Coed Dolwyd Service Reservoir and Pipeline: Llansanffraid, Conwy



Archaeological Assessment

GAT Project No. 2192 Report No. 957 June, 2011

Coed Dolwyd Service Reservoir and Pipe Archaeological Assessment

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Prepared for

Caulmert Ltd

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Ву

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COED DOLWYD SERVICE RESERVOIR AND PIPELINE

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COED DOLWYD SERVICE RESERVOIR AND PIPELINE

GAT PROJECT NO. G2192

ARCHAEOLOGICAL ASSESSMENT

SUMMARY

An archaeological assessment was carried out in advance of construction of a new service reservoir and pipeline east of Llansanffraid Glan Conwy, Conwy. The report covers the three possible sites for the new reservoir, the pipeline easement and a possible alternative pipeline route in one area. The reservoir will lie on the hill slopes to the east of Llansanffraid Glan Conwy and the pipeline will run through the fields towards the north edge of Llansanffraid Glan Conwy at the edge of the River Conwy. Llansanffraid Glan Conwy is a small village of medieval origins with no major historic significance, but has expanded greatly as a dormitory settlement during the 20th century. The assessment involved consultation of existing records and documents and a field search. Ten features were identified, of which six were thought to be 18th century or earlier in date, within an undulating landscape of improved fields and hedgerows. A programme of archaeological strip, map and sample along the pipeline route and reservoir area has been proposed, along with a watching brief during topsoil stripping of the compound area.

1 INTRODUCTION

Gwynedd Archaeological Trust was asked by Caulmert Ltd to carry out an archaeological assessment in advance of the construction of a new service reservoir and associated pipeline near to Coed Dolwyd, east of Llansanffraid Glan Conwy between c. SH 81497612 and SH 80367647. The reservoir and pipeline will cross mainly pasture fields and one minor road. The area affected is shown on the drawing provided AECOM Drawing no. 0007, Rev. 10 (Fig.1). The present report is based upon this route and a 30m easement. The size and depth of the proposed pipeline is not currently known.

The area lies on the east slopes of the north end of the Conwy valley. This area is not part of a designated Historic landscape but lies about 3km north of the Lower Conwy Historic Landscape area. The route crosses close to the area of the Historic Park and Garden of Bryn Eisteddfod house, listed Grade 2* (Cadw 1998, 66-9).

Llansanffraid Glan Conwy is a small village at the edge of the River Conwy and alongside a road forming the main route down the Conwy Valley from the north coast. The slopes east of the village comprise agricultural land of reasonable quality in which lie a scatter of farms, some quite large and prosperous. The village owed its foundation and continuing existence largely to its proximity to a suitable landing place for ship-borne cargoes from the river, an advantage that was lost when the railway was built along the valley in 1863, providing a cheaper method of goods transport.

Much of the agricultural land affected by the pipeline here was bought up by incomers in the 19th century, more interested in the fine views of the river and mountains from their houses. During the 20th century the village has expanded as an outlying suburb for Colwyn Bay and Llandudno.

2 SPECIFICATION AND PROJECT DESIGN

A desk-top survey and field search of the proposed route was required by the Gwynedd Archaeological Planning Service, which noted that the area was relatively unexplored from an archaeological perspective and the same goes for much of the land east of the Conwy River. The assessment must therefore take into account the fact that the potential of this area, for instance for

prehistoric settlement is not presently understood and allow for the possibility that sub-soil features may exist in areas that otherwise seem to be blank.

An analysis of historical and cartographic sources was to be carried out. The importance and condition of known archaeological remains were to be assessed. An archaeological deposit model to understand the nature, extent and degree of survival of archaeological deposits and structures was to be created, and areas of archaeological potential and new sites to be identified. Geotechnical, environmental, faunal and artefactual potential were to be examined. Measures to mitigate the effects of the construction work on the archaeological resource were to be suggested.

Gwynedd Archaeological Trust's proposals for filling these requirements were as follows:

- Desktop study
- Field walkover
- Report

3 METHODS AND TECHNIQUES

3.1 Desk top study

This comprised the consultation of maps, documents, computer records, written records and reference works, which form part of the Gwynedd Historic Environment Record (HER), located at GAT, Bangor. The HER covers the area formerly of Gwynedd, now including the western district of Conwy County Borough Council, formerly the district of Aberconwy. Prior to 1974 Llansanffraid Glan Conwy lay in the county of Denbighshire. The archives held by the Conwy Record Office, Llandudno and the Denbigh Record Office, Ruthin, as well as of the University of Bangor were also consulted. Information about listed buildings was consulted by means of the CARN (Core Archaeological Index), which is the online index of the Royal Commission on Ancient and Historic Monuments, Wales. Relevant aerial photographs available online were also examined.

Sites, buildings and find spots listed in the GAT HER were identified within approximately 1km of the route were identified in order to give background information relevant to understanding the area (Appendix 1; Fig. 15).

3.2 Field Search

The field search was undertaken on the 19th, 26th May and 10th June 2011. The route and the three possible reservoir sites were walked over and notes and photographs taken. One small field was recently ploughed and seeded but all the rest were short grass pasture, so visibility was good. Observation of road cuttings and other exposures suggested that the soil cover was quite thin over bedrock or a thin glacial drift cover.

The field search covered visible archaeological features within 30m of the route, the local topography and potential for hidden archaeological features and the nature of all field boundaries. Each modern field was regarded as a separate segment of the route, given a reference, described and photographed. Each hedge was also given a separate reference and described. Subsequent features identified as significant were numbered and described and assessed below.

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 were 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 5.

4 ARCHAEOLOGICAL RESULTS

4.1 Topographic description

The proposed pipeline route lies on the eastern side of the Conwy river valley between 20m OD and 150m OD. The Conwy valley is a glaciated valley of typical U-shaped profile, its base lowered by glacial erosion but now silted up so that the river has reached a state of maturity with gentle meanders and at this point a tidal estuary. The solid geology is of shales and coarse sandstones of the Wenlock Series of the Silurian system of which there are steep cliff exposures higher up the valley (Smith and George 1961, 48-50). These rocks are covered with a thin glacial drift on the gentler slopes. The soil here is mainly well drained and neutral and a typical brown earth developed from former forest soils. The agricultural capability of these soils is identified mainly as Grade 3 (MAFF 1977). This land is suitable for good quality pasture and arable use is possible with some limitations.

4.2 Archaeological and historical background

The pipeline runs through an area with few recorded archaeological sites in comparison to areas on the west side of the valley, for instance, although there are several buildings of historic interest. A total of 29 sites are recorded in the Gwynedd Sites and Monuments Record as standing within 1km of the pipeline.

4.2.1. Prehistoric

Although the nearby Great Orme, Llandudno, to the north and the Penmaenmawr uplands to the west demonstrate quite intensive prehistoric activity there is little such evidence in the Conwy valley itself and relatively little in the hills on the east side of the valley. The floor of the Conwy valley while fertile was prone to flooding before extensive drainage in the 19th century. The lower upland to the east is not the most fertile of land and so not attractive to early settlement.

The earliest occupation in the area near Llansanffraid Glan Conwy was in the Neolithic period demonstrated by the presence of a chambered tomb at Hendre Waelod, known as Allor Molloch (Altar of Terror), 1.5km to the south-west. This lies on a spur of land close to the river Conwy, suggesting that the river was relevant to the tomb's location. Its presence means that there must have been a farming community somewhere in the vicinity during the 4th millennium BC. This may have been close to the tomb or have been scattered in localised forest clearings in the general area. Such settlement could have extended as far as Llansanffraid Glan Conwy.

Within 1km of the proposed pipeline route there is only one prehistoric find. This was a chance find of a bronze axe head of Early Bronze Age type. Its exact find spot is not known but it is of a rare type and probably an import. Its good condition suggests that it was being transported by a trader as a new object and lost or hidden en route, so it probably does not suggest the presence of settlement in the vicinity (Hemp 1924).

Although burial monuments of the second millennium BC are quite frequent in the uplands to the west of the Conwy valley and a number are known on the plateau to the east, none are known within

the valley itself apart from a mound at Bryn yr Odyn, just south of Llanrwst, although this is an uncertain site and could be a natural feature. However, aerial photographic study of other similar valleys, such as the Tanat Valley north of Welshpool, has identified quite numerous features of the 2nd millennium and earlier, now surviving as subsoil features such as ditches (Gibson 1998). The same could be true in the areas of the Conwy Valley that have been extensively ploughed if they were targeted for aerial survey.

Environmental studies in North Wales show that much of the natural forest in the upland had been cleared or had been reduced by grazing by the end of the 2nd millennium BC and agricultural use of better lower-lying land must have been extensive. Settlement of that period was scattered and unenclosed and its houses mainly of timber. Such settlement leaves little evidence above ground so that few examples are known and are likely to be found by chance.

4.2.2 Iron Age / Romano-British

By the beginning of the first millennium BC some settlement began to be concentrated in groups of houses within enclosures, sometimes of a defensive nature and these earthworks often survive as evidence. Unenclosed settlement of this period is known. Defended enclosures or hillforts, as substantial structures generally survive and give an idea of the original distribution of settlement and of territories. The Conwy River seems to have formed a major territorial boundary at the time because the presence and types of defended enclosures varies greatly on either side of the river. On the west several prominent hill forts lie around the edges of the uplands, which are suitable mainly for extensive stock raising. On the east there are only a few forts and these are concentrated along the north coast dominated by one very large fort at Pen-y-corddyn above Abergele, possibly a tribal capital. This block of land between the Conwy and the Clwyd was one of diverse scattered farmsteads of which one is known 3km to the south-east at Erw Goch, known as Gaer Bach, a small enclosed settlement (PRN 2891). More of these farmsteads should be present than are known and so might be discovered by chance.

The Conwy valley floor was occupied in the Roman period when there was a major auxiliary fort at Caerhun (*Canovium*), occupied in the 1st and 2nd centuries AD, close to the west side of the River Conwy, 3km south-west of the pipeline route. The site of the fort seems to have been chosen to take advantage of the river for transport. Recent geophysical survey (Hopewell 2003) has demonstrated the presence of a considerable attendant settlement (vicus) outside the fort and it can be presumed that the valley was well used during that period. It is clear that there must have been a Roman road down the west side of the valley providing a link to the fort at Bryn y Gyfeiliau, Capel Curig. It has also been suggested that there was a road down the east side of the valley via Capel Garmon and Pentrefoelas leading to the fort at Wroxeter. There is also some evidence for an east-west Roman road, running between Canovium and Varis, thought to be at St Asaph, Flintshire. There must also have been a route running north up the east side of the Conwy valley as there was settlement in the Roman period within the hillfort of Pen-y-dinas on the Great Orme and possibly copper mining nearby as Roman copper ingots have been found in the area. This route would have crossed the Afon Ganol valley just to the north of Llansanffraid Glan Conwy, probably by a ford and this crossing, known as Sarn-y-mynach (Crossing of the monks) would have been important in the medieval period. The route across the marshes was overlooked by the hills to the south-east and it is possible that there was some kind of settlement just north of Llansanffraid Glan Conwy because some Roman coins (PRN 2471) were found while digging the Rectory garden at the north side of the house (southwest of Bryn Eisteddfod) in 1940. However, it is possible that they had been re-deposited because they were of different periods. One was a coin of the Emperor Nerva, c. AD 97, similar to one found during the earlier excavations at the fort of Canovium, Caerhun. The other was of the Emperor Constantine, c. AD 324 (Gardner 1941).

4.2.3. Medieval

The foundation of Llansanffraid Glan Conwy seems to have been in the Medieval period as there was certainly a Medieval church and this may been founded as early as the 6th century. St Ffraid is the same as the Irish St Bride or Brigit, a saint of the 5th or 6th century who founded a convent and monastery in south-west Ireland. She or her missionaries were reputed to have travelled to Wales to spread Christianity. Another chapel of St Ffraid once existed at Trearddur Bay on Holy Island, Anglesey, where actual evidence of Early Medieval burials was found (Davidson 2010). An early document recording the life of St Bride mentions 'Castrum Deganno', referring to Deganwy Castle, providing a probable historical link to a church at Llansanffraid Glan Conwy (Bezant Lowe 1927, 170). Nothing is known of the medieval church at Llansanffraid Glan Conwy as it was rebuilt in 1839 but it is recorded that a coin of Canute (10th century AD) was found in the wall when the church was demolished. The Medieval foundation at Llansanffraid Glan Conwy happened because there was a channel on the river that came close to a place where ships could land. This was a rocky point known as Trwyn y Capel from which there was a route across the sands to Llansanffraid Glan Conwy and marked on 'an early map' (Senior, 1991, 45), which is a Bryn Eisteddfod estate map of *c*. 1770 (M. Senior, pers. com.).

The route north of Llansanfraid Glan Conwy was important from the medieval period. In relation to this feature, Bezant Lowe (1912, 377) says 'The road across the lowland of Bryn Eisteddfod called Sarn Mynach (or Causeway of the Monks) is said to have formerly run from near Bryn Eisteddfod in the direction of Llangwstennin...Some of the stones of this causeway were discovered by the Rev. Meredith Hughes, in 1896, at the time that the Llandudno water main was being laid along the road from Glan Conwy past Bryn Eisteddfod'.

In the later medieval period the River Conwy formed the boundary between two administrative areas, the cantrefi or 'hundreds' of Arllechwedd west of the river and of Rhos to the east of the river. The present study area lies in Rhos and in the sub-district of Uwch Dulas.

In this period the two main historic settlements near to Llansanffraid Glan Conwy were Conwy to the north, on the west bank of the River Conwy, an essentially English Borough until the 16th century, and Llanrwst to the south at the probable head of navigation and possibly the first fording point on the river. Llanrwst has medieval origins; it was partially destroyed by Owain Glyndwr about 1400 and did not recover fully for two centuries.

4.2.4 Post-Medieval

Llansanffraid Glan Conwy was a large parish of about 5000 acres (2000 hectares or 20 sq km) but it was largely rural. In 1850 Lewis records 1286 inhabitants for the whole parish. Although the village itself was small the river access from Llansanffraid Glan Conwy was important for the loading and unloading of goods so that it was busy with sailors and carters and at one time there were 17 taverns. Only one of these taverns survives today – 'The White House' recorded by the RCAHMW as 'possibly early 17th century'. In the early 20th century two disused warehouses still stood close to the river but were demolished during widening of the present A470 road (Tucker 1960).

There were two main estates in the 18th century at Llansanffraid Glan Conwy, Bryn Eisteddfod and Plas Issa. Bryn Eisteddfod lies just to the north of the village, close to the pipeline route. The oldest part of the present buildings probably dates to the 17th century but is possibly on the site of a Medieval house (Cadw 1998, 67). The name Bryn Eisteddfod (Hill of the Meeting Place) traditionally came from a supposed Druidical connection. There is a stone in the grounds of the house, which is mounted on a plinth. It is mentioned by Bezant Lowe who calls it 'the well-known Eisteddfod stone' (Lowe 1927, 278-9). The stone is a large boulder, about 0.8m diameter with a hollow in one face. The inscription on the block reads 'This stone one of the Eisteddfod stones, and of great antiquity, used as a seat by the chief Druid, when sitting in High Council. It has been preserved for Ages in this field giving it the name of Acre. EISTEDDFA 1868'. The stone is not

identifiably prehistoric and it is not known if Eisteddfa was an ancient name applied to hill before the house of Bryn Eisteddfa was built. If it was then there is a possibility of prehistoric activity in the vicinity. However, even if the name is ancient the druidic story may be just a fanciful antiquarian invention.

Plas Issa (Lower Place) lies on the slopes to the east of the village. Bryn Eisteddfod absorbed Plas Issa in the 19th century. In 1763 a map records the land of Plas Issa, belonging to Robert Davies (Denb 1762/3). The Davies family were wealthy landowners of Gwysaney and Llannerch, Flintshire and fortunately commissioned detailed maps of their properties. Bryn Eisteddfod was leased in the 18th century by Canon John Jones and later by his grandson the Venerable Hugh Chambres-Jones, Archdeacon of Essex, who managed to purchase the estate in the 1830s. He enlarged the house and improved the grounds and gardens (as well as overseeing the re-building of the church in Llansanffraid Glan Conwy). It was the house he was interested in because of its fine views of the river and mountains. Some fields of the Plas Issa estate still belonged to a descendant of Robert Davies (Anne-Elizabeth Allanson) at the time of the Tithe Apportionment of 1842 (Table 1).

Table 1 Extract from the Llansanffraid Glan Conwy Tithe Apportionment 1842: Details of fields affected by the proposed pipeline and possible reservoir sites

Preferred pipeline route (west to east)

1875 25in OS Field No.	1842 Tithe Field No.	Landowner	Occupier	Name and Description of Lands	State of Cultivation
117	101	Glebe	Rev. W. Williams	-	Arable
122	110	A.E. Allanson	Sarah Parry Evans	Fron hir	Arable
	114	Glebe	Rev. W. Williams	-	Hay
	115	A.E. Allanson	Sarah Parry Evans	Cae canadl	Arable
162	106	A.E. Allanson	Owen Roberts	Quillet	Pasture
	107	George -ened	Owen Roberts	-	Pasture
	132	Glebe	Rev. W. Williams	-	Arable
127	133	Rev. H. Chambres-Jones	W. Edwards	Maes Trebwll	Arable
168	130	Rev. H. Chambres-Jones	W. Edwards	Cae nesa'r tyn y ffrith	Arable
129	127	H.R. Williams	D. Evans	-	Arable
180	230	J. Jones	D. Ellis	-	Pasture
182	231	A.E. Allanson	T. Jones	Werglodd	Arable
183	314?	A.E. Allanson	Mary Hughes	Rofft velin isaf	Old pasture
241	315?	A.E. Allanson	Mary Hughes	Rofft velin uchaf	Arable
	337	A.E. Allanson	Mary Hughes	Merllin ddu	Arable

Alternative pipeline route (west to east)

1875 25in OS Field No.	1842 Tithe Field No.	Landowner	Occupiers	Name and Description of Lands	State of Cultivation
118	103	Glebe	Rev. W.	-	Arable
			Williams		
155	112	A.E.	Sarah Parry	Cae yn draws	Arable
		Allanson	Evans		

159	110	A.E.	Sarah Parry	Fron hir	Arable
		Allanson	Evans		

Reservoir sites (north, middle, south)

1875 25in OS Field No.	1842 Tithe Field No.	Landowner	Occupiers	Name and Description of Lands	State of Cultivation
243	335	Rev. H. Chambres-Jones	Hugh Roberts	Cae eithin	Pasture
	336	Rev. H. Chambres-Jones	Hugh Roberts	Cae manog	Arable
307	333	Rev. H. Chambres-Jones	Hugh Roberts	Werglodd bach	Arable
	335	Rev. H. Chambres-Jones	Hugh Roberts	Cae eithin	Pasture
313	383	A.E. Allanson	Mary Hughes	Cae rhyd evan	Pasture

There are 32 buildings in Llansanffraid Glan Conwy parish that are listed by Cadw as of historic importance (Appendix 2). Within the vicinity of the pipeline these include The Rectory, Bryn Eisteddfod house (with subsidiary buildings) and Plas Isa farmhouse (with subsidiary buildings). None of these are affected by the proposed works. However, the route crosses the 'Essential setting' area around the historic garden of Bryn Eisteddfod House (Fig. 4).

Roads

The present road network is largely unchanged from that existing in the 18th century and probably earlier. Apart from gradual widening and other improvements to the line of the A470 the minor roads are still single track and wind their way across the hillsides, basically cart roads. The minor road from Betws-yn-Rhos to the east was at one time the main coach road to Holyhead and Ireland, via Henllan, near Denbigh before the southern route, via Betws-y-coed became favoured.

Fields

Like the roads, the present field system has changed little from that shown on the 1875 map apart from the amalgamation of a few smaller fields into larger units. However, estate maps of the mid-18th century show that there were then a number of smaller fields, if within the same overall pattern (DRO NTD/114 Plans of Plas Issa Estate 1762/3). These maps recorded the agricultural use and show that nearly all the area was used for arable, even the fields on considerable slopes. The only exception was in the fields numbered 241 on the 1875 map, which was woodland. Most of this had been converted to arable by the time of the 1842 Tithe map although there is still some woodland there today, occupying a steep ridge.

The field names to go with the early estate maps are unfortunately in private hands and not available. They are probably the same as those recorded on the Tithe Apportionment of 1842 (Table 1), which records the land use at that time and the names give some idea of the nature of the land, e.g. Cae Eithin 'Gorse field', recorded as pasture and Merllin Ddu 'Stagnant black pool' recorded as arable, but where there is a seasonal pond today. The names of two smaller fields, since incorporated into larger units include the names 'quillet' and 'erw', both names used for small plots possibly hinting at an earlier more communal Medieval pattern of land-holding focussed on the village of Llansanffraid Glan Conwy. However, there is no evidence in the form of terracing or of ridge and furrow to suggest strip farming as such. The early field pattern matched the irregular topography, following the contours, ridges and valleys. The early pattern became gradually simplified as the estates acquired the land and where possible merged smaller fields into larger.

Hedges

Most present day hedges have been renewed as part of estate planting and have few species, dominated by blackthorn, hawthorn and briar rose. Some, at least, are on the line of earlier boundaries and some of these hedges stand on banks that might be earlier boundaries and these have a greater number of species. All the hedges crossed by the proposed pipeline route and reservoir access roads were recorded but only the few of possible historic value have been identified.

4.3 The Archaeological Survey (Figs 4-5)

Seven features were identified directly within or contiguous with the survey area of the pipeline and alternative pipeline routes. One other area of potential was identified within the area of one of the proposed reservoir sites. These are initially described listed below with recommendations for further assessment and mitigatory measures, where appropriate. A 'C' after the grid reference indicates that the point is taken from the approximate centre of the feature.

Feature 1 Platform (Fig. 6)

SH 80377651 Period: Unknown

Category: E Impact: Unlikely

An approximately circular platform, c. 8m diameter, terraced into the slope. It lies approximately 20m north of the proposed alternative pipeline route. Possibly a stack stand associated with Medieval farming or a small quarry area for the adjoining track.

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

Feature 2 Terrace/former field bank (Fig. 7)

SH 80627653

Period: Post medieval Category: D Impact: Slight

The pipeline route crosses the line of a former boundary of a field that existed at the time of the 1842 Tithe map. It has been ploughed over and is quite slight so is not a major earthwork and does not have potential for a buried soil with environmental evidence.

Recommendations for further assessment: None Recommendations for mitigatory measures: Watching and recording brief

Feature 3 Hedge bank

SH 80987636-SH 81067644 Period: Pre-18th century Category: C Impact: Slight

Hedge (k). Present day hedge of hawthorn and mature trees on a substantial bank. The bank possibly of Medieval origin.

Recommendations for further assessment: None

Recommendations for mitigatory measures: Watching brief, record and sample.

Feature 4 Area of potential for prehistoric activity (Fig. 8)

SH 81107640 C Period: Prehistoric

Category: E Impact: Considerable

A small valley, with a partly culverted stream. Medium potential for Bronze Age burnt mound cooking activity.

Recommendations for further assessment: None

Recommendations for mitigatory measures: Strip map and sample followed by possible excavation and recording

Feature 5 Hedge bank (Fig. 9)

SH 81127647-SH 81187640 Period: Pre-18th century Category: D Impact: Slight

Hedge (j) A modern hawthorn and briar rose hedge on an older, low bank probably a remnant of preestate boundary.

Recommendations for further assessment: None

Recommendations for mitigatory measures: Watching brief, record and sample.

Feature 6 Area of potential for prehistoric activity

SH 81357620 C Period: Prehistoric

Category: E Impact:Likely

A prominent but minor local summit, possibly on the sky-line when seen from lower ground to the west. Potential for prehistoric burial or transient settlement activity.

Recommendations for further assessment: Strip map

Recommendations for mitigatory measures: Strip, map and sample followed by possible excavation and recording

Feature 7 Hedge bank (Fig. 10)

SH 81417605- SH 81557620 Period: Pre-18th century Category: D Impact: Slight

Hedge (g) mainly hawthorn and blackthorn on top of an older, spread bank, c. 0.8m high.

Recommendations for further assessment: None

Recommendations for mitigatory measures: Watching brief, record and sample.

Feature 8 Area of potential for prehistoric activity (Fig. 11)

SH 81597592 C Period: Prehistoric

Category: E Impact: Considerable

A small dry valley, possibly with a drained stream and with two small hummocks adjoining. Medium potential for Bronze Age burnt mound cooking activity. This is located within a possible reservoir location.

Recommendations for further assessment: None

Recommendations for mitigatory measures: Strip, map and sample followed by possible excavation and recording if archaeology identified

Feature 9 Former Trackway (Fig. 12)

SH 80737664- SH 80787638 Period: Post-medieval

Category: C Impact: Considerable

A north-south former trackway leading from west of Ty'n y Ffridd north to Bryn Eisteddfod, skirting to the east of woodland along its northern section. It would have formerly provided access to the farm of Bryn Eisteddfod from the south, and is situated against field boundaries which may be partially 18th century or earlier in date, as they are shown on the tithe map (Fig. 3). It is proposed to use this trackway as an access route

Recommendations for further assessment: None

Recommendations for mitigatory measures: Basic recording and watching brief

Feature 10 Hedge Banks (Fig. 13)

SH 80967639- SH 81357658

Period: Post-medieval

Category: C Impact: Unknown

Hedge banks that may be 18th century or earlier in date, and are shown on the tithe map of 1842 (Fig. 3). A proposed vehicle access route is situated adjacent to these field boundaries.

Recommendations for further assessment: None

Recommendations for mitigatory measures: Avoidance, or watching brief, record and sample if this is not possible.

5 SUMMARY AND RECOMMENDATIONS

5.1 Summary of archaeological potential

Pipeline route

The whole area of the route has been used as arable for several centuries and any earlier archaeological remains must survive only as sub-soil features. There are no earthworks or features seen on aerial photographs so assessment must depend on the suitability of the land for settlement. Some areas of steeper land have low potential but part of the route is relatively level and naturally drained so could have potential for prehistoric settlement. This is marked in orange broken line on Fig. 4. One of the proposed access routes (Feature 9) is located on a former access route, and the other (Feature 10) lies adjacent to field boundaries which are probably 18^{th} century or earlier in date. The proposed overflow route passes over steep ground and the potential for archaeology in this are is considered fairly low (Fig. 14).

Reservoir sites

North site. Quite level or gently undulating land. No identified features. Medium potential for prehistoric activity.

Middle site. Gently undulating but otherwise level land. Crossed by small dry valley with Feature 8, which if proven suggests medium potential for associated activity nearby.

South site. No visible features. Land is sloping and hummocky local summit. Possible false crest position of local summit suggests some potential for prehistoric burial activity.

5.2 Summary of specific recommendations

Feature Number	Name	Importance	Impact	Recommendation for further evaluation	Mitigation recommendations
1	Platform	Е	Unlikely	None	Avoidance
2	Terrace/former field bank	D	Slight	None	Watching and recording brief
3	Hedge bank	С	Slight	None	Watching and recording brief
4	Area of potential for prehistoric activity	Е	Considerable	None	Strip map sample
5	Hedge bank	D	Slight	None	Watching and recording brief
6	Area of potential for prehistoric activity	Е	Likely	None	Strip map sample
7	Hedge bank	D	Slight	None	Watching and recording brief
8	Area of potential for prehistoric activity	Е	Considerable	None	Strip map sample followed by possible archaeological excavation
9	Former Trackway	С	Considerable	None	Watching and recording brief
10	Hedge banks	С	Unknown	None	Avoidance or watching and recording brief

5.3 General Recommendations

There are four areas of specific archaeological potential (Features 4, 6, 7 and 10). The pipeline route and the areas of all three reservoir sites have moderate general archaeological potential, although the topography of the central one is considered to suggest a higher potential for archaeology than the other two (Feature 8). The only specific archaeological feature noted (Feature 1), is near to the alternative pipeline route at the west end and sufficiently far from the route to be easily avoided.

The hedgerows that are affected are of some historical interest but are not of national importance in historical terms (DEFRA 1999). As linear features the hedge boundaries are generally only affected in a minor way but as features of some historical interest they should be recorded in section and sampled for environmental evidence if buried soils are identified beneath them, and the hedgerows adjacent to Feature 10 should be avoided as much as possible.

The west end of the route crosses the 'Essential setting' area of the registered historic garden of Bryn Eisteddfod. This is the area around the garden that is considered to be needed to be maintained in order to retain the landscape setting and views from the garden, which were part of its original design (Cadw 1998, 66-9). As the pipeline construction here does not include any permanent structures then the setting is not at risk as long as the ground and any boundaries are re-instated sensitively.

It is recommended that a programme of **archaeological strip, map and sample** be carried out along the pipeline route, and over the area of the reservoir site chosen. An easement of agreed width should be fenced off where the pipe route runs through the fields. Part of this will be used for storing spoil but most of it will be stripped of topsoil to allow vehicle access without damaging the topsoil. Risk to potential buried archaeology comes from the pipe trench itself and also from the vehicles that can cause significant ruts in wet ground that may penetrate and damage buried archaeology. The topsoil may be thick enough to allow vehicles to run on it without causing damage. Where the plough soil is thin, it may be necessary to strip the vehicle access route down to the natural geological layers to establish whether any archaeology is present and to excavate and record any that is at risk.

Where the plough soil is thick enough to run on it is recommended that a strip, map and sample evaluation be carried out only on a 2m wide strip along the exact route of the pipe trench. This should be carried out in advance of digging the pipe trench and allows any archaeology to be identified and recorded before the trench is dug. The strip, map and sample technique involves the machine stripping of topsoil and any other disturbed layers to a level capable of preserving archaeological features. Any archaeological features identified are evaluated and if necessary recommended for further excavation and recording (see appendix 5 for more details on this methodology).

An archaeological **watching brief** should be carried out during the soil stripping in preparation for the chosen compound area to ensure that no archaeological deposits areas are disturbed.

6 CONCLUSIONS

The archaeological assessment of the new water reservoir and pipeline east of Llansanffraid Glan Conwy identified ten features, of which six were thought to be 18th century or earlier in date, within an undulating landscape of improved fields and hedgerows. Specific recommendations for archaeological assessment mitigation were given for these sites. There was considered to be a moderate potential for the survival of archaeological remains along the route, and a programme of archaeological strip, map and sample is recommended along the full route of the pipeline.

7 ARCHIVE

The archive consists of historic maps, plans and aerial photographs, along with notes and digital images taken on the field visit. The archive is currently held by GAT under project code **G2192**.

One copy of the bound report will be sent to the GAPS 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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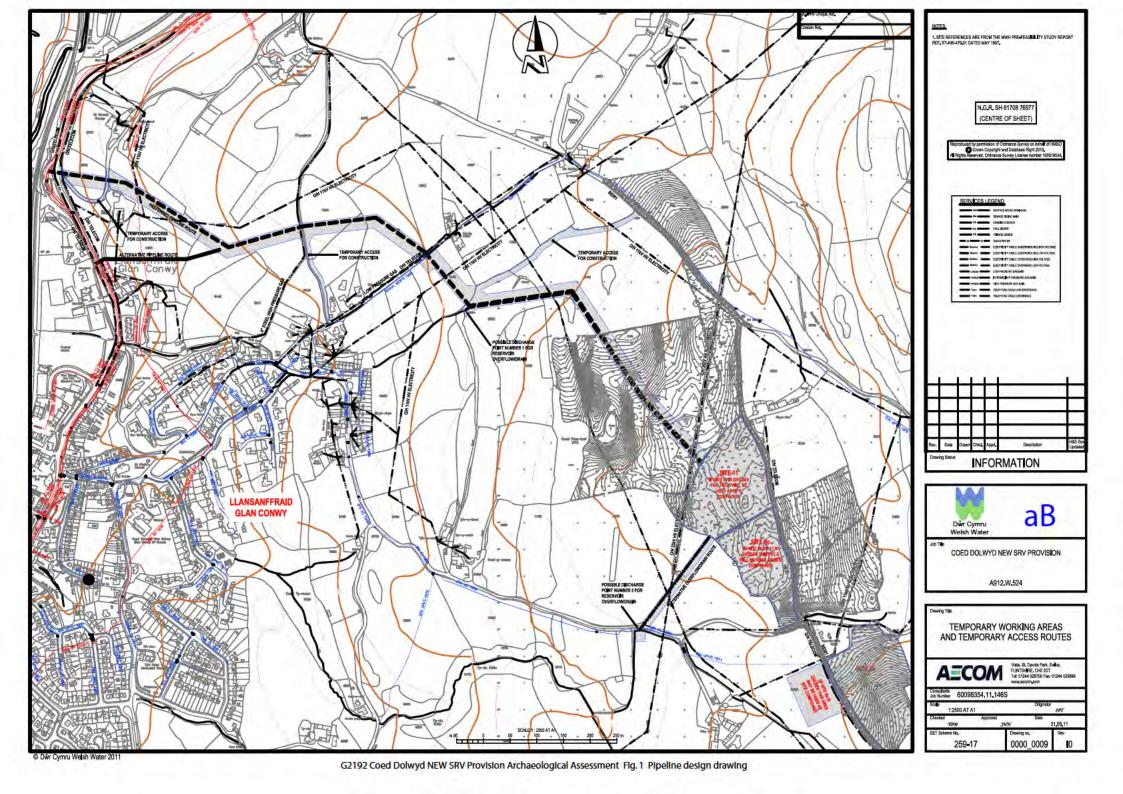
Tithe map and Apportionment

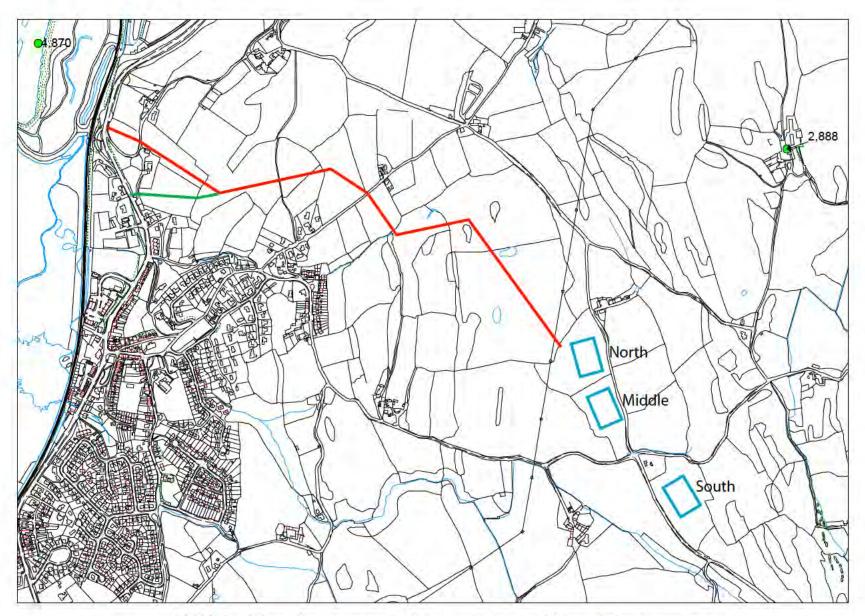
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DRO NTD/114 Plans of Plas Issa Estate 1762/3 (Photocopies): Map V Plas Issa Demesne, small scale map of whole estate and a larger scale map (for Robert Davies Esq), of land around Plas Issa house and nearby land to south-west.

Michael Senior, Bryn Eisteddfod

Bryn Eisteddfod estate, c. 1770 (photocopy).





G2192 Fig. 2 Location of proposed pipeline and reservoir sites . Red: selected route.

Green: alternative route. Blue: reservoir sites. Scale 1:10000

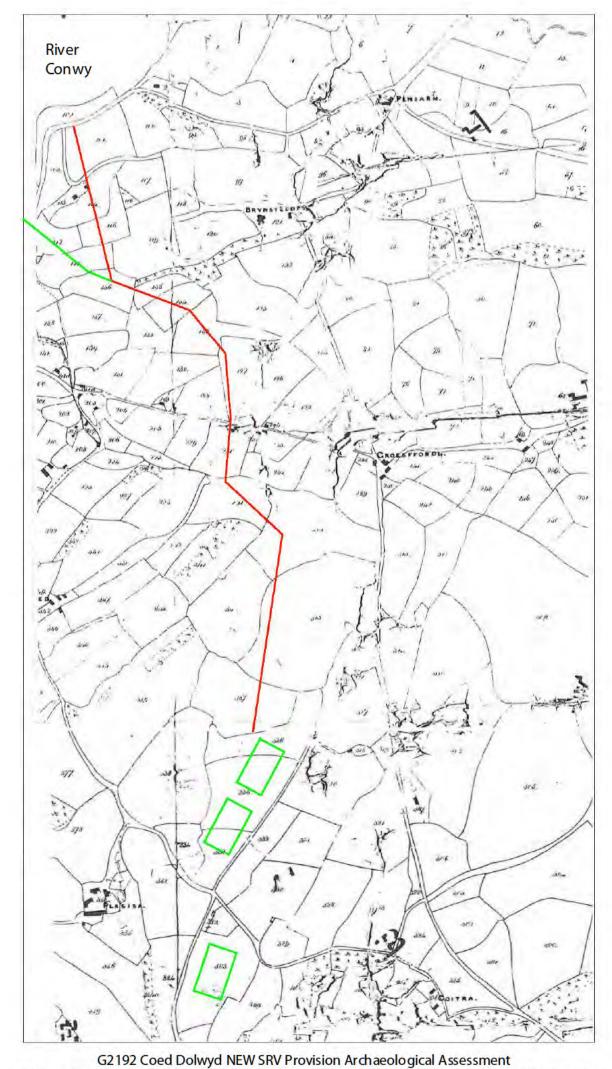
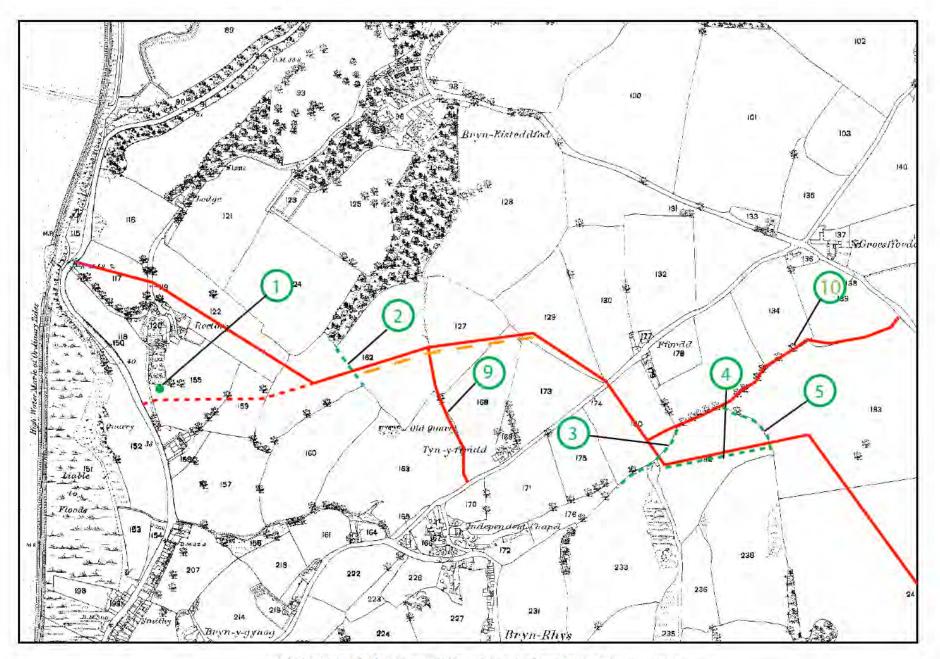
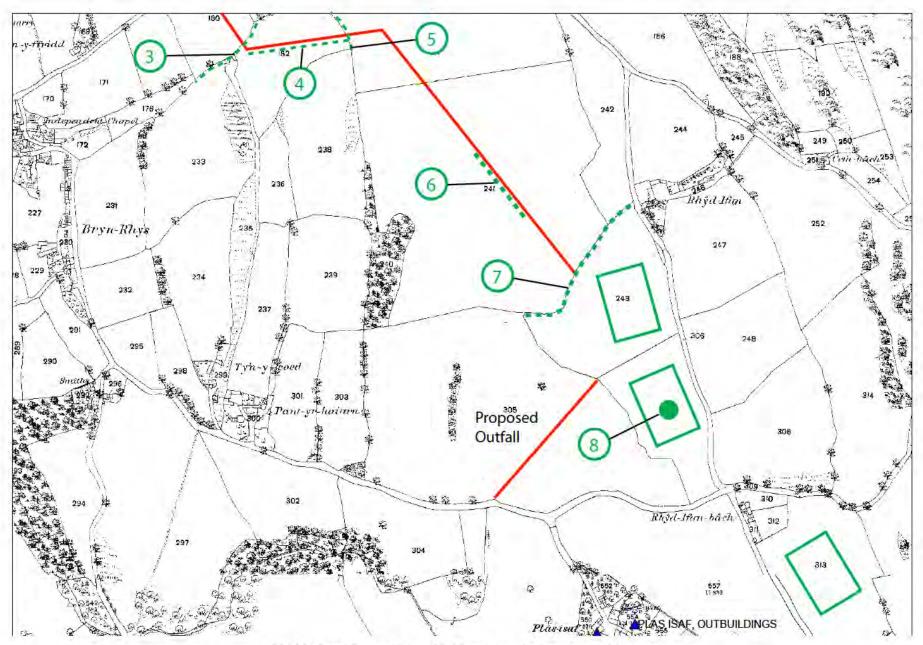


Fig. 3 Llansanffraid Glan Conwy Tithe map 1842 in relation to the proposed pipeline route and possible reservoir sites



G2192 Coed Dolyd New SRV Provision Archaeological Assessment
Fig. 4 Showing proposed pipeline route and identified features (Green) and areas of general archaeological potential in relation to OS 1:2500 1875 reduced to 1:5000 scale



G2192 Coed Dolwyd New SRV Provision: Archaeological Assessment
Fig. 5 Showing proposed pipeline route (east) and possible reservoir sites with identified features (Green)
and areas of general archaeological potential in relation to OS 1:2500 1875 reduced to 1:5000 scale



G2192 Coed Dolwyd Fig. 6. Feature 1: Platform, from the south.1m scale



G2192 Coed Dolwyd Fig. 7 Feature 2: Lynchet/Old field boundary, from the south-west. 1m scale



G2192 Coed Dolwyd Fig. 8 Feature 4: Valley with potential for burnt mound activity, from the east



G2192 Coed Dolwyd Fig. 9 Feature 5: Hedge on earlier bank



G2192 Coed Dolwyd Fig. 10 Feature 7: Hedge on earlier bank. 1m scale



G2192 Coed Dolwyd Fig. 11 Feature 8: Area of archaeological potential. From the north-west. 1m scale



G2192 Coed Dolwyd Fig. 12 Feature 9: Access track from the south



 $G2192\,Coed\,Dolwyd\,\,Fig.\,13\,\,Feature\,10: Access\,track\,from\,the\,south-west, showing\,adjacent\,hedgerow$



 ${\sf G2192\,Coed\,Dolwyd\,\,Fig.\,14\,\,View\,of\,proposed\,overflow\,route\,from\,the\,south\,west}$

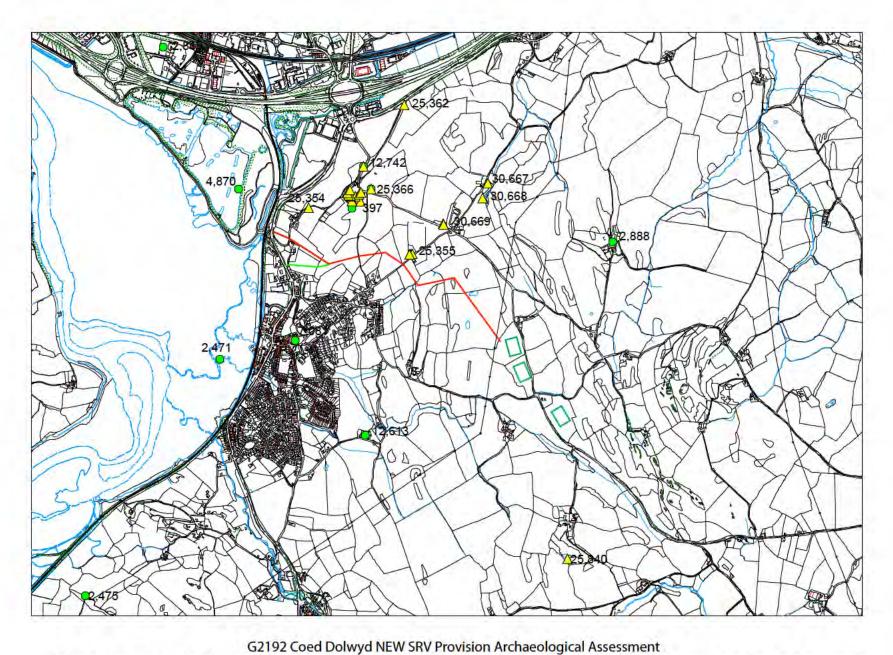


Fig. 15 Llansanffraid Glan Conwy GAT Historic Environment Record: sites in the vicinity of the proposed pipeline and reservoir

G2192 GAT HER records: Llansanffraid Glan Conwy

PRN	NPRN	Site Name	Authrty	Community	Status	Type	Site type
397	57237	BRONZE TOOL - FINDSPOT, BRYN EISTEDDFOD	CONWY	LLANSANFF RAID GLAN CONWY			FINDSPOT
2471	55822	ROMAN COINS - FINDSPOT, LLANSANTFFRAID	CONWY	LLANSANFF RAID GLAN CONWY			FINDSPOT
2819	55484	BASALT HONE - FINDSPOT, CONWY	CONWY	LLANDUDN O			FINDSPOT
2888	55826	CEFN GARLLEG REGIONAL HOUSE, LLANSANTFFRAID	CONWY	LLANSANFF RAID GLAN CONWY			HOUSE
4473	63100	BRYN EISTEDDFOD GARDEN, GLAN CONWY	CONWY	LLANSANFF RAID GLAN CONWY			GARDEN
4870	63328	SLATE BOAT (SITE OF), AFON CONWY	CONWY	LLANSANFF RAID GLAN CONWY			BOAT
7081	0	LLANSANTFFRAID GLAN CONWY	CONWY	LLANSANTF FRAID GLAN			CHURCH
12613	31447	TY DU MODEL FARMSTEAD	GWYNEDD	LLANSANTF FRAID GLAN	GII	LB	BUILDING
12742	43082	BRYN EISTEDDFOD ACCESS BRIDGE	CONWY	LLANSANTF FRAID GLAN	GI	LB	BRIDGE

G2192 GAT HER Recent records: Llansanffraid Glan Conwy

PRN	NPRN	Site name	Authority	Community	Status	Site type
4473	63100	Bryn Eisteddfod garden, Glan Conwy	CONWY	Llansanffraid Glan Conwy		GARDEN
12742	43082	Bryn Eisteddfod access bridge	CONWY	Llansanffraid Glan Conwy	LB	BRIDGE
25354	0	Stone E of Bryn Eisteddfod				
25355	0	Outbuilding at Ffordd Farmstead				
25356	0	Ffordd Farmstead House				
25362	0	Bottom Lodge at Bryn Eisteddfod			LB	
25363	0	Bryn Eisteddfod Pleasure Gdn Walls			LB	
25364	0	Bryn Eisteddfod House			LB	
25365	0	Mews Cottage at Bryn Eisteddfod			LB	
25366	0	Rubble Cart Shed at Bryn Eisteddfod			LB	
25367	0	'L' Shaped Stables at Bryn Eisteddfod			LB	
25368	0	Garages at Bryn Eisteddfod			LB	
25369	27666	Bwthyn y Barn at Bryn Eisteddfod			LB	
25370	0	Brick Cart House at Bryn Eisteddfod			LB	
25371	0	Kitchen Gdn Walls and Glasshouses			LB	
25840	0	Well S of Plas-uchaf				
30667	0	Cilglassyn				
30668	0	Well at Cilglassyn				
30669	0	Groesffordd Isa				
30670	0	Well at Groesffordd Isa				

RCAHMW records: Llansanffraid Glan Conwy

NPRN	NAME	COMMUNITY	TYPE	PERIOD
7785	PENIEL WELSH INDEPENDENT CHAPEL (BRYN RHYS;PENUEL), BRYN-RHYS, GLAN CONWY	Llansanffraid Glan Conwy	CHAPEL	Post Medieval
7789	MOREIA WELSH CALVINISTIC METHODIST CHAPEL;MORIAH, GLAN CONWY	Llansanffraid Glan Conwy	CHAPEL	Post Medieval
7790	CARMEL WELSH WESLEYAN METHODIST CHAPEL, BRYN-Y-MAEN	Llansanffraid Glan Conwy	CHAPEL	Post Medieval
7791	TY'N-Y-CELYN WELSH WESLEYAN METHODIST CHURCH, TOP LLAN	Llansanffraid Glan Conwy	CHAPEL	Post Medieval
12501	ST FFRAID'S CHURCH, LLANSANFFRAID GLAN CONWY	Llansanffraid Glan Conwy	CHURCH	Medieval
12502	BRYN EBENEZER CHAPEL (CALVINISTIC METHODIST), BRYN EGLWYS, GLAN CONWAY	Llansanffraid Glan Conwy	CHAPEL	Post Medieval
16942	TY DU MODEL FARMSTEAD	Llansanffraid Glan Conwy	FARMHOUSE	Post Medieval?
24863	FELIN ISAF GRIST MILL, PENTREFELIN, GLAN CONWY	Llansanffraid Glan Conwy	CORN MILL	Post Medieval
26848	BRYN EISTEDDFOD	Llansanffraid Glan Conwv	HOUSE	Post Medieval
26952	CEFN GARLLEG, GLAN CONWY	Llansanffraid Glan Conwy	HOUSE	Post Medieval
27153	FELIN ISAF MILLHOUSE, PENTREFELIN, GLAN CONWY	Llansanffraid Glan Conwy	MILL HOUSE	Post Medieval?
27666	PEN-Y-BRYN	Llansanffraid Glan Conwy	HOUSE	Post Medieval
27735	PLAS ISAF	Llansanffraid Glan Conwy	HOUSE	Post Medieval
27778	PLAS UCHAF, GLAN CONWY	Llansanffraid Glan Conwy	FARMHOUSE	Post Medieval
31447	TY DU MODEL FARMSTEAD	Llansanffraid Glan Conwy	FARM BUILDING	Post Medieval?
35453	TY-ISAF	Llansanffraid Glan Conwy	HOUSE	Post Medieval
35576	WHITE HOUSE (THE)	Llansanffraid Glan Conwy	INN	Post Medieval?
37229	PLAS ISAF, OUTBUILDINGS	Llansanffraid Glan Conwy	OUTBUILDING	Post Medieval?
43082	BRYN EISTEDDFOD ACCESS BRIDGE	Llansanffraid Glan Conwy	BRIDGE	Post Medieval
85443	FELIN ISAF CORN MILL, PENTREFELIN, GLAN CONWY	Llansanffraid Glan Conwy	CORN MILL	Post Medieval
85444	FELIN ISAF, PENTREFELIN, GLAN CONWY	Llansanffraid Glan Conwy	CORN MILL	Post Medieval
85445	FELIN ISAF GRAIN-DRYING KILN, PENTREFELIN, GLAN CONWY	Llansanffraid Glan Conwy	CORN DRYING KILN	Post Medieval

NPRN NAME	COMMUNITY	TYPE	PERIOD
301617 BRYN EISTEDDFODD, GARDEN, LLANSANTFFRAID GLAN CONWY	Llansanffraid Glan	COUNTRY HOUSE GARDEN	Post Medieval
400529 CAE'R OFFEIRIAD, LLANSANFFRAID GLAN CONWY	Llansanffraid Glan Conwy	PLACE NAME	Unknown
411936 HAFOD, TY DU ROAD, LLANSANFFRAID GLAN CONWY	Llansanffraid Glan Conwy	HOUSE	Modern;20th Century

G2192 Cadw Listed Buildings: Llansanffraid Glan Conwy

No.	Authority	Community	Name	Grade
17022	Conwy	Llansanffraid Glan Conwy	Church House	II
17023	Conwy	Llansanffraid Glan Conwy	The Old Rectory	II
17024	Conwy	Llansanffraid Glan Conwy	Plas Tirion	II
17025	Conwy	Llansanffraid Glan Conwy	Welsh Methodist Chapel	II
17026	Conwy	Llansanffraid Glan Conwy	Manse adjoining Welsh Methodist Chapel	II
17027	Conwy	Llansanffraid Glan Conwy	Hafod	II
17028	Conwy	Llansanffraid Glan Conwy	Garage adjacent to Hafod	II
17029	Conwy	Llansanffraid Glan Conwy	Agricultural ranges at Ty Du Farm	II
17030	Conwy	Llansanffraid Glan Conwy	Bryn Eisteddfod	II
17031	Conwy	Llansanffraid Glan Conwy	Mews Cottage	II
17032	Conwy	Llansanffraid Glan Conwy	Pleasure Garden Walls	II
17033	Conwy	Llansanffraid Glan Conwy	L-shaped stable range at Bryn Eisteddfod	II
17034	Conwy	Llansanffraid Glan Conwy	Rubble cart shed at Bryn Eisteddfod	II
17035	Conwy	Llansanffraid Glan Conwy	Bwthyn-y-Bryn at Bryn Eisteddfod	II
17036	Conwy	Llansanffraid Glan Conwy	Garages at Bryn Eisteddfod	II
17037	Conwy	Llansanffraid Glan Conwy	Kitchen Garden Walls (including glasshouses) at Bryn Eisteddfod	II
17038	Conwy	Llansanffraid Glan Conwy	Brick Carthouse at Bryn Eisteddfod	II
17039	Conwy	Llansanffraid Glan Conwy	Top Lodge at Bryn Eisteddfod	II
17040	Conwy	Llansanffraid Glan Conwy	Bottom Lodge at Bryn Eisteddfod	II
17042	Conwy	Llansanffraid Glan Conwy	Former Oat Kiln at Felin Isaf	II*
17045	Conwy	Llansanffraid Glan Conwy	Former carthouse and stable range at Plas Isa	II
17320	Conwy	Llansanffraid Glan Conwy	Clover Mill	II*
216	Conwy	Llansanffraid Glan Conwy	Parish Church of St Ffraid	II
217	Conwy	Llansanffraid Glan Conwy	Plas Isa Farmhouse	II
218	Conwy	Llansanffraid Glan Conwy	Earlier House SW of Plas Isa	II

No.	Authority	Community	Name	Grade
219	Conwy	Llansanffraid Glan Conwy	L-shaped agricultural range at Plas Isa	II
220	Conwy	Llansanffraid Glan Conwy	Plas Uchaf	*
221	Conwy	Llansanffraid Glan Conwy	Cefn Garlleg Farmhouse	II
255	Conwy	Llansanffraid Glan Conwy		II
3630	Conwy	Llansanffraid Glan Conwy	Felin Isaf Mill	II*
3632	Conwy	Llansanffraid Glan Conwy	Access Bridge to Bryn Eisteddfod	II
3649	Conwy	Llansanffraid Glan Conwy	Ty Du Farmhouse	II

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.

Definition of Impact

The impact of the proposed development on each feature 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.

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. Topographic survey may also be employed where sites are thought to survive as earthworks.

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.

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.

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.

Basic recording:

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

Strip, Map and Sample:

The technique of Strip, Map and Sample involves the examination of machine-stripped surfaces to identify archaeological remains. The stripping is undertaken under the supervision of an archaeologist. Stripping and removal of the overburden is undertaken in such as 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.

Stripping is undertaken in as careful a manner as possible, to allow for good identification of archaeological features. A small team of archaeologists will be responsible for subsequently further cleaning defined areas where necessary. Complex sites which cannot be avoided will need to be fully excavated.

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.

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.

Reinstatement:

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





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