

# HOLYHEAD WASTE WATER TREATMENT WORKS

## ARCHAEOLOGICAL ASSESSMENT

Report No. 383

Prepared for

Symonds Group plc

September, 2000

By

J. Kenney

Ymddiriedolaeth Archaeolegol Gwynedd  
Gwynedd Archaeological Trust

# **HOLYHEAD WASTE WATER TREATMENT WORKS (G1660)**

## **ARCHAEOLOGICAL ASSESSMENT**

### **1 INTRODUCTION**

Symonds are carrying out an Environmental Assessment (EA), on behalf of Welsh Water, on an area of land at Holyhead. Gwynedd Archaeological Trust (Contracts Section) has been asked to carry out an archaeological assessment to form part of the EA. Guidelines for desk-based assessments, issued by the Institute of Field Archaeologists, have been used to produce an initial report evaluating the likely archaeological impact of the scheme, and suggesting mitigatory measures.

### **2 ASSESSMENT BRIEF**

The basic requirement was for a desktop survey and field search of the proposed area, in order to assess the impact of the proposals on the archaeological and heritage features within the area concerned. The importance and condition of known archaeological remains were to be assessed, and areas of archaeological potential and new sites to be identified. Measures to mitigate the effects of the proposed scheme on the archaeological resource were to be suggested.

Gwynedd Archaeological Trust's proposals for fulfilling these requirements were, briefly, as follows:

- a) *to identify and record the cultural heritage of the area to be affected by the proposals;*
- b) *to evaluate the importance of what was identified (both as a cultural landscape and as the individual items which make up that landscape); and*
- c) *to recommend ways in which damage to the cultural heritage can be avoided or minimised.*

A full archaeological assessment usually comprises 6 phases:

- 1) *Desk-top study*
- 2) *Field Search*
- 3) *Interim Draft Report*
- 4) *Detailed Field Evaluation*
- 5) *Final Draft Report*
- 6) *Final Report*

This project has covered the work required under 1, 2 and 3, and recommendations will be made for any field evaluation required in phase 4. If no evaluation is necessary, the Interim Draft Report will become the Final Report.

## **3 METHODS AND TECHNIQUES**

### **3.1 Desk-top Study**

This involved consultation of maps, computer records, written records and reference works, which make up the Sites and Monuments Record (SMR), located at Gwynedd Archaeological Trust, Bangor. Ordnance Survey, tithe and estate maps and reference works, held by the Trust, by the University of Wales, Bangor, and by the Anglesey County Archives in Llangefni, were also consulted. Aerial photographs were examined at the office of the Countryside Council for Wales, Bangor.

### **3.2 Field Search**

This was undertaken on 21<sup>st</sup> September 2000, when the proposed development area was inspected by an archaeologist to note the present state of the site, and to identify any archaeological features visible as earthworks. Conditions were fair for fieldwork, but scrub over parts of the site and along the field boundaries reduced visibility.

Features identified were marked on copies of the 1:10,000 OS map, as accurately as possible without surveying. Each feature was described and assessed. Detail notes, sketch plans and photographs were made of the more important features.

### **3.3 Report**

All available information was collated, and the features were then assessed and allocated to the categories listed below. These are intended to give an idea of the importance of the feature and the level of response likely to be required; descriptions of the features and specific recommendations for further assessment or mitigatory measures, as appropriate, are given in the relevant sections of this report.

The criteria used for allocating features to categories are based on those used by the Secretary of State when considering ancient monuments for scheduling; these are set out in the Welsh Office Circular 60/96.

#### **3.3.1 Categories**

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

*Category A - Sites of National Importance.*

This category includes Scheduled Ancient Monuments and Listed Buildings as well as those sites 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 Importance*

These sites are those 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*

These sites are not of sufficient importance to justify a recommendation for preservation if threatened, but nevertheless merit adequate recording in advance of damage or destruction.

### *Category D - Minor and Damaged Sites*

These are sites which are of minor importance, or are so badly damaged that too little remains to justify their inclusion in a higher category. For these sites rapid recording either in advance 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 be no sites remaining in this category.

## **3.3.2 Definition of Impact**

The impact has been defined as none, slight, likely, considerable or unknown as follows:

### *None:*

There is no construction impact on this particular feature. Features identified as of particular importance are, where possible, avoided by the improvement proposals. Such features have been identified in the tables.

### *Slight:*

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

### *Likely:*

In some instances the feature in question would not fall within the direct line of the proposed development but could be affected by construction works and therefore may, subject to its nature be removed or damaged.

### *Considerable:*

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

### *Unknown:*

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

## **3.3.3 Definition of Mitigatory Recommendations**

### *None:*

No impact so no requirement for mitigatory measures.

### *Detailed recording:*

Requiring a photographic record, surveying and the production of a measure drawing prior to commencement of works.

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

*Basic recording:*

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

*Watching brief:*

Requiring observation of particular identified features or areas during works in their vicinity. This may be supplemented by detailed or basic recording of exposed layers, structures or sections.

*Avoidance:*

Features, which may be affected directly by the scheme, or during the construction of the scheme, 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.

*Reinstatement:*

The feature should be re-instated with archaeological advice and supervision.

## **4 ARCHAEOLOGICAL FINDINGS AND RECOMMENDATIONS**

### **4.1 Topographic Description**

The site occupies a group of fields close to the coast, on the western outskirts of Holyhead, Holy Island, Anglesey. It is located to the south-west of Soldier's Point House, close to the start of the breakwater (**figure 1**).

The bedrock is green-mica-schist of the New Harbour Group, which outcrops with no drift cover, although there is boulder clay to the north-west and south of the site. The soil is classed as the Rocky Gaerwen type of brown earths (Geographical Survey and Soil Survey maps).

The area is characterised by ridges of bedrock orientated approximately north-east to south-west. The ground tends to slope gently from south-west to north-east. The low-lying parts of the site, between the ridges, are covered in grassland; grazed fairly short over most of the area. The vegetation on the ridges is composed of gorse and brambles with occasional other scrub species, such as blackthorn. In many places the scrub was too dense to enter, but avenues of grazed grass occurred occasionally. The land presently provides rough grazing for horses, and shows little evidence of past improvement.

## 4.2 Archaeological and Historical Background

Apart from field boundaries, little evidence was found from the documentary and cartographic sources relating to the study area itself, but it is surrounded by buildings of historic interest, including Soldier's Point House, Porth-y-Felin House, Ty Felin Ddwr, and Tref-engan-bach. The possible influence of these buildings on the study area, and the affect of the development on their environment must be considered.

The Sites and Monuments Record (SMR) only gives one reference of an archaeological site close to the study area. The reference is confusing, as it appears to imply that a part of the Porth Namarch hut group (PRN 3795) survives close to Trefengan Farm. A grid reference is given for Tref-engan-bach (SH 2340 8331). The confusion originated in Williams (1950, p54), where it is not quite clear if she is referring to the hut group or the adjacent natural dolerite dyke (Conway 1986, p42). She talks about the survival of "an enigmatic double-walled avenue not far from Trefengan". There is a section of walled track close to Tref-engan-bach, which has been associated in the SMR with this reference, but it is part of a track from Tref-engan-bach to the mill, and does not appear enigmatic. The tithe map (1853) marks four fields close to Porth Namarch as belonging to Trefengan Farm, including one directly on the eastern side of the inlet. It seems likely that this is the origin of the confusion, and that the enigmatic avenue was near Trefengan land at Porth Namarch, rather than close to the present Trefengan Farm, which was called Cae-glan-y-mor at the turn of the century (25" County Series map 1900). The hut group itself was clearly located close to the coast at Porth Namarch (SH224 835), and was destroyed by the quarrying for the Breakwater (Stanley 1871, p8).

The changing field boundaries can be followed through the cartographic sources. The Penrhos estate map dating from 1769 (**figure 2**) shows field layouts around Holyhead to have been very different from that of today. Much of the land still seems to have been farmed under the medieval open field system. However, the study area may have been an exception. It is difficult to locate precisely on this map, but it seems to be related to a field marked "z". Unfortunately "z" has been overlooked in the schedule associated with this map, so there is no further information on field names or ownership. This field is shown as having no field walls, and having ridge and furrow strips resulting from ploughing. There is also a building marked near the centre of the field, probably a farmhouse.

An estate map dated 1845 shows the study area as a single large field, though faint pencil lines do indicate some divisions. A map of the lands to be taken for the new harbour (1846) only shows part of our area, but the boundaries visible are similar to those of the present day. The tithe map (1853) also shows the field layout to be similar to the present. Therefore, it appears that the overall form of the study area was established as early as 1769, but the smaller fields were not constructed until around 1845.

A watermill, Felin Ddwr, lies to the south-west of the study area (NGR SH 2355 8317). Surprisingly it is not marked on the 1769 estate map, because it was owned by the Penrhos estate, and was mentioned in documents dating from 1678/9 (Penrhos VII, 229 and 230). However, the mill appears as "Trefengan Mill" on the 1853 tithe map, and is marked as Felin Ddwr (corn) on the 25" County Series map (1890), which also shows the mill pond in detail.

A small farm, Tref-engan-bach, lies just outside the south-western corner of the study area. It seems to have been fairly closely linked to the mill, as a track is shown running between the two on the 1845 estate map and the tithe map (1853). This track still survives as a public footpath, which crosses part of the southern end of the site.

The greatest change in the area was the construction of the breakwater between 1848 and 1873. The eastern base of Holyhead Mountain was quarried to provide stone and a railway was constructed from the quarries to the work site, running just north of the survey area (GAT 1997). Related to this are the two substantial buildings to the north-east and south-east of the study area; Soldier's Point House and Porth-y-Felin House. The former is an impressive, castellated house built around 1849 for Mr. Rigby, the principle contractor of the breakwater.

It has two storeys and a related stone screen wall and turrets. Porth-y-Felin House, originally called Government House, was built c.1849 by Mr. Rigby for Mr. Dobson, the resident engineer of the breakwater, and it was used for some years as the harbour masters residence. Both have been given grade II listed status as relatively unspoilt examples of their styles and because of their historical connection with the breakwater (Cadw listed building description, Holyhead).

### 4.3 The Existing Archaeological Record

There are no existing records of archaeological remains within the proposed development area. The sites recorded in Gwynedd Sites and Monuments Record in the surrounding area are: Soldier's Point House PRN 7167 and folly PRN7166, Porth-y-Felin House, and the misplaced hut group PRN 3795, which was actually c.1km west of the study area. The two grade II houses will not be directly affected by the development, but their surroundings and outlook will. Porth-y-Felin House can only be seen from the ridge immediately south-east of the study area, but Soldier's Point House can clearly be seen from many points within the survey area. It is recommended that disturbance of the view from Soldier's Point House is kept to a minimum.

### 4.4 The Archaeological Survey (Letters in bold refer to figure 3)

This includes the proposed development area and its immediate borders. All features of human activity are recorded except those deriving only from current land-use. The location of all the features is shown on the accompanying map.

#### **Feature 1 Field walls**

*Category C. Impact: Likely*

The study area is surrounded by stone walls, except on the south-eastern boundary, which is defined by the base of the ridge. The walls are built of local schist, and are in varying states of repair. They were all, originally, built in a similar style, with irregular courses and topping stones set on edge along the top of the walls. The wall closest to the road is generally in good repair, with the topping stones in place. The eastern gate **(a)**, into the field adjacent to the road, has a square, stone gate pillar on its south-eastern side. The matching pillar on the north-western side does not seem to survive; though the area is very overgrown.

The wall running north-west to south-east across the area **(b)** is in fairly poor condition, and its north-western half has been completely demolished leaving only a gentle scarp, 3m wide and c.0.5m high **(c)**. Although this wall is shown on the 1971 OS 1:10,000 map, the County Series 6" map (1926) indicates that it had already been demolished by that date. A boundary in the southern part of this field **(d)** is shown on the 1926 map, but not on the 1971 map, and nothing was seen on the ground at this location. However, the grass was higher here, than in other parts of the field, and may have obscured a slight scarp.

The north-east to south-west aligned wall running down the middle of the study area **(e)** is located on the crest of a rocky ridge, and is generally in poor condition. In 1926 there was a parallel wall running down the ridge to the east. This was demolished by 1971, and little could be seen on the ground, apart from a tiny fragment of walling towards the north-eastern end of this ridge. A linear hollow **(f)**, continuing the line of the ridge to the north, may also be a trace of this boundary. This feature is 7m wide and c. 30m long. The scarps are c. 2m wide and a maximum of 0.25m high. It runs south-west to north-east from the end of the ridge, and is fairly, but not perfectly, straight.

The western boundary is in variable condition, poor in places, but recently rebuilt at its northern end. The south-western boundary is also in variable condition.

**Recommendations for further assessment:** None

**Recommendations for mitigatory measures:** Reinstatement

## **Feature 2      Linear scarps**

*Category D. Impact: Considerable*

At the south-eastern side of the site a very gentle, straight, linear scarp **(g)** runs between the two rocky ridges, aligned approximately south-east to north-west. The scarp is visible for a length of c.15m, and is 1.7m wide and a maximum of 0.2m high. To the north-west, on the other side of the ridge, is a similar scarp **(h)**, aligned in roughly the same direction. This has a slope c.2m wide, and is poorly defined; being more disturbed than the eastern scarp. The alignment of these scarps is similar to that of the existing north-west to south-east aligned field walls, and both may be remains of the same former field boundary. This assumed boundary was not indicated on most of the maps consulted, but it may be the south-western end of the field marked "z" on the 1769 map. If this is the case traces of ridge and furrow cultivation may be preserved in the north-eastern part of the study area, although these must be very slight as nothing was visible on the surface or on the aerial photographs consulted.

**Recommendations for further assessment:** None

**Recommendations for mitigatory measures:** Basic recording

## **Feature 3      Trackway**

*Category C Impact: Considerable*

A trackway runs along the western and southern side of the study area, for the most part outside the area, but a section crosses the south-western end. The track is now a public footpath. The section running north-east from Tref-engan-bach to the road seems to be a later addition, presumably constructed after the road was built in the 1880s. The earlier maps (estate map 1845, tithe map 1853) just show a track between Tref-engan-bach and the mill.

Where it crosses into the south-western corner of the survey area the trackway is walled **(i)**. The double walls run for c. 50m, before opening out into the next field. The northern wall of this track is in particularly poor condition. This double walled section of the trackway has become associated in the SMR with the Porth Namarch hut group, but there is no evidence on the ground that it has an origin any earlier than the other field-walls.

A very slight linear mound **(j)**, c.2m wide and a maximum of 0.1m high, runs roughly south-east to north-west along the south-western end of the site. It continues for c.30m before becoming too obscured to follow. This feature was only visible because the grass had been grazed particularly short in this area. As the mound follows exactly the location of the trackway as shown on the 25" County Series map, it seems safe to identify it as the grassed over remains of a slightly built-up section of the track.

**Recommendations for further assessment:** None

**Recommendations for mitigatory measures:** Basic recording/reinstatement of double walled section

## **Feature 4      Drain**

*Category D Impact: Likely*

At two locations **(k, l)** slight, linear hollows were noticed, aligned roughly north-east to south-west, so that they ran downhill on the same alignment as the natural geology. These were 4m wide, c. 30m long, a maximum of 0.15m deep, and seemed to be too straight to be natural features. The one closest to the road ran directly into a small pond, 4m in diameter, adjacent to the north-eastern boundary of the site. The pond had clearly been used as a watering place



for livestock, and a modern drainage channel ran into it. On the aerial photographs it could be seen that both these hollows were part of the same feature, running the length of the study area, down the western most valley, and into the pond. It is likely that this is the surface trace of a buried land drain.

**Recommendations for further assessment:** None  
**Recommendations for mitigatory measures:** None

**Feature 5      Tref-engan-bach**  
*Category C   Impact: Slight*

Just outside the study area a group of buildings is shown on the County Series map and the modern OS 1:10,000 map. They survive as heavily overgrown, derelict structures. The main building was too overgrown, and too far from the development area, to be recorded in detail, but a small square structure **(m)**, is located about 10m from the boundary, and was recorded. It is built of local stone, measures 3.1 x 3.1m externally, and lacks a roof, but survives to a height of 2.2m. There is a tiny fireplace and chimney in the southern corner, and a door with a schist lintel in the north-western wall. The structure is well built, with the remains of external plastering. The foundations of a former, broader wall are visible in the base of the north-eastern wall. This building is clearly too small to have been a house, and must have been some sort of outbuilding requiring the heating from the small fireplace.

**Recommendations for further assessment:** None  
**Recommendations for mitigatory measures:** Avoid

**Feature 6      Structure**  
*Category D   Impact: None*

A structure **(n)** is shown on the 1:10,000 map just outside the boundary of the study area, at its northern corner. No trace of this structure survived on the ground, though the area was very overgrown with brambles. The small quarry adjacent to it has been altered recently, and heaps of rubble in the quarry may originate from the building. The 1993 aerial photographs seem to show this work in progress.

**Recommendations for further assessment:** None  
**Recommendations for mitigatory measures:** None

## **5      SUMMARY OF RECOMMENDATIONS FOR MITIGATORY MEASURES**

This lists the sits according to their perceived archaeological value.

*Category A - National importance*

Nil

*Category B - Regional Importance*

Nil

*Category C - Local Importance*

1	Reinstatement
2	Basic recording
3	Basic recording/Reinstatement
5	Avoid

*Category D - Minor or damaged features*

4	None
6	None

## **6 GENERAL RECOMMENDATIONS**

### **6.1 Prior to the commencement of work**

The field walls may be considerably affected by construction. It is recommended that basic recording of these features be carried out prior to the start of works, both to provide a record of the site and to aid mitigation. All walls not destroyed by the development should be reinstated in their original form. It is particularly desirable to preserve the walled section of the trackway to provide evidence of the original layout of the agricultural landscape.

Tref-engan-bach is of potential interest, and would justify further recording if it were under threat. In the present case care should be taken to ensure that it is not damaged accidentally during construction work, or used for the dumping of rubble, etc, which might obscure the remains.

*Features to be reinstated:*

Feature 1 – Field walls  
Feature 3 – Trackway, double walled section

*Features requiring basic recording:*

Feature 2 – Linear scarps/old field boundary  
Feature 3 – Trackway, linear mound

*Features to be avoided:*

Feature 5 – Tref-engan-bach farm

### **6.2 General archaeological recommendations**

The low-lying areas of the site could, potentially, contain archaeological traces not visible on the surface. There may be remains of the ridge and furrow, and field boundaries, shown on the Penrhos estate map (1769). There is also the possibility of prehistoric hut circles or other occupation remains. A geophysical survey would allow a rapid, non-invasive evaluation of the area, but the success of the technique depends on soil and geological conditions, and its effectiveness cannot be guaranteed. The benefit of such a survey would be that some indication of the presence of archaeological features could be gained, before they are encountered during the construction process. It is likely that any results from a geophysical survey would require further interpretation through a programme of trial excavation. However, the results of the initial assessment are insufficient to justify a firm recommendation for field evaluation. An alternative would be to conduct an archaeological watching brief during relevant phases of the construction process, so that any archaeological remains revealed during this time can be examined and recorded. The disadvantage of the latter approach is that delays in the construction process may occur.

There should be allowance for the production of a proper level of archiving and production of a report and drawings with a summary for publication, if the resulting information is suitable.

## **7 Bibliography**

### **7.1 Cartographic and unpublished references**

#### **7.1.1 Sources in Gwynedd Sites and Monuments Record**

25" County Series Anglesey sheets V.14 (1900) and XI.2 (1890)

6" County Series Anglesey sheet V SW (1926)

Penrhos estate map c.1769: Penrhos II. 772, map 14 (copy)

Geological Survey of Great Britain (England and Wales), Solid and Drift geology sheets 92 and 93, and parts of 94, 105 and 106

Soil Survey of England and Wales, sheets 93 and 105, and parts of 92, 94, 106, 118 and 119

OS 1:10,000 SH 28 SW 1971

GAT 1997 Report 251 Coastal erosion survey, Anglesey.

#### **7.1.2 Sources in The Anglesey County Archives, Llangefni**

WM/1905/6 c. 1737-1738 Map 4, Chart of the Bay of Holyhead.

W/Maps/52.1 c.1845 Penrhos estate map. Plan of Holyhead parish and part of Rhoscolyn.

W/CD/3 1846 Map of Holyhead harbour, showing lands taken for the harbour.

Tithe map 1853 The parish of Holyhead, County of Anglesey (second schedule).

#### **7.1.3 Sources in University of Wales, Bangor, archives**

Penrhos VII 229 and 230 1678/9, original documents

Penrhos II 772 and 775, original estate map and schedule.

#### **7.1.4 Aerial photographs held by Countryside Commission of Wales, Bangor**

Line 1, 71 93, photographs 246-249, dated 25/6/93

### **7.2 Published Sources**

Williams, L. 1950 The development of Holyhead. *Transactions of the Anglesey Antiquarian Society and Field Club*.

Conway, J. 1986 'Pot-boilers' from the Ty Mawr hut-circles, Holyhead. In Smith C. Excavations at the Ty Mawr hut-circles, Holyhead, Anglesey, part III: the finds. *Archaeologia Cambrensis Vol CXXXV*

Stanley, W.O. 1871 *Memoirs on remains of ancient dwellings, in Holyhead Island*. London, J. Bain.

## **8 NON-TECHNICAL SUMMARY**

An archaeological assessment was carried out on the proposed development area. This work involved a desktop study of existing records followed by a field walkover. The desktop study included examination of records, OS maps and printed literature, which make up Gwynedd Sites and Monuments Record held at Gwynedd Archaeological Trust, Bangor. Searches were made of other records and maps held in archives at the University of Wales, Bangor, and Anglesey County Archives, Llangefni, as well as consulting the aerial photographs held by the Countryside Council for Wales, Bangor. The fieldwork involved walking the area and briefly recording and assessing every feature, except those that were clearly recent.

A total of six archaeological features were identified within the study area, or immediately near it. All of the features are associated with agricultural practices. Features 1 and 2 consist of present and assumed previous field boundaries, feature 3 is the remains of a trackway, feature 4 consists of a probable land drain, feature 5 is a small derelict farm, and feature 6 was a structure, now demolished.

The rebuilding of those field walls to be retained after development is recommended, and care should be taken to avoid the farm buildings, Tref-engan-bach, during construction. Basic recording may be necessary for features 2 and 3. A geophysical survey may be useful to identify features not visible on the surface. A watching brief during construction is recommended.

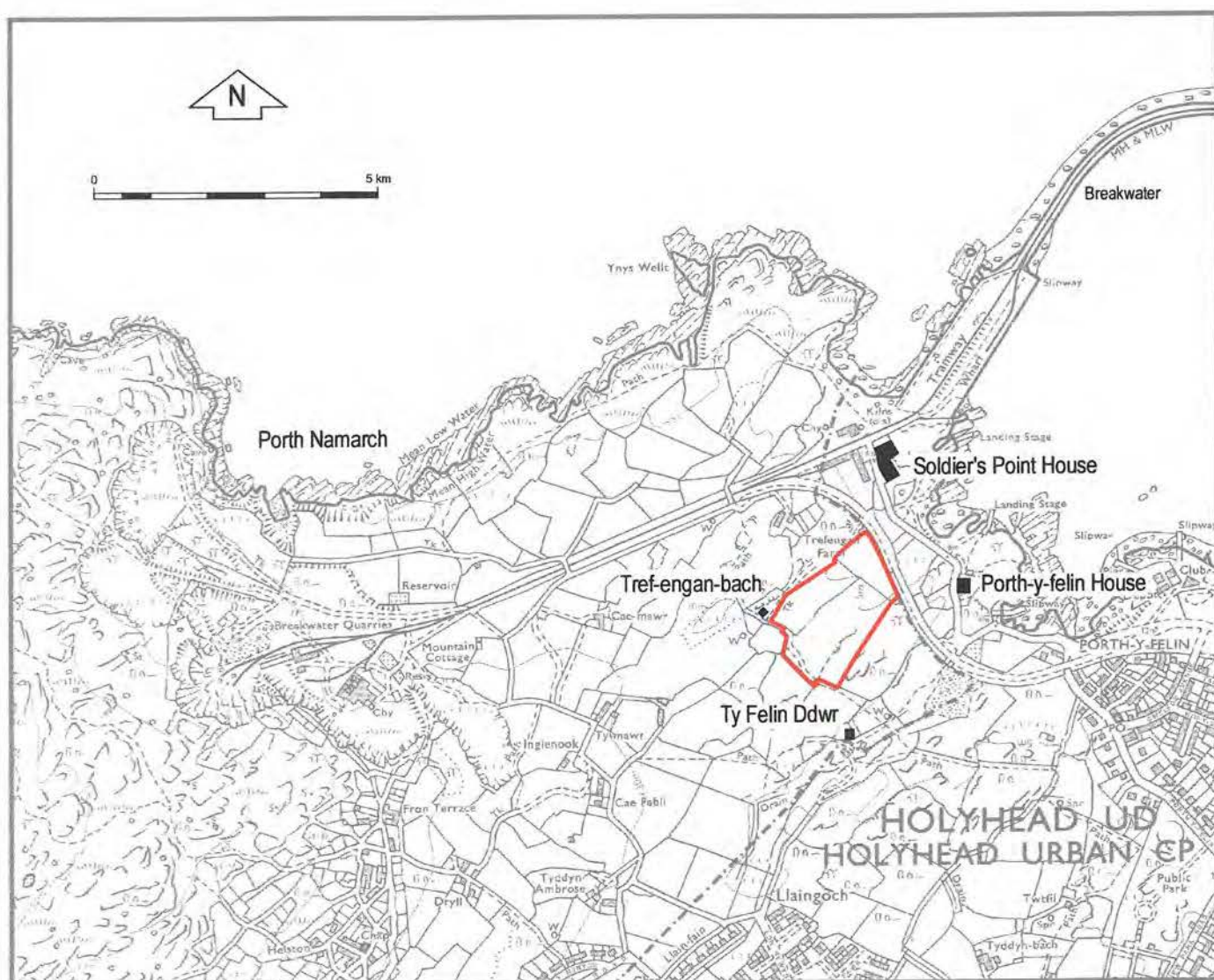


Fig 1. Location of study area and neighbouring sites of interest.





Figure 2. Penrhos estate map 1769. Study area probably located near "z".

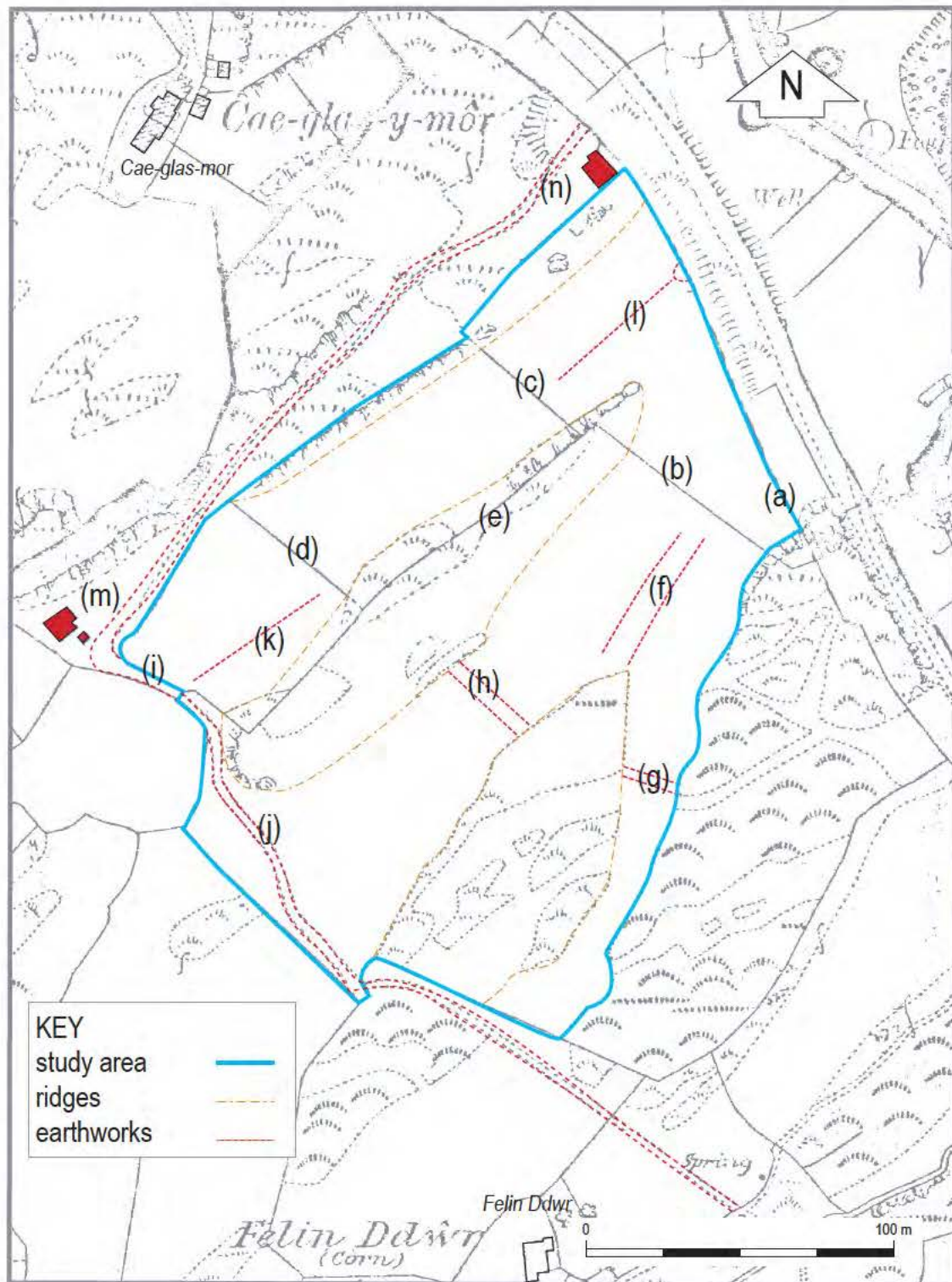


Figure 3. Location of features mentioned in the text. Taken from 25" County Series map.





Plate 1. A view of the site looking south-west towards Holyhead Mountain, showing the gorse covered ridges and grassy valleys



Plate 2. A view of Soldier's Point House from within the study area.





Plate 3. Site 2, linear scarp, looking south-west. The ranging rod lies on the top of the scarp and is aligned along it.



Plate 4. Small square building at Tref-engan-bach, viewed from the north-west.

Ymddiriedolaeth Archaeolegol *Gwynedd* Archaeological Trust  
Craig Beuno, Ffordd y Garth, Bangor, Gwynedd LL57 2RT  
Ffon : 01248 352535 Ffacs : 01248 370925  
email: [gat@heneb.co.uk](mailto:gat@heneb.co.uk)