to a water supply system for Harlech were identified. The pond could have medieval origins but the other features were of a 19th or 20th century date. No features were identified within the proposed development area but it is recommended that a strip, map and sample mitigation procedure be carried out on the area to detect and record any potential buried archaeology prior to construction works.

1. INTRODUCTION

Gwynedd Archaeological Trust (GAT) was asked by Egniol Ltd on behalf of their clients Dŵr Cymru Welsh Water to carry out an archaeological assessment in advance of a proposed pumping station near Harlech (figure 1). A site nearby had previously been proposed for the pumping station and an assessment was carried out on that site (Kenney 2009a, GAT report 777). The site was subsequently considered to be unsuitable and a new location has been proposed. This report is an archaeological assessment of that new location. The site is small, measuring 20m by 12.5m with an access route from the existing road. It lies on the south side of the road from Harlech to Rhiwgoch. The area of the works is indicated on drawing C-XC-4001 issued by Dŵr Cymru (appendix III).

The pumping station is part of upgrading works being carried out on the Harlech water supply system. These included a new link main from Llanfair to Harlech, a new water treatment works at Rhiwgoch and replacement of the raw water pipe from Llyn Eiddew Mawr to Rhiwgoch. All sections of the work have been preceded by archaeological assessments, strip and map evaluation was carried out on the link main and evaluation trenches followed by full excavation of some features is taking place on the water treatment site. Further background information can be found in these reports: Evans 2008a (GAT report 753); Evans 2008b (GAT report 754), and Kenney 2009b (GAT report 775).

2. DESIGN BRIEF AND SPECIFICATION

A detailed brief has not been prepared for this scheme, but a project design has been written using a relevant generic brief. This desk-based assessment follows the project design, which conforms to the guidelines specified in *Standard and Guidance for Archaeological Desk-based Assessment* (Institute of Field Archaeologists, 1994, rev. 2001 and 2008).

A desk-based assessment is defined as ‘a programme of assessment of the known or potential archaeological resource within a specified area or site on land, inter-tidal zone or underwater. It consists of a collation of existing written, graphic, photographic and electronic information in order to identify the likely character, extent, quality and worth of the known or potential archaeological resource in a local, regional, national or international context as appropriate’ (*Standard and Guidance for Archaeological Desk-based Assessment*, IFA 2008, 2).

The aims of the assessment are:

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

To comply fully with the aims expressed above it can be necessary to undertake a programme of Field Evaluation following the Desktop study and Field Visit. This is because some sites cannot be assessed by

desktop or field visit alone, and additional fieldwork is therefore required. This typically takes the form of geophysical survey or trial excavation, although measured survey is also a possible option. A full programme of assessment and evaluation may therefore consist of:

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

This phase of the project concerns the first three phases only, and recommendations will be made for any field evaluation required.

3. METHODS AND TECHNIQUES

3.1 Desk top study

The desktop study comprised the consultation of maps, documents, computer records, written records and reference works that form part of the Historic Environment Record (HER), located at Gwynedd Archaeological Trust (GAT), Bangor. The HER includes Cadw's information on listed buildings, and also holds copies of documents from the Mostyn Collection in the Bangor University Archives. The archives held by the Meirionnydd Record Office, Dolgellau were consulted, particularly for information from the relevant tithe maps. Copies obtained by GAT of aerial photographs from the collection at the Royal Commission on the Ancient and Historical Monuments of Wales (RCAHMW) were examined. Published and unpublished papers on the area and on relevant aspects of archaeology in North Wales in general were consulted to gain a broader understanding of the study area. In particular the assessment reports carried out for other Dŵr Cymru works in the area have been used for background information (Evans 2008a (GAT report 753); Evans 2008b (GAT report 754), Kenney 2009a (GAT report 777) and Kenney 2009b (GAT report 775)).

Appendix I contains a list of sites, buildings and find spots listed in the GAT HER and Cadw's register of listed buildings around the proposed development area. These sites are located on figure 1. The numbers marked on figure 1 are PRNs (Primary Record Numbers) identifying the sites on the HER, NPRN (National Primary Record Numbers) identifying the sites on the National Monuments Record and listed building record numbers.

3.2 Field Search

The field search was undertaken on 19th May 2009. The development area itself was under short grass and visibility very good for identifying subtle earthworks if any had been present. The remainder of the field has alder trees and marsh vegetation, with a more heavily vegetated area along the eastern side at the foot of some steep crags. The field search covered adjacent parts of the field as well as the development area itself to establish its landscape context.

3.3 Report

The available information was synthesised to give a summary of the archaeological and historic background and of the assessment and recommendations, as set out below. The separate features, their evaluation and recommendations are listed separately, and a summary of the overall assessment of the area is given at the end.

The criteria used for assessing the value of features was based upon those used by the Secretary of State for Wales when considering sites for protection as scheduled ancient monuments, as set out in the Welsh Office circular 60/96. The definitions of categories used for impact, field evaluation and mitigation are set out in Appendix II.

4. ARCHAEOLOGICAL RESULTS

4.1 Topographic description

The proposed development area lies on a gently sloping plateau on the outskirts of the town of Harlech at c.100m OD. The ground falls steeply to the west into the town and rises to the east. The site would overlook the coastal plain and Cardigan Bay to the west, except that trees and bushes obscure the view. The site is bounded by a narrow road on its northern side and is within a roughly trapezoidal field, the eastern boundary of which is a line of low but near vertical crags. The field is rough pastureland and much of it is marshy. Two streams run into the field, meet and flow out as a single stream through the western boundary.

This landscape is defined by the Cambrian rocks of the Harlech dome (Bowen and Gresham 1967, 1), which the British Geological Survey describes as Cambrian shales, sandstones and quartzites (BGS 1930). The upper part of the town and castle of Harlech stand on a rocky shelf, which falls steeply to the former shoreline, masked by the sands of Morfa Harlech. The soils have developed on boulder clay and undifferentiated drift.

4.2 Archaeological and historical background

The previous assessments (Evans 2008a, Evans 2008b and Kenney 2009b) carried out for other stages of this project have discussed the archaeological and historical background of the area. The assessment for the previously proposed location for the pumping station (Kenney 2009a) covers much the same area as the present report, which will concentrate on those aspects directly relevant to the alternative development area. See figure 1 for the location of sites mentioned.

4.2.1. Prehistoric and Roman period

No Mesolithic sites are known in the area but there is some environmental evidence for early forest clearance (Chambers and Price 1988). Neolithic activity is represented by chamber tombs, but all of these are to the south of the study area (Bowen and Gresham 1967). Bronze Age standing stones may mark a routeway over the hills to the Trawsfynydd Basin (Bowen and Gresham 1967 and Lynch 1984, 34-35), and burial cairns and cists survive, mainly in the uplands (Lynch 1984; Bowen and Gresham 1967, 88, and Kelly 1982, 132). Occasional objects dating from the Bronze Age have been found including a hoard of palstaves (PRN 2906) and a gold torque (PRN 2896) from Harlech (Bowen and Gresham 1967, and OS card SH 53 SE 3).

Hut circle settlements and their associated field systems, most probably dating from the Iron Age and Romano-British periods, are one of the outstanding features of the archaeology of the Ardudwy Uplands. The enclosed homestead of Cefnfilltir (PRN 1053, SAM Me 98 (Bowen and Gresham 1967, 197)) lies just over 600m south-east of the development area, and the extensive system of huts, enclosures and fields known as Muriau Gwyddelod (PRN 1054-56, SAM Me 10) is about 600m to the south. There is little evidence of a Roman military presence in the area, as the Roman roads run inland. However, late Roman coin hoards found at Harlech Castle and Llanbedr (Bowen and Gresham 1967) do suggest some trade or other contact between the Ardudwy area and the Roman army.

There are no known prehistoric or Roman period sites close to the development area. A strip, map and sample process was carried out by Gwynedd Archaeological Trust on the route of the link water main. This route ended within the field under study and the archaeological monitoring did not identify any buried archaeological remains (Robert Evans (GAT), pers. com.).

4.2.2. Medieval Period

The development area lies within the parish of Llandanwg in the commote of Ardudwy (Thomas 2001). There is some evidence for early medieval activity in the area as two early Christian inscribed stones are built into the fabric of Llandanwg old church (Nash Williams 1950, 278-9), and two more stones of similar date have recently been found there (Davidson *per comm.*). An early foundation for the church (PRN 4790) is suggested by its original circular cemetery that is now buried by sand, though much of the present church appears to be of thirteenth century date (Davidson 2001, 343-4).

Harlech Castle (PRN 2908), built in the thirteenth century by Edward I, dominates the area, surrounded by the medieval borough. Work on the castle started in 1283 and it was completed by about 1290. The town was not walled, unlike Caernarfon, and did not thrive. Most of the town was destroyed by Owain Glyndŵr in 1404. The

castle was used as Glyndŵr's headquarters until 1408-9 and was also a Lancastrian stronghold from 1461-8 (RCAHMS 1921, 59-60, Lloyd 1986).

Some of the less regular field walls, especially in the uplands, may preserve medieval boundaries and long huts and hut platforms, probably of a medieval date, can be identified as earthworks. One such feature, indicating an isolated dwelling with an associated denuded field wall, was identified during an earlier phase of the present works adjacent to the waterworks (PRN 20612 (Evans 2008b)).

4.2.3 Post-Medieval

The borough of Harlech failed to recover from Owain Glyndŵr's occupation. The castle was again garrisoned in the Civil War but fell after a brief siege on 10 March 1647, after which orders were given for its demolition. These were not carried out, but the castle was allowed to decay until the 18th century when it became a tourist attraction (Lloyd 1986, 36, 37). The town, however, remained poor. Fenton visited it in 1808 during his *Tours in Wales* and described it as the 'most forlorn, beggarly place imaginable' (Fenton 1917, 105). Improved communications due to the creation of turnpike trusts and then a rail link increased the town's prosperity in the mid 19th century (Lloyd 1986, 61).

In 1839-40 a new parish church was built in Harlech and given the font, bell and dedication to Saint Tanwg from the previous church (Lloyd 1986, 66). It is a grade II listed building (record number 25501).

John Evans' 1795 map of Wales shows a short track heading east from the town of Harlech and this may suggest that the road next to the development area had an early origin (figure 2). In 1849 and 1856 Lord Mostyn bought land in and around Harlech from the Cors y Gedol Estate. With the purchases came some earlier maps and one dated 1801 shows that this road did indeed lead to other tracks and to the road to Cwm Nantcol (figure 3). This road can be dated much earlier by documents dating to 1557/8 and 1583 recording sales of a field called Y Cae Canol near Cae Du, field number 601 on the tithe map (see figure 4). These describe the field as having a 'highway' on its southern side (Mostyn Papers 3523).

The 1801 estate map shows the field under study as part of land parcel 5. In the middle of the field is a circular pond with what appears to be an outlet to the west. The 1849 map of lands bought by the Mostyn Estate does not show the study area but does show a stream running through the fields to the west (i.e. lot 24 and 25), and this stream presumably came from the pond in the study area (figure 5).

The tithe map of 1841 shows the pond as parcel 678 and names it as 'Upper Pool'. Figure 4 shows part of a later 19th century copy of the tithe map with information from the 1806 enclosure award added. This shows that the study area and the pond were part of Pen y Bryn Common. By 1841 the part of the common north of the road had been divided into tiny fields with three dwelling houses on it. The houses suggest that this may have been encroachment on the common prior to the enclosure award.

The Upper Pool presumably fed water down to the lower Mill Pool just east of the castle, which in turn fed Harlech mill. It appears that the existence of the Upper Pool can be traced back to at least the mid 16th century. Two documents in the Corsygedol Estate Papers dating to 1557/8 and 1574/5 that record the sale of land mention Llyn y meirch (the lake of the stallions); variously spelt as 'Llyn y mierch' and 'Llyn y myrch' (Mostyn 3523 and 3527, Bangor University Archives). Other fields named near this lake suggest that it is the same as the Upper Pool (Rhian Parry must be acknowledged for highlighting these references).

In 1841 the field containing the Upper Pool was on the western boundary of a farm called Cae Ardd Goch; owned at that date by William Jones.

The early OS maps (figures 6 and 7) show the Upper Pool was fed by two streams as today. The First Edition map shows that a straight structure had been built across the western side of the pond. This survives today as a stone-faced bank. Both on the ground and on the maps it resembles a dam but the First Edition map suggests that the pond was not retained by this structure. By 1901 the pond seems to have been largely drained. It is likely that the dam-like structure was for flood defence rather than to retain the pond under normal conditions.

By 1889 after leaving the western side of the Upper Pool the water was carried down hill by a series of regular leats and an aqueduct, apparently heading for a row of buildings immediately to the south-east of the parish church. The leat system and the buildings were still in use in 1901, although the pond seems much reduced and there is a local memory of the buildings being a bottling plant (Davidson pers com). By 1951 (as seen in aerial

photographs) a reservoir had been constructed at the top end of this water supply system and it was probably constructed to improve the water supply to the buildings below, although it may also have been a general source of drinking water.

One of the streams running into the Upper Pool had previously fed a baptismal well constructed by the side of the road. This was built, according to a plaque, in 1841 by the ‘Scotch Baptists’.

4.3 Statutory and non-statutory designations

The development area lies within the Snowdonia National Park and the Ardudwy Landscape of Outstanding Historic Interest (HLW (Gw) 2), where it is described as ‘a large, exceptionally rich and well-studied landscape, situated on the western flanks of the Rhiniog Mountains, containing extensive relict evidence of recurrent land use and settlement from prehistoric to recent times’ (Cadw 1998, 76). The nearest Scheduled Ancient Monuments to the development site are the homestead of Cefnfilltir (SAM Me 98) about 600m to the south-east, the settlement of Muriau Gwyddelod (SAM Me 10) about 600m to the south, and Harlech Castle (Me 044) about 300m to the north-west. The development area is obscured by trees, bushes and a high bank on the north side of the road, and it is not visible from the castle. Eighteen listed buildings are included in appendix I, but most are within the town of Harlech and none are close to the development site, with the exception of the barn 25516, 270m to the south-east.

4.4 The Archaeological Survey (Figure 8)

In the previous assessment seven features were identified close to the development area. Two additional features have been added for the present assessment and only those features relevant to the new development site are listed below. The feature numbers used are the same as in the previous assessment and these features are shown on figure 8 and described below with recommendations for further assessment and mitigatory measures, where appropriate. These features were allocated PRN numbers and they will be added to the HER.

Feature 01 Baptismal Well PRN 29309

SH 58455 31066

Period: Post medieval

Category: C Impact: None

A rectangular concrete pool with steps down into it and railings around, all surrounded by a low stone wall. To the south of the well is a higher stone wall, on which is a slate plaque bearing the inscription ‘Scotch Baptist, baptismal well, built 1841’ in Welsh and English.

Recommendations for further assessment: None

Recommendations for mitigatory measures: Avoid

Feature 02 Reservoir PRN 29310

SH 5848 3105

Period: Modern

Category: D Impact: None

A small reservoir constructed in the 20th century, certainly by 1951 but possibly in the 1920s or 30s. This reservoir seems to have been a late phase of a complex of water works supplying some buildings on the east side of the town.

Recommendations for further assessment: None

Recommendations for mitigatory measures: Avoid

Feature 03 Road PRN 29311 Plate 1

SH 5834 3107 to SH 5865 3112

Period: Early Post medieval

Category: D Impact: Slight

Narrow road enclosed with drystone walls. The road is identifiable on the 1810 map, but sales documents in the Mostyn Papers suggest it dates to at least the 16th century. Much of the surrounding land has been enclosed since that date so it is possible that the drystone walls originated in the 16th century, although they must have been constantly rebuilt.

The access to the pumping station will be through the wall enclosing the southern side of the road. It is recommended that the section through the wall be inspected to determine whether it has early foundations. The new entrance should be built in a style appropriate to the rest of the wall.

Recommendations for further assessment: None

Recommendations for mitigatory measures: Detailed recording of the section through the wall

Feature 07 Dam/flood defence PRN 29315 Plates 2 to 4

SH 5853 3100

Period: Post medieval

Category: C Impact: None

This is a straight section of a thick stone-faced bank aligned north-south and up to 1.6m high and 2m wide. The bank was 42m long according to the modern OS map but the northern end seems to have been disturbed and it may now be slightly shorter. It is faced in stone on both sides and has an earth core. Hawthorn bushes have been planted in a neat row along its crest. The stream cuts through a gap in the middle of the bank. It is likely that this gap originally had a sluice gate but there is no visible trace of this. To the north of the stream the bank is much reduced and stands no more than 0.8m high. To the south of the stream it survives to its full height of 1.6m. At its southern end it finishes abruptly and this end seems to be original and undisturbed. The area to the east of the bank is very marshy and the two streams flowing in to this area join just before passing through the bank as a single stream.

The bank is shown on the 1889 map, when it lay just west of a small round pond (the Upper Pool), although not forming one side of the pond. The bank remained in 1901 when the pond had gone. The bank does not join on to other walls and is not just a boundary feature. Its character suggests a dam, so it may have been a safety feature to prevent flooding down stream, and is most probably part of the water supply system discussed under feature 09.

The proposed site of the pumping station has been position so as to avoid this feature. Care should be taken during works to avoid any accidental damage to this feature.

Recommendations for further assessment: None

Recommendations for mitigatory measures: Avoid

Feature 08 Upper Pool PRN 30449 Plate 5

SH 58410 31027

Period: medieval?

Category: C Impact: None

This is now a boggy area immediately east of feature 07. It is defined by low, rather irregular scarps and two streams run through it. Alder trees grow over much of the former pond area.

The pond is named as the Upper Pool in the 1841 tithe schedule. The Upper Pool, presumably originally designed as a header pond for the mill, can be identified with a pond called Llyn y Meirch, and can be traced back to at least the mid 16th century, and it could be medieval in origin. The pool is shown on the First Edition OS map but seems to have been drained by the 1901 OS map was surveyed.

The proposed location of the pumping station is on the northern edge of the pool area but it should not impinge on the pool itself. The strip and map evaluation recommended for the area of the development will identify any potential buried features that might be related to the pool.

Recommendations for further assessment: None

Recommendations for mitigatory measures: Avoid

Feature 09 Aqueduct and leat system PRN 30450

SH 58372 31042 to SH 58223 31012

Period: Post medieval

Category: C Impact: None

The 1889 OS map marks an aqueduct at SH 58322 31014 and this is associated with a system of leats running from the Upper Pool. The leats apparently head for a row of buildings immediately to the south-east of the parish church. The leat system and the buildings were still in use in 1901 and there is a local memory of the buildings being a bottling plant (Davidson pers com). Although the stream still runs through this area it has been heavily altered by landscaping for gardens. This has included the construction of a decorative pond and waterfalls. It is not known how much of the original features remain. The development area will have not direct impact on the leat system.

The whole system including the dam, Upper Pool and later reservoir appear to be part of the industrial history of Harlech and are therefore of considerable interest as a group.

Recommendations for further assessment: None

Recommendations for mitigatory measures: Avoid

5. SUMMARY OF ARCHAEOLOGICAL POTENTIAL

5.1 Summary of features identified

The features identified are part of a water supply system that originated to supply the corn mill in the town but seems to have been extended and adapted for other purposes including possibly domestic water supply and to feed a water bottling plant. The origins of the Upper Pool may be in the medieval period as it can be attested from the 16th century, but the other features are all 19th century or later. The baptismal well is related to this system in that it uses the same water source.

The prevalence of Iron Age and medieval settlements in the general area raises the possibility that buried archaeology of these periods may be present on the site, but there are no surface remains or other indications of this.

5.2 Aerial Photographs

The aerial photographs inspected did not reveal any cropmarks or earthworks on the development site, but this cannot be used to demonstrate an absence of buried archaeology.

5.3 Environmental Remains and Soil Morphology

There may be significant organic deposits within the area of the Upper Pool that could hold a record of the medieval and later environment and landuse but the development should have not impact on these. If buried archaeological features do exist on the site it is possible that environmental remains might be preserved within them.

5.4 Artefactual Potential

Artefacts are sparse on later prehistoric sites excavated in the area (Kelly 1988), and equally so on medieval rural sites, so even if buried archaeology is present few artefacts would be expected.

6. SUMMARY OF RECOMMENDATIONS

The proposed development area is small and has been positioned so as to avoid the features identified above, with the exception of the roadside wall, which will have to be breached to allow access. The working area should be fenced off to ensure no accidental damage to any features. As there is a risk of buried archaeology being present on the site it is recommended that the development area (including the access road) be stripped of topsoil down to the underlying glacial deposits to check for buried archaeological features in advance of the construction works. This work would be undertaken using the strip, map and sample methodology described in appendix II. By checking for archaeology in this way and excavating and recording any that is found it avoids the risk of features being discovered during a watching brief when the construction work is underway. The roadside wall can be inspected at the same time if the breach through the wall is made prior to the strip and map evaluation.

7. CONCLUSIONS

Although there are features of interest adjacent to the development area none are identified within the area itself. However, it is recommended that a strip, map and sample evaluation be carried out on the area to detect and record any potential buried archaeology prior to the construction works being undertaken.

8. ARCHIVE

The archive consists of copies of historic maps, notes and 19 digital images taken on the field visit. Three copies of the bound report will be sent to the SNPA archaeologist, and a further copy sent to the HER Archaeologist at the curatorial division of Gwynedd Archaeological Trust, Bangor, for deposition in the Regional HER. A copy of the report will be provided to the National Monument Record, Royal Commission on the Ancient and Historic Monuments of Wales, Aberystwyth.

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- Ordnance Survey 25 inch Second Edition County Series maps Merionethshire sheets IXX.13 and XXVI.1 (1901)
- Ordnance Survey 1:10,560 map, fourth edition, Merionethshire sheets IXX SW and XXVI NW (1953)
- John Evans' Map of Wales, 1795
- National Library of Wales, Aberystwyth**
- Cors y Gedol Estate 1849 Sale Map of the Town of Harlech (Sale Catalogues 177)
- LRRO 13573, tracing of tithe map of the parish of Llandanwg (1841) with information from enclosure award (1806). Created 1865.

Bangor University Archives

Mostyn MSS 8604: Map and Survey of the Parishes of Llandanwg and Llanfihangel y Traethau in the County of Merioneth 1810

Mostyn Papers 3523: Three sale documents fastened together with thread at the top left-hand corner dated 1557/8, Jan 23

Mostyn Papers 3527: Sale document dated 1574/5

Merioneth Record Office, Dolgellau

Tithe map for the parish of Llandanwg in Merionethshire 1841.

Tithe Apportionment Schedule for the parish of Llandanwg in Merionethshire 1840.

RCAHMW, Aberystwyth***Aerial Photographs******Verticals***

RAF 540/464, frame 3007, date 20/04/1951

OS 71 234, frame 180, date 21/05/1971

Oblique

RAF 58/4514P, frame 0029, date 05/07/1961

APPENDIX I: HER sites and listed buildings near the development area

Table 1. HER sites near the development area

PRN	NPRN	Site name	NGR	SAM no.	Class	Site type	Period	Form	Description
1048	55198	Standing stone (site of) nr Tyddyn y Felin	SH 5948 3047		Religious, ritual and funerary	Standing stone	Prehistoric	Recorded	Stone block, stone slab, stone setting
1052	55202	Hut circle + field system, nr Tyddyn y Felin	SH 5941 3088		Domestic	Hut circle	Early-medieval	Stone built feature	Hut - circular, enclosure, wall
1053	55203	Cefnfilltir hut group (enclosed)	SH 5902 3080	M098	Domestic	Hut circle settlement	Roman	Stone built feature	Hut - circular, enclosure
1054	55204	Muriau'r Gwyddelod settlement & field systems	SH 5820 3038	M010	Domestic	Settlement - enclosed	Prehistoric	Stone built feature	Hut - circular, enclosure
2896	55256	B.A. gold torc - findspot, near Harlech castle	SH 5800 3100a		Object	Findspot	Prehistoric, Bronze Age	Find only	
2901	55259	Y Ffordd Wyddelig (near Muriau Gwyddelod), Harlech	SH 5902 3035		Transport	Trackway	Early-medieval	AP site	Trackway
2906	55263	Hoard of bronze age palstaves, Harlech	SH 5800 3100a		Object	Findspot	Prehistoric, Bronze Age	Find only	
2908	55265	Harlech Castle	SH 5810 3125	M044	Defence	Castle	Medieval	Standing monument	Building
2909	55266	Centurial stones, Harlech Castle	SH 5810 3125		Commemorative	Stone setting	Roman	Recorded	Stone slabs
2910	55267	Urn with Roman coins found at Harlech Castle	SH 5810 3125		Object	Findspot	Roman	Find only	
3193	59539	Harlech medieval town	SH 5820 3110		Civil; domestic?	Town	Medieval	Buried feature	
3896	59266	Mill - site of, Harlech	SH 5818 3128		Industrial	Mill	Post-medieval	Recorded	
3897	59267	Chapel -site of, Harlech	SH 5815 3120		Religious, ritual and funerary	Capel	Medieval	Recorded	
3911	59281	Bronze sword - findspot, nr. Harlech	SH 5800 3100a		Object	Findspot	Prehistoric, Bronze Age	Find only	
5599	58954	Oven - garden of Glyndwr, High Street, Harlech	SH 5819 3113		Domestic	Hearth	Post-medieval	Other structure	

9833	0	Harlech medieval township	SH 5850 3050		Civil	Township	Medieval	Documentary	
18257	0	Harlech - landscape	SH 5804 3109		Unassigned	Landscape	Multi-period		0
20506	60584	Manganese mine, Capel Engedi	SH 5900 3100		Industrial	Manganese mine	Post-medieval	Other structure	Pit
20507	60586	Manganese level, Rhyd Galed nr Harlech	SH 5900 3140		Industrial	Manganese level	Post-medieval	Other structure	Pit
27708		Building NE of Rhydgaled Isaf	SH59053123			Building	Unknown		
27709		Building/structure SE of Garth-Bach	SH58953114			Building/structure	Unknown		
27710		Well 1 SW of Garth-Bach	SH58813109			Well	Unknown		
27711		Building/structure SW of Garth-Bach	SH58823109			Building/structure	Unknown		
27712		Well 2 SW of Garth-Bach	SH58863112			Well	Unknown		
27713		Well 3 SW of Garth-Bach	SH58873112			Well	Unknown		
27714		Enclosure (sheepfold?) E of Rhydgaled Isaf	SH58933121			Enclosure/sheepfold	Unknown		
27715		Enclosure (sheepfold?) NE of Rhydgaled Isaf	SH58943125			Enclosure/sheepfold	Unknown		

Table 2. Listed buildings near the development area

Number	Name	Grade	History	NGR
25500	Harlech Castle	I	Harlech castle is regarded as one of the most important medieval castles in Wales and is a textbook example of concentric castle design. It was built by the English King Edward I following his conquest of Wales, the main work being constructed between 1283 and 1289 with additions of c1295 and 1323-4; the overall cost is recorded as around £9,500 (in the region of £9.5 million in current terms). Harlech belongs to a series of Royal castles designed by Edward's chief military engineer, the Savoyard Master James of St. George, which rank amongst the most highly sophisticated and innovative examples of military engineering in contemporary Europe. Master James was himself created its first constable in 1290, and received a salary of 100 marks a year.	SH 58110 31240
25501	Parish Church of St Tanwg	II	Parish Church built 1838-40 on land provided by Sir Robert Williams Vaughan of Nannau and Hengwrt Bart., a prominent North Walian landowner and benefactor. The church superseded the former medieval garrison chapel located near the castle.	SH 58188 31024
25502	The Plas	II	Built as the Blue Lion Inn c1830 by Sir Robert Williams Vaughan, Bart. as a speculative development designed to serve the growing tourist trade. The inn was built on the site of Plas-yn-Harlech, a sub-medieval town house of the Nanney family (of Nannau near Dolgellau); the name was taken from the crest of the family, whose head, at that time, was Sir Robert. Morgan Davies and Daniel Parry are recorded as the first landlords.	SH 58119 31080
25503	Spar	II	Mid-Victorian shop perhaps with earlier, second-quarter C19 origins. The building (or its predecessor) is shown on the 1840 Llandanwg Tithe map, though its present character is third-quarter C19. The implication therefore is that the present building is a replacement, or else a remodeling of, that shown in the map.	SH 58116 31066
25504	Harlech Pottery	II	Storeyed end chimney house, probably late C18, with C19 and C20 alterations.	SH 58122 30979

	including Forecourt Walls and Railings			
25505	Gweithdy Saer	II	Former inn, probably of late C17 or early C18 origin and with C19 and C20 alterations to the facade. The inn is recorded as the Red Lion already in the middle of the C18 and remained the principal inn in Harlech until the erection of the Blue Lion c1830. In 1750 'Evan Anwyl of the Red Lion, inn-keeper of Harlech' is recorded as having a personal estate valued at £137. Evan Anwyl, who died in 1759, was a descendant of the illustrious Anwyl family of Parc, one of the senior gentry families of Merioneddshire. Many early tourists and travel writers frequented the inn and were unanimous in its condemnation. The Rev. John Evans in 1798 wrote: 'this cheerless spot... offered no bed nor anything better than a dirt floor strewd with a few rushes.'	SH 58203 31191
25506	Ty'r Felin	II	Storeyed sub-medieval house, probably of second-half C17 date; C19 and C20 alterations.	SH 58207 31223
25507	Bryn Tirion	II	Early Victorian vernacular cottage dated 1841; repaired and re-roofed with a town scheme grant, 1996-7.	SH 58270 31137
25508	Capel Rehoboth	II	Rehoboth, also known formerly as Capel Uchaf was built in 1820 for the Scotch Baptists, nick-named the 'batis bara a chaws' (bread and cheese Baptists). The chapel was comprehensively restored in the late C19, at which period a schoolroom was attached at the W end.	SH 58327 31195
25509	Bier House at Capel Rehoboth	II	Bier house built to serve the adjacent Scotch Baptist Rehoboth chapel, erected in 1820, and probably contemporary with it.	SH 58355 31216
25510	Crown Lodge	II	Crown Lodge was built in 1903 for W H More to designs by the Scottish Arts and Crafts architect George Walton. More (d.1934) was the Crown Agent for Wales and was inspired to make Harlech his chief residence by the example of his friend George Davidson, the millionaire aesthete and philanthropist, who bought nearby Plas Amhurst before building Plas Wernfawr (later Coleg Harlech) in 1908.	SH 58017 30800
25511	Coleg Harlech including Terrace Revetment Walls to the W	II*	The Coleg Harlech building originated as Plas Wernfawr and was built by the millionaire aesthete and philanthropist George Davidson in 1908 to designs by the Scottish Arts and Crafts architect George Walton; a Great Hall wing, added in 1910, was destroyed by fire in May 1968. The total building costs were reputed to have been around £80,000.	SH 57828 30805
25512	Gateway, Forecourt and Screen Walls at Coleg Harlech	II	The Coleg Harlech building originated as Plas Wernfawr and was built by the millionaire aesthete and philanthropist George Davidson in 1908 to designs by the Scottish Arts and Crafts architect George Walton; a Great Hall wing, added in 1910, was destroyed by fire in May 1968. The total building costs were reputed to have been around £80,000. The forecourt and screen walls, together with the main gateway all belong to Walton's original design for Plas Wernfawr.	SH 57853 30798
25513	Y Wern	II	Y Wern was built c1935 for the first Warden of Coleg Harlech, Sir Ben Bowen Thomas. The house was designed by Griffith Morris, architect of Porthmadog and received a CPRW award at the time.	SH 57871 30739
25514	Cae Besi	II	Cae Besi was built for the eminent American photographer Alvin Langdon Coburn to designs by the Arts and Crafts architect Griffith Morris of Porthmadog. Coburn, originally from Boston, was one of the leading photographers of his day and, through his involvement with the avant-garde photography groups the Linked Ring and the Photo Secession, became a close friend of George Davidson, European Head of the Eastman Kodak Co. Davidson moved to Harlech at the turn of the century, buying Plas Amhurst before building the nearby Plas Wernfawr (later Coleg Harlech) in 1908. A frequent visitor, Coburn eventually decided to settle and built Cae Besi a short distance from Plas Wernfawr apparently in the 1920s; this was presumably before Davidson moved to the south of France in 1925.	SH 57838 30558
25516	Field Barn S of Cae Du	II	Late C17 or early C18 vernacular field barn with later (probably late C19) outshut along one side.	SH 58683 30993
25517	Barn S of Ael-y-Glyn	II	Late C18 or early C19 vernacular barn, erected as a pair with the adjacent cow house; probably originally serving Ael-y-Glyn.	258343
25518	Cow House S of	II	Late C18 or early C19 vernacular cow house, built as a pair with the adjacent barn; probably originally serving Ael-y-Glyn.	258331

	Ael-y-Glyn			
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Table 3. National Monument Record sites near the development area

NPRN	Name	NGR	Broad class	Type	Status	Period	Form
8436	Tabernacl Welsh Baptist Chapel, Harlech	SH58143101	Religious, Ritual and Funerary	Chapel		Post Medieval	Documents
8439	Moreia Chapel (Welsh Calvinistic Methodist; Moriah), Harlech	SH58153100	Religious, Ritual and Funerary	Chapel		Post Medieval	Building
8440	Seion Wesleyan Methodist Chapel (Catholic Church of St David in Sion), Harlech	SH58163111	Religious, Ritual and Funerary	Chapel		Post Medieval	Building
8432	Jerusalem Welsh Independent Chapel, Harlech	SH58283122	Religious, Ritual and Funerary	Chapel		Post Medieval	Building
8433	Ainon Baptist Chapel, Harlech	SH5831	Religious, Ritual and Funerary	Chapel		Post Medieval	Building
8434	Bethel Baptist Chapel, Harlech	SH5831	Religious, Ritual and Funerary	Chapel		Post Medieval	Documents
8435	Rehoboth Baptist Chapel, Harlech	SH58333119	Religious, Ritual and Funerary	Chapel		Post Medieval	Building
8479	Engedi Baptist Chapel, Penrhiwgoch	SH59063043	Religious, Ritual and Funerary	Chapel		Post Medieval	Building
28180	Blue Lion Inn	SH58353105 (incorrect grid reference)	Recreational	Public house		Post Medieval?	Documents
28628	Pencerrig	SH58113075	Domestic	House		Post Medieval?	Documents
28629	Pencerrig, gardens and lake, Harlech	SH5810730756	Gardens, Parks and Urban Spaces	Garden		Post Medieval?	Documents
28690	Plas Wern Fawr; Y Wern Fawr/Coleg Harlech	SH57973117	Domestic	Dwelling		Post Medieval?	Not recorded
32380	Ffynnon Fair, Harlech	SH58123135	Water Supply and Drainage	Spring		Medieval?	Documents
33155	Harlech, medieval and later borough	SH5809531245	Civil	Town		General	Documents
34941	Harlech railway station	SH58073144	Transport	Railway station		Post Medieval	Documents
34942	Harlech signal box	SH58083140	Transport	Railway signal box		Post Medieval	Documents
41319	Harlech station, Cambrian coast	SH58093145	Transport	Railway station		Post Medieval	Not recorded

41717	Pencerrig - outbuildings	SH58113075	Agriculture and Subsistence	Farm building		Post Medieval?	Not recorded
43902	St Tanwgs' Church	SH58183103	Religious, Ritual and Funerary	Church		Medieval; Post-Medieval	Not recorded
93729	Harlech Castle	SH5809531245	Defence	Castle	GAM;LB1	Medieval	Complex
302729	Cefnfilltir, homestead	SH59023080	Unassigned	Settlement	SAM	Unknown	Documents
302730	Cefnfilltir, hut circle	SH59413088	Domestic	Hut circle	SAM	Early Medieval	Documents
401814	Muriau Gwyddelod, settlement complex	SH58203038	Unassigned	Settlement		Unknown	Documents
403271	Plas Cafe, Stryd Fawr, Harlech	SH5811631079	Commercial	Inn; restaurant	LB2	Post Medieval	Building

APPENDIX II: Definitions of categories used for impact, field evaluation and mitigation

1 Categories of importance

The following categories were used to define the importance of the archaeological resource.

Category A - Sites of National Importance.

Scheduled Ancient Monuments, Listed Buildings of grade II* and above, as well as those that would meet the requirements for scheduling (ancient monuments) or listing (buildings) or both.

Sites that are scheduled or listed have legal protection, and it is recommended that all Category A sites remain preserved and protected *in situ*.

Category B - Sites of regional or county importance.

Grade II listed buildings and sites which would not fulfil the criteria for scheduling or listing, but which are nevertheless of particular importance within the region.

Preservation *in situ* is the preferred option for Category B sites, but if damage or destruction cannot be avoided, appropriate detailed recording might be an acceptable alternative.

Category C - Sites of district or local importance.

Sites which are not of sufficient importance to justify a recommendation for preservation if threatened.

Category C sites nevertheless merit adequate recording in advance of damage or destruction.

Category D - Minor and damaged sites.

Sites that are of minor importance or are so badly damaged that too little remains to justify their inclusion in a higher category.

For Category D sites, rapid recording, either in advance of or during destruction, should be sufficient.

Category E - Sites needing further investigation.

Sites, the importance of which is as yet undetermined and which will require further work before they can be allocated to categories A - D are temporarily placed in this category, with specific recommendations for further evaluation. By the end of the assessment there should usually be no sites remaining in this category. In this case several areas of unknown potential have been allocated to this category. These require environmental sampling which should be carried out during the pipeline works.

2 Definition of Impact

The impact of the works on each site was estimated. The impact is defined as *none, slight, unlikely, likely, significant, considerable or unknown* as follows:

None:

There is no construction impact on this particular site.

Slight:

This has generally been used where the impact is marginal and would not by the nature of the site cause irreversible damage to the remainder of the feature, *e.g.* part of a trackway or field bank.

Unlikely:

This category indicates sites that fall within the band of interest but are unlikely to be directly affected. This includes sites such as standing and occupied buildings at the margins of the band of interest.

Likely:

Sites towards the edges of the study area, which may not be directly affected, but are likely to be damaged in some way by the construction activity.

Significant:

The partial removal of a site affecting its overall integrity. Sites falling into this category may be linear features such as roads or tramways where the removal of part of the feature could make overall interpretation problematic.

Considerable:

The total removal of a feature or its partial removal which would effectively destroy the remainder of the site.

Unknown:

This is used when the location of the site is unknown, but thought to be in the vicinity of the proposed works.

3 Definition of field evaluation techniques

Field evaluation is necessary to fully understand and assess most class E sites and to allow the evaluation of areas of land where there are no visible features but for which there is potential for sites to exist. Two principal techniques can be used for carrying out the evaluation: geophysical survey and trial trenching.

Geophysical survey most often involves the use of a magnetometer, which allows detection of some underground features, depending on their composition and the nature of the subsoil. Other forms of geophysical survey, including resistivity survey and ground penetrating radar might also be of use.

Trial trenching allows a representative sample of the development area to be investigated at depth. Trenches of appropriate size can also be excavated to evaluate category E sites. Trenching is typically carried out with trenches of between 20 to 30m length and 2m width. The topsoil is removed by machine and the resulting surface is cleaned by hand, recording features. Depending on the stratigraphy encountered the machine may be used to remove stratigraphy to deeper levels.

4 Definition of Mitigatory Recommendations

Below are the measures that may be recommended to mitigate the impact of the development on the archaeology.

None:

No impact so no requirement for mitigatory measures.

Avoidance:

Features, which may be affected directly by the scheme, or during the construction, should be avoided. Occasionally a minor change to the proposed plan is recommended, but more usually it refers to the need for care to be taken during construction to avoid accidental damage to a feature. This is often best achieved by clearly marking features prior to the start of work.

Basic recording:

Requiring a photographic record and full description prior to commencement of works.

Detailed recording:

This requires a full photographic record and measured survey prior to commencement of works.

Archaeological excavation may also be required depending on the particular feature and the extent and effect of the impact.

Watching brief:

This is a formal programme of observation and investigation conducted during any operation carried out for non-archaeological reasons. This will be within a specified area or site on land, inter-tidal zone or underwater,

where there is a possibility that archaeological deposits may be disturbed or destroyed. The programme will result in the preparation of a report and ordered archive.

Reinstatement:

The feature should be re-instated with archaeological advice and supervision. In this project this applies to the nineteenth century field walls parts of which may have to be dismantled. It is important for the landscape character of the area that these are rebuilt in the original style. The work is to be carried out by National Park stone masons and the results are to be approved by the National Park authorities.

Strip, Map and Sample:

The technique of Strip, Map and Sample (SMS) requires the machine stripping of topsoil and ploughsoil within a defined area to layers capable of preserving archaeological features. The work is undertaken under archaeological supervision. Stripping and removal of the overburden is undertaken in such a manner as to ensure damage does not take place to surfaces that have already been stripped, nor to archaeological surfaces that have not yet been revealed.

A small team of archaeologists will be responsible for subsequently further cleaning defined areas where necessary and evaluating any potential archaeological features. The evaluation will identify significant archaeological features requiring excavation and recording. Isolated features can be recorded at this stage but complex sites which cannot be avoided will need to be excavated in detail and this will form a new phase of works.

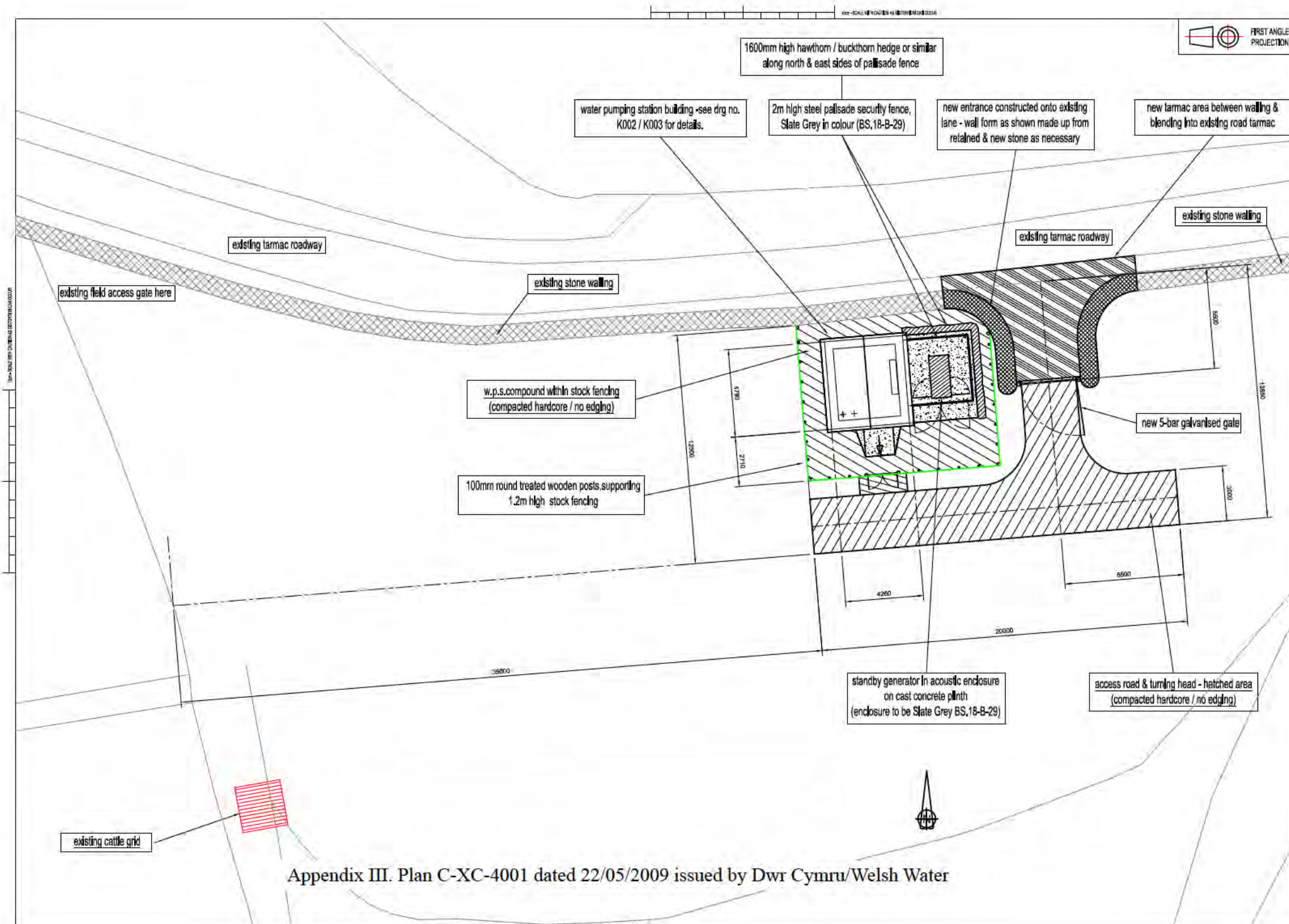
It is not always easy to identify the nature of features without excavation, therefore although strip, map and sample includes the initial assessment of features, it does not include detailed excavation should the features prove to be archaeologically significant. If a site of archaeological significance is found during the strip, map and sample process then a new design and cost estimate will be required for that site.

The advantage the strip, map and sample technique is that all archaeological features will be found, so it removes all risk. It is best undertaken where the reinstatement of the topsoil is not immediately required, so that the easement does not have to be reinstated and stripped again for construction. This method typically results in the identification of a large number of features such as drains, ditches, former field boundaries, the holes caused by the removal of trees, and casual pits etc.

Detailed excavation:

Where the requirement for detailed recording or the results of the strip, map and sample evaluation suggest that full excavation of a feature or features is necessary this would be carried out to a project design based on best practice. This normally involves the full excavation of significant small features and the partial excavation of ditches and other large features. Detailed plans and sections will be drawn, a full photographic record will be made and detailed notes will be written describing each context. The main aims are to establish the date and function of features and to establish the stratigraphic relationships between features. On a complex site this can be a long and labour intensive process.

APPENDIX III: Plan C-XC-4001 dated 22/05/2009 issued by Dwr Cymru/Welsh Water



Figures and Plates

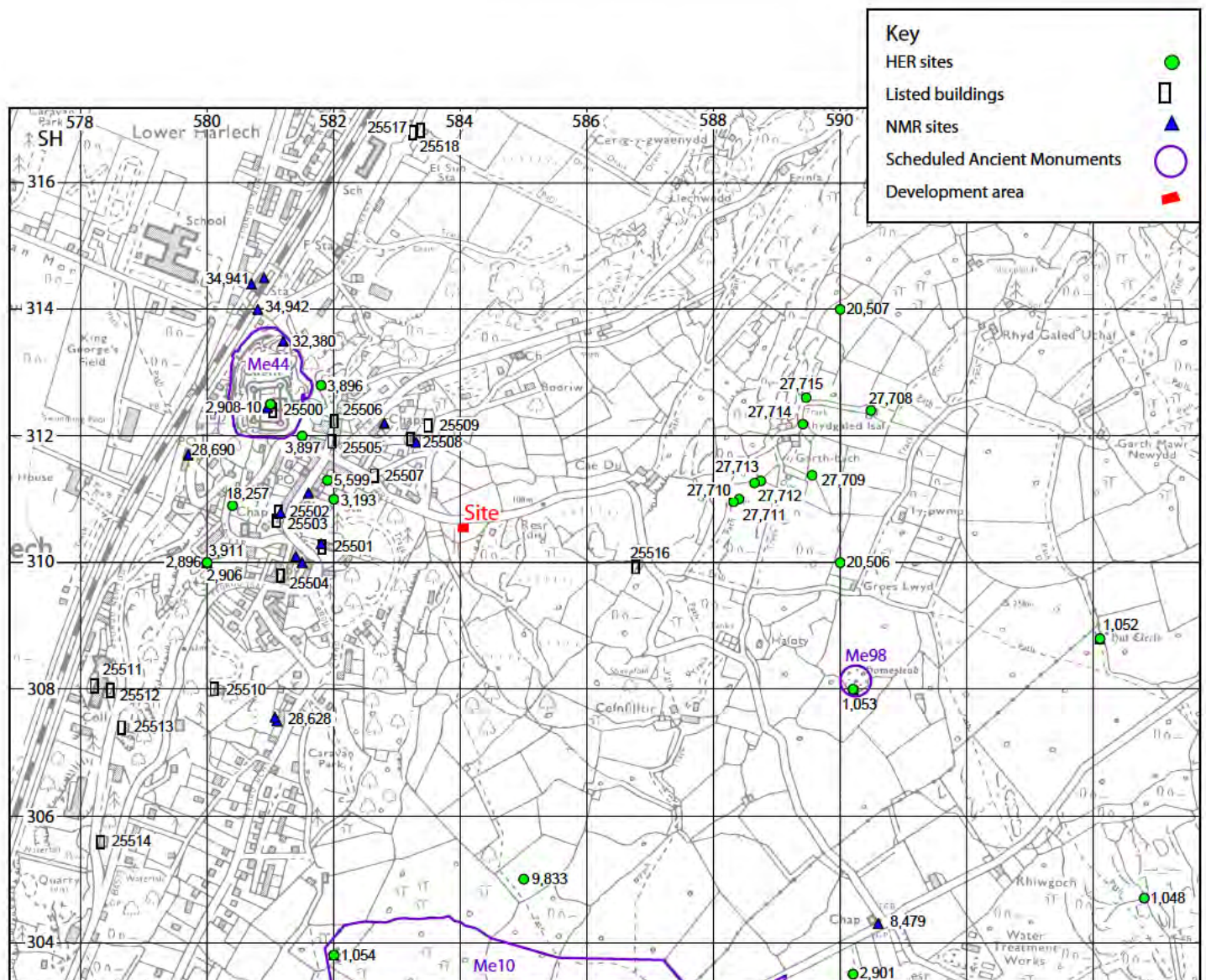


Figure 1. Location of the site and surrounding HER sites and listed buildings (see appendix I for list of sites)



Figure 2. Part of John Evans' Map of Wales (1795)

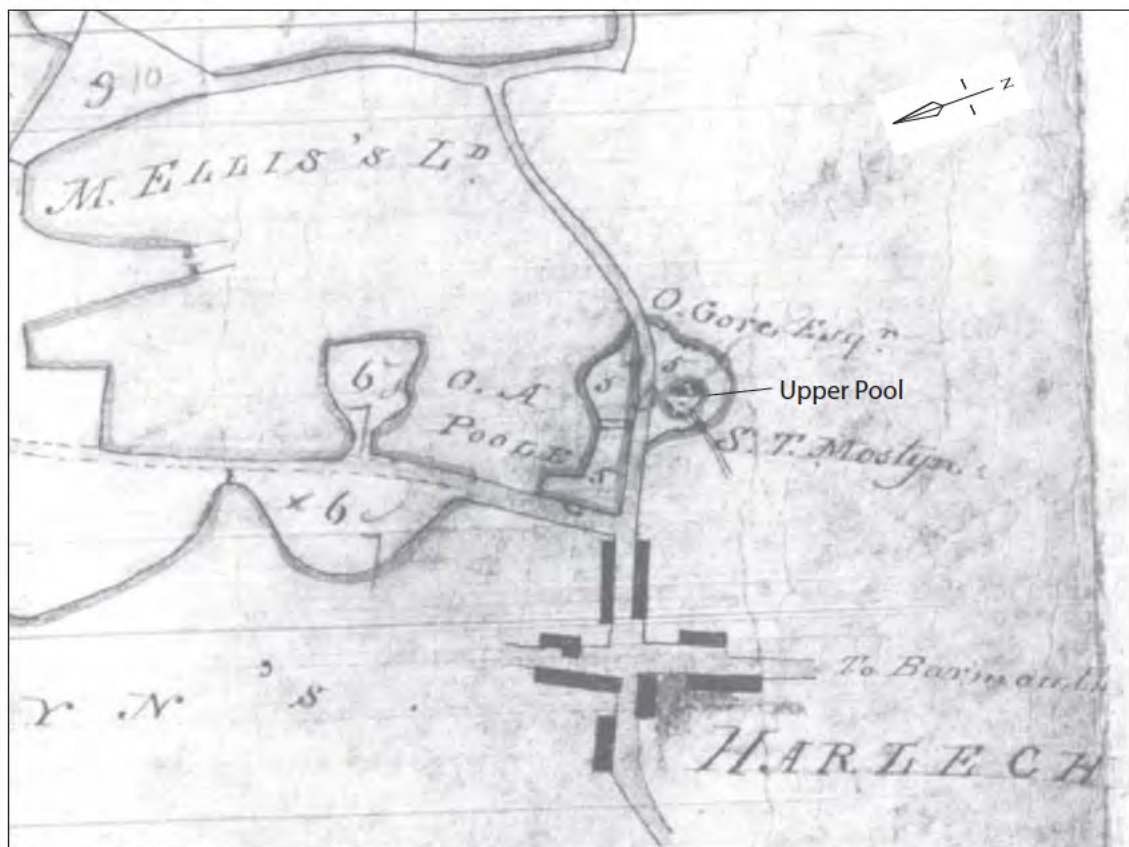


Figure 3. Detail of a Map and Survey of the Parishes of Llandanwg and Llanfihangel y Traethau in the County of Merioneth 1810 (Mostyn MSS 8604).

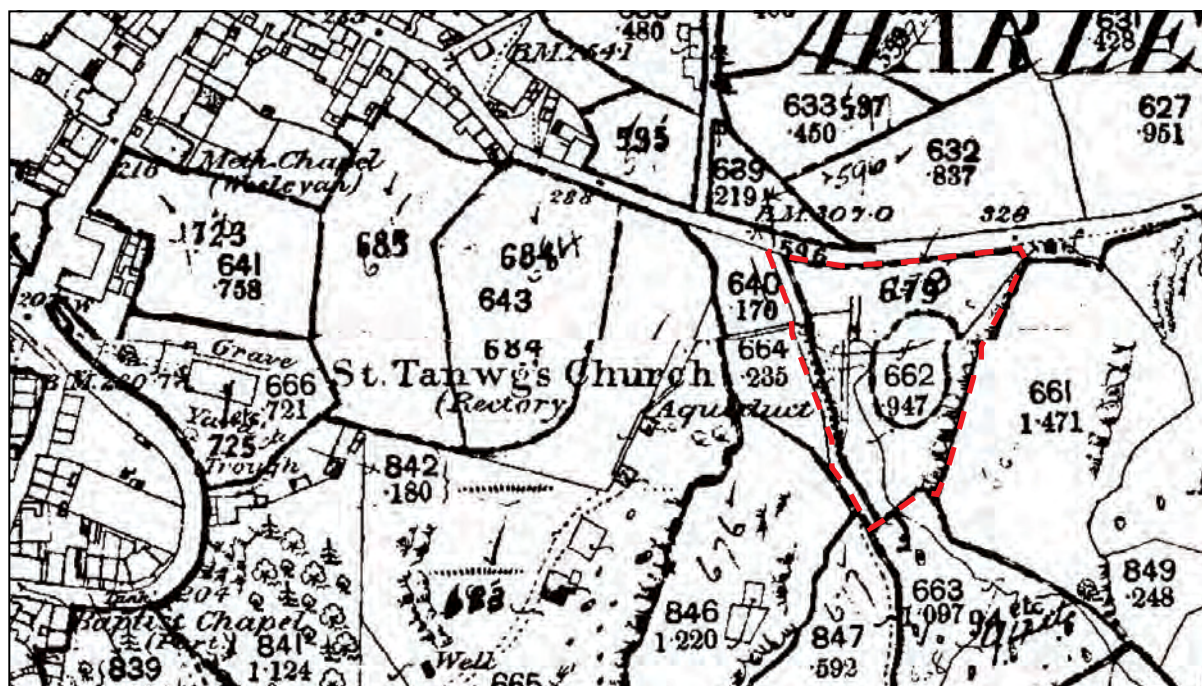


Figure 6. Detail from Ordnance Survey 25 inch First Edition County Series maps Merionethshire sheets IXX.13 and XXVI.1 (1889). Outline of field containing the development site dashed in red.

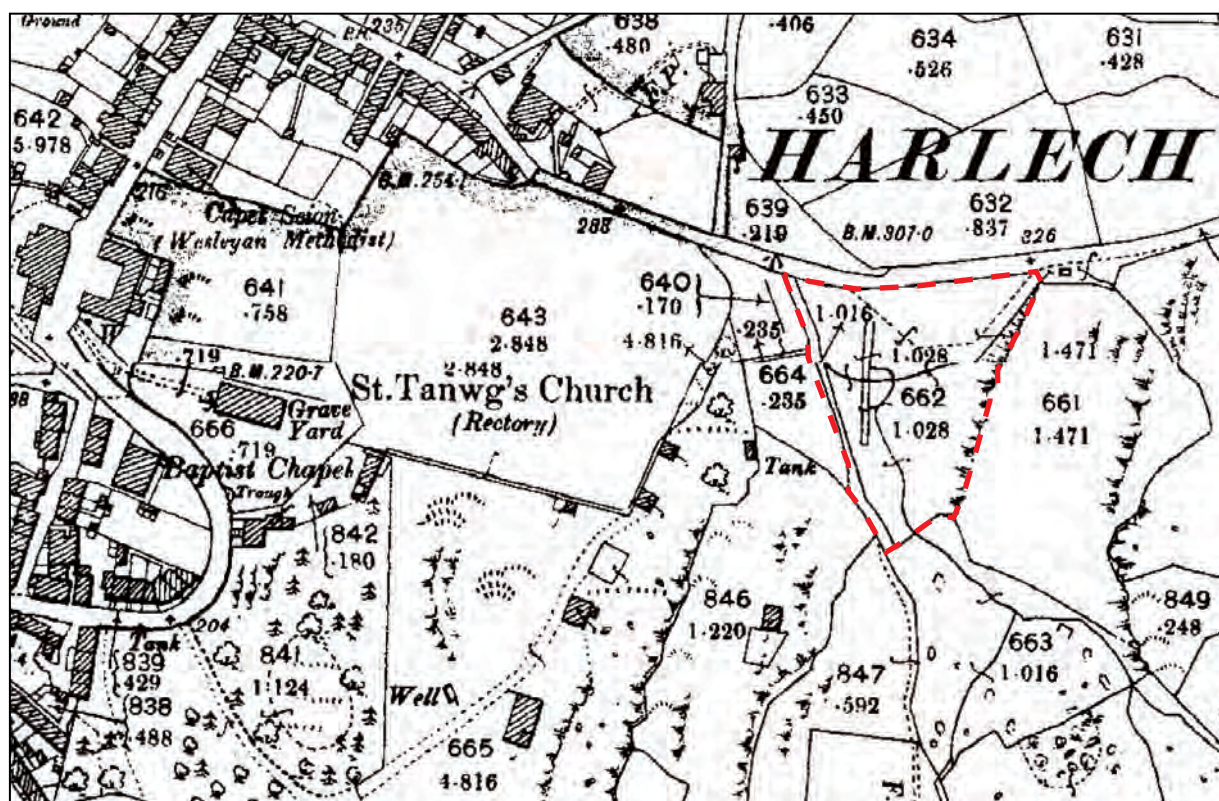


Figure 7. Detail from Ordnance Survey 25 inch Second Edition County Series maps Merionethshire sheets IXX.13 and XXVI.1 (1901). Outline of field containing the development site dashed in red.

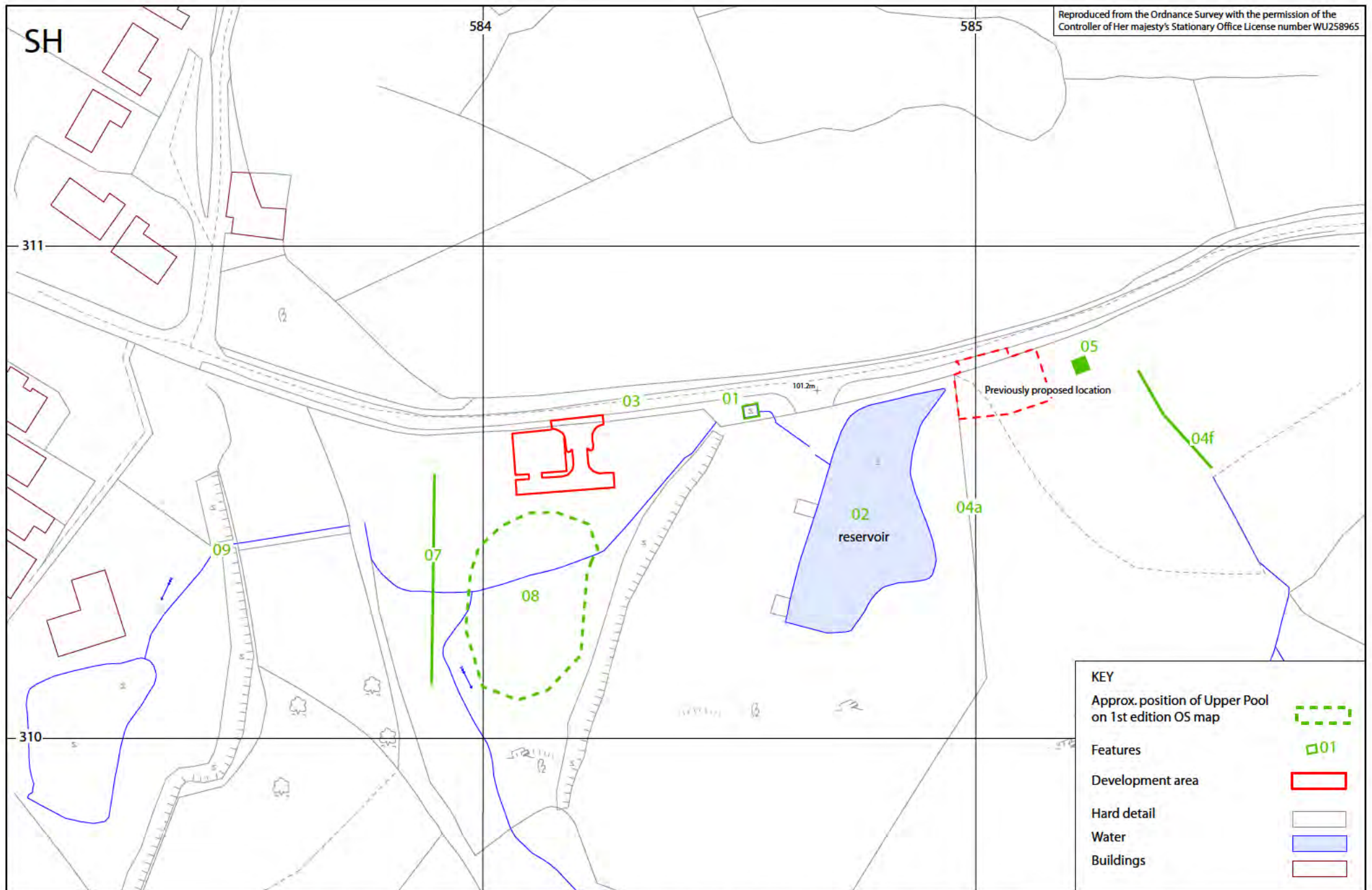


Figure 8. New proposed location of the pumping station showing archaeological features in the area



Plate 1. Roadside wall close to position of proposed access route to pumping station

Plate 2. Bank/dam (feature 07, PRN 29315) to the south of the stream

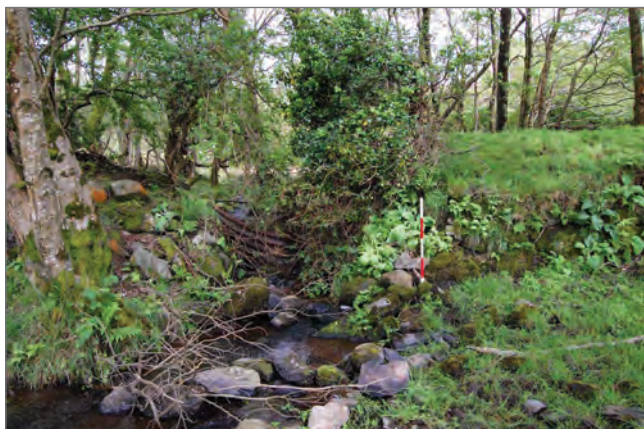


Plate 3. Stream running through breach in bank/dam (feature 07, PRN 29315)

Plate 4. Bank/dam (feature 07, PRN 29315) to the north of the stream



Plate 5. Looking over development area to alders growing in the remains of the Upper Pool (feature 08, PRN 30499)



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