

A487(T)LLWYN MAFON TO GOLAN JUNCTION, GWYNEDD

Archaeological Assessment



Ymddiriedolaeth Archaeolegol Gwynedd
Gwynedd Archaeological Trust

Llwyn Mafon to Golan Junction, Penmorfa, Gwynedd

Archaeological Assessment

Project No. G2254

Report No. 1046

Prepared for : Gwynedd Consultancy

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ARCHAEOLOGICAL ASSESSMENT

SUMMARY

An archaeological assessment in advance of road improvement has been carried out on land between Llwyn Mafon and Golan Junction on the current A487(T). Twenty features have been identified of which seventeen are in the vicinity of the scheme. The most significant of these are the site of the former Cae Canol farm and the Gorseddau tramway (Sites 18 and 19), the remainder being field boundaries and trackways.

The dominant cultural context within the area in the post-medieval period is rural farming, primarily enclosed sheep and cattle farming. However, the wider area can also be seen within an industrial and urban context, typified by an assortment of mines and quarries, with their associated tramways and railways, as well as townships dating back to the medieval period and most likely beyond.

It is recommended that a topographic survey be carried out over the route of the tramway (Site 18) within the 25.0m scheme impact buffer zone, and that an excavation be carried out to define its make up if directly impacted. Building recording and trial excavation is recommended at Cae Canol Farmhouse (Site 19) if avoidance is not possible. Basic recording of all affected cloddau is recommended. All the features thus identified are of post medieval date, and specific recommendations have been made for mitigation of the impact of the scheme on these. There is potential however for the survival of relict prehistoric and medieval archaeology based on the known archaeological record within the scheme environs as well as for the survival of palaeoenvironmental remains in the more waterlogged areas. Based on this an intensive archaeological watching brief during groundworks is recommended along with a defined palaeoenvironmental sampling based on specialist feedback.

1. INTRODUCTION

Gwynedd Archaeological Trust has been asked by Ymgynghoriaeth Gwynedd/Gwynedd Consultancy, to carry out an archaeological assessment in advance of a road improvement scheme along the A487 Trunk Road between Llwyn Mafon and Golan Junction (Fig. 1)

The scheme is located between NGR **SH25184160** and **SH53734078** as identified on Ymgynghoriaeth Gwynedd/Gwynedd Consultancy Drawing No. **957/MI/011** (reproduced as Fig. 01).

The road improvement measures c.1.5km in length and is orientated on a general northwest to southeast alignment, following the route of the existing A487(T). Based on information supplied by the client, the road improvements will be incorporated within a buffer zone c.25m either side of the existing A487(T) and will include improvements to five junctions within this buffer (based on information supplied by Ymgynghoriaeth Gwynedd/Gwynedd Consultancy Drawing Nos. **957 / GA / 100** to **957 / GA / 300**). Historic Environment Record (HER) and background information was also gathered along a 250m wide area on either side of the existing A487(T) as part of the archaeological assessment methodology.

1.1 Acknowledgements

The staffs at Gwynedd Archives, Caernarfon and the National Library of Wales are thanked for their help with providing archive material. Ashley Batten and Jenny Emmett of Gwynedd Archaeological Planning Service are thanked for their help and guidance.

2. DESIGN BRIEF AND SPECIFICATION

Gwynedd Archaeological Planning Services (GAPS) has not prepared a detailed archaeological brief for this scheme but Gwynedd Consultancy have been in contact with GAPS and they have recommended an archaeological assessment, including a desk based study and walkover survey of the proposed scheme route.

Gwynedd Archaeological Planning Services will monitor the works and will be responsible for advising the Local Authority on the suitability of the work undertaken.

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 2001, 2).

The aims of the assessment as given in the specification 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, and recommendations are made concerning further archaeological evaluation or mitigation.

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, which form part of the Historic Environment Record (HER), located at Gwynedd Archaeological Trust (GAT), Bangor. The archives held by the Meirionnydd Record Office, Dolgellau and Bangor University 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 from the collection at RCAHM, Wales were examined.

The archaeological assessment studied a 250m wide area on either side of the existing A487(T); the field walkover survey subsequently targeted a 25m buffer zone either side of the existing A487(T) to incorporate the proposed scheme impact.

Sites, buildings and find spots listed in the regional HER were identified (Fig. 2), with PRN referring to the unique Primary Record Number given to each individual site.

3.2 Field Search

The field search was undertaken during March 2012, when the area of the proposed development was examined. Notes were taken, sketches and measurements were taken of sites of potential archaeological interest and a photographic record was made. Weather and ground conditions were good for a site visit.

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 2.

4. ARCHAEOLOGICAL RESULTS

4.1 Topographic description

The proposed improvement section of the A487 (T) between Llwyn Mafon and Golan Junction is located at a height of between 124m and 111m OD, falling from the north-west to south east. The land on both sides of the road is moderately level pasture land, although within a general north to south slope incorporating enclosed sheep and cattle grazing with dispersed farm settlement, although at the west of the scheme the land is low lying and boggy in the north-west south-east sloping valley of the Afon Cedron, with drainage channels present. The sides of the road are overgrown with brambles in places, interspaced occasionally with young trees, gorse bushes, and long grass. To the north of the road the topography rises and slopes uphill away from the flood plain.

The floodplain cuts through an area of primarily Ordovician rocks, and are 'contiguous with the complex syncline of Snowdonia which extends north-eastwards in the upland areas above Penmaenmawr and Conwy, and westwards to form the greater part of the Llyn peninsula' (Bassett & Davies, 1977). The study area also lies close to areas of contemporaneous igneous rocks to the east and a small band of intrusive igneous rocks to the west.

4.2 Archaeological and historical background

4.2.1. Prehistoric and Roman sites

No sites dating from the neolithic period have been found within or close to the study area. To the west and approximately 1.4km from the western end of the proposed scheme stands the probable bronze-age standing stone of Beudy Cil-Haul (PRN 192). The stone is an elongated glacial boulder measuring some 1.8m in height and 0.8m square, secured in place with packing stones. This may be associated with ritual activity, and evidence of funerary activity from the Bronze Age has also been identified. A cremation urn and burial (PRN 2337; SH 52004120) has been found at Llyn-y-Mafon,

400m south-west of the study area. A find of a Bronze axe of this date has also been found at Tyddyn-Dicum-Uchaf (PRN 2380; SH 54204090).

Burnt mounds are generally regarded as being bronze-age in date. It is believed that they were used as a form of cooking food, although the possibility of a ritualistic purpose exists. An example of this type of structure can be found west of the western end of the scheme, a prehistoric burnt-mound known as Glan-Dwyfach (PRN 154 (NPRN 302,420) is located on the eastern bank of the Afon Dwyfor, and it is possible that further sites of this type could be found in areas close to watercourses.

There is some evidence for settlement in the vicinity of the study area in later prehistoric times which may continue in use into Romano-British times. This would probably consist of enclosed or unenclosed huts, and an example of which has been identified at Bryn Braich-y-Saint (PRN 2362; SH 51294081), 1.2km south-west of the route. A rotary quern, which may be of Romano-British date, has been identified 300m south of the study area (PRN 2356; SH 53154065).

4.2.2 Medieval

The study area lies within the medieval cantref of Dolbenmaen in the commote of Eifionydd, and formed part of the medieval township of Penyfed (PRN 7376; SH 54004100) and at its western end of the township of Dolbenmaen (PRN 7,341 (NPRN 64,408). It straddles the later medieval parishes of Ynyscynhaearn (Fig. 4) and Penmorfa (Fig. 5), being mainly within the boundaries of the latter. To the west of the village and approximately 2km east of the western end of the proposed scheme is the grade II listed medieval parish church of St. Mary, Dolbenmaen (PRN 2,367 (NPRN 43,776 (listed building no. 4278). The church lies on a small by-passed section of the main road and stands within an irregularly shaped graveyard, and is approached through a grade II listed lych gate (listed building no. 21522). The medieval history of Dolbenmaen is further demonstrated by the castle mound (motte) (PRN 161 (NPRN 93,540 (SAM no. CN063) located to the south of the village. The castle mound and ditch stand on a low ridge running parallel to the river Dwyfor at a fordable crossing point on an important route way. 'Its architects may have been Norman or Welsh and its early history is uncertain. Later it formed the maerdref (administrative centre) of the commote of Eifionydd and is thought to have been one of the royal residences of the Welsh Princes until it was abandoned by Llywelyn Fawr around 1230 in favour of the newly constructed Criccieth Castle. The motte itself is 36m in diameter and about 6m high. Some loose masonry is all that remains to indicate the presence of any buildings on the flattened top of the mound. The possible site of a bailey, if one existed, is now covered by farm buildings and Plas Dolbenmaen which itself dates to the 16th to 18th centuries (GAT HER).

The surviving traces of medieval settlement are characterised by the presence of rectangular long hut platforms, in a dispersed settlement pattern. One of these has been recorded (Craig y Llan) approximately 1.8km northeast of the western end of the proposed scheme (PRN 184 (NPRN 15,092). The walls of this domestic building are faced with large stones and average 0.7m in thickness, parts of which have been rebuilt as a modern sheep-fold. A platform house has also been identified at Craig y Gesail (PRN 185; SH 54064121), 460m north-east of the study area. Plough marks have also been identified at Bryn Hywel (NPRN 409106; SH 514417), which may be relict evidence of medieval ridge and furrow agriculture.

4.2.3 Post-Medieval and Modern

To the west of the proposed scheme in the village of Dolbenmaen are several post-medieval buildings of note. The closest is situated approximately 2km to the east of the western end of the scheme, and is Plas Holland, the old rectory affiliated with the medieval church of St. Mary. The building is mostly modern but has a northern wing dating to circa. 1700 and has gabled dormers and a very large chimney. Further post-medieval buildings within the village include the vicarage (PRN 5,259) and domestic dwellings, as well as Plas Dolbenmaen (PRN 5,257 (NPRN 16,741 (listed building no. 4280), a two-storey early 18th Century house and associated barns (PRN 12,603 (NPRN

31,429 (listed buildings no. 4281). The Grade II listed Cefn-y-Meysydd Isaf farmhouse (listed Building no. 21523) lies 800m south of the study area.

The 1838 tithe map and apportionment of Penmorfa indicates that some of the land on the proposed scheme belonged to Sir Joseph Huddart of Wern and also a certain John Jones, however the majority of the land was owned by William Ormsby-gore of Glyn Cywarch and Brogyntyn. The said gentleman acquired the lands through his marriage to Mary Jane Ormsby in 1815, who was the sole heiress of the Brogyntyn estate situated in the parish of Selatyn near Oswestry, who in turn inherited the lands from her grandfather William Owen, who is documented as purchasing the lands around Bryncir in 1736 (Brogyntyn estate records, 1951). Owen Griffith owned and occupied the property of Garnedd Hir. The details given on the tithe apportionment is given below, with the 'Plan nos' referring to the numbers on the tithe map (Fig. 3).

Table 1 Tithe Apportionment

Landowner	Occupier	Plan Nos.	Name and Description of Land and Premises	State of Cultivation	Quantities in Statute Measure		
William Ormsby Gore	Cadwalader Williams		<i>Glan y Bwl</i>				
		136	House and Garden			1	10
		137	Llain Tan yr Ardd	Arable		3	25
		138	Weirglodd y Flaen Fynnon	Pasture		2	27
		139	Llain y hen Yscubor	Arable	1	2	31
		140	Can Tan y Beudy	“	2	2	12
		141	Cae Rodin	“	2	-	34
		142	Barn and Yard				11
		143	Lloch	Pasture		3	10
		144	Cae Calch	Arable	2	1	7
		145	Weirglodd Isaf	Meadow	5	1	24
		146	Gors Bach	Pasture	2	3	8
		147	Cae Maen	Arable	2	-	35
		148	Werglodd Newydd	Meadow	2	-	3
		149	Cae y Gorllan	Arable	1	2	23
		150	Weirglodd Garn	Meadow	5	-	12
		151	Cae Cowarch	Arable	2	3	11
		152	Cae yr Cerrig	“	1	1	37
		153	Cae Lon	“	2	3	27
Sir Joseph Huddart Kt	Owen Roberts		<i>Wern Dwynig</i>				
		527	Cae Yscybur	Arable	4	2	29
		528	Pwll March Baf	Meadow	2	1	15
		529	Cae Main	Arable	3	-	12
		530	Cae Square	“	2	3	9
		531	Clwt Bach	“	-	1	6
		532	Cae Tynlan	“	4	1	8
		533	Cae Slatter	Pasture		3	11
		534	Cae Tan Llwydach	Arable	3	-	6

		535	Cae Pwll	“	3	-	16
		536	Waste	Pasture	-	-	21
		537	Cae Weirglodd	3½ a Arable rest Meadow	7	1	9
		538	Weirglodd cefn Stabal	Meadow	4	-	28
		539	Weirglodd Goch	“	11	-	5
		540	Cae Main	Arable	2	1	20
		541	Cae Mawr	“	6	3	22
		542	Waen Bryn Poeth	Pasture	1	-	13
		543	Bryn Poeth Ucha	“	1	2	26
		544	Carreg Grech Bach	Arable	4	-	-
		545	Cae Withy Hendu	4a Arable rest Meadow	6	3	23
		546	Barn and Yard	Barn and Yard	-	-	10
		552	Llain Ddu	Arable	11	-	28
Owen Griffith	Owqen Griffith		<i>Garnedd Hir</i>				
		1050	House Road and Waste	Road and Waste		1	12
		1051	Buildings and Garden	-		1	2
		1052	Barn and yards	-		1	6
		1053	Cae Lloft	Arable	2	3	-
		1054	Cae Radioe	“	3	2	3
		1055	Cae Ty Drawy Lôn	“	6	3	29
		1056	Ddol	“	4	1	11
		1057	Cae Main	“	3	1	14
		1058	Clwt yr Howell	Pasture	1	3	17
		1059	Cae Eithin	Arable	3	3	27
		1060	Weirglodd Bach Howell	Meadow	3	-	28
John Jones	R. Humphreys Morris Davies		<i>Carreg y Crech</i>				
		1329	House and Garden	Garden			36
		1330	-	“			26
		1331	Lloc	Pasture		1	29
		1332	Garden	Garden			18
		1333	Weirglodd	Meadow	1	2	9
		1334	Cae Bryn	Arable	1	-	38
		1335	Cae Pwll	“	1	3	29
		1336	Cae Ucha	“	1	3	16

The vast majority of the activity to have taken place in the vicinity of the study area is farming. The flat and fertile lands to the north and south of the improvement scheme are particularly well suited to grazing pasture, and the field systems are depicted as having changed very little between the 1840's tithe map, first (1889; Fig. 5), second (1900) and third (1915) OS maps and the modern day OS maps. Indeed, the 1840's tithe schedule lists the common usage of the lands around the scheme as being occupied by either meadow, pasture or arable land, as can be seen today.

The track bed of the former Gorseddau tramway from the Prince of Wales Slate Quarry to the north is visible about 200m to the south of the study area, although the map evidence indicates that it must have crossed the road within the study area close to NGR SH 52664114 (PRN 25,573; SH 53244084 C). It is clearly shown on the 1st edition 25 inch map of 1888, Caernarfonshire sheets XXXIV.6 and 7 (Fig. 5). The Tremadoc tramway (sometimes known as the *Llidiartyspytty Railway*) was built by William Madocks sometime before 1842, and possibly as early as the 1830s. It connected the ironstone mine at Llidiart Yspyty to the harbour at Porthmadog. The ironstone mine was not successful and the tramway was extended to serve a nearby slate quarry owned by the *Bangor & Portmadoc Slate & Slab Co. Ltd.* In 1856 the Bangor & Portmadoc Slate & Slab company requested tenders to extend the line 2¼ miles to the Gorseddau Quarry at Glan Bwll. The extended railway, completed in 1857, was known as the Gorseddau Tramway.

From the wharves at Porthmadog harbor the line curved through the town and ran alongside the *Y Cyt* canal to Tremadoc. From there a reversing neck marked the beginning of the extension towards Gorseddau. The route headed east through the village of Penmorfa where it passed under the main road in a short tunnel. At Henefail the line turned north past Ynys-y-Pandy and on to Gorseddau where a short incline lead into the quarry. The line ran a total distance of just over 8 miles and rose 900 feet in that distance. The tramway was replaced by the Porthmadoc and Gorseddau Railway in 1871, and had effectively closed by 1897 (Boyd 1998).

4.3 Statutory and non-statutory designations

No listed buildings are located within the 25.0m north to south buffer zone along the study area. The nearest listed building is Cefn-y-Meysydd Isaf farmhouse (listed Building no. 21523), which lies 800m south of the study area.

No Scheduled Ancient Monuments lie within 500.0m of the proposed scheme.

The eastern part of the scheme lies very close to the Snowdonia National Park (SNP) boundary at NGR SH 53664099. It would appear however that works associated with the road improvement scheme itself would lie outside the SNP. The area lies outside to the west of the *Aberglaslyn* Landscape of Historic Interest in Wales (HLW (Gw) 7) (Cadw/ICOMOS 1998, 92-95).

Sites on the Gwynedd HER within 1.5km of the study area are listed in Appendix 1

4.4 The Archaeological Survey (Fig. 2)

The features are listed below and are located on Fig. 2 with recommendations for further assessment and mitigatory measures, where appropriate. The recommendations reflect the information currently provided by Ymgynghoriaeth Gwynedd/Gwynedd Consultancy, and assume impact only within the 25m impact buffer zone defined by Ymgynghoriaeth Gwynedd/Gwynedd Consultancy. Any change to the boundary of the proposed development area will require the recommendations below to be changed also.

Feature 1 Trackway *SH 52164165-SH 52634177* *Period: Modern*

A trackway of relatively modern date to Bryn Neuadd farm, designed to facilitate vehicular access. It is not shown on the 1889 1st edition Ordnance Survey map (Fig. 5). The track has a modern base of crushed rubble, which is likely to be impacted upon in a minor way as part of the scheme, although drawing 957/GA/100 (Fig. 6) indicates that the road embankment will commence about 60m east of the trackway.

Category: D Impact: Likely

Recommendations for further assessment: None

Recommendations for mitigatory measures: None

Feature 2 Clawdd (Plate 2)

SH 52164145

Period: Probably Post-medieval

A *clawdd* or stone clad field boundary. It follows an irregular course south west and then east from the road. It is constructed of small to large field stones, and wanders more than the neighbouring walls. It may be 18th century or earlier in date and appears to have formed part of a pre 19th century field system. It is shown on the Ynyscynhaearn tithe map of 1840 (Fig. 4) and the 1st edition 25 inch Ordnance Survey map of 1889 (Fig. 5).

Category: B Impact: Likely

Recommendations for further assessment: None

Recommendations for mitigatory measures: Basic recording, including a drawn section of the breach in the clawdd

Feature 3 Trackway to Llwyn Mafon Isaf

SH 52264144

Period: Post-medieval

A trackway leading to Llwyn Mafon Isaf. It is not shown on the Ynyscynhaearn tithe map of 1840, although the farmhouse is (Fig. 4), but is shown on the 1st edition 25 inch Ordnance Survey map of 1889 (Fig. 5). It is likely to date from between 1840 and 1889, to provide access between the farmhouse and the road

Category: C Impact: Likely

Recommendations for further assessment: None

Recommendations for mitigatory measures: Basic recording

Feature 4 Trackway to Bryn Neuadd (Cefn Peraidd Bach)

SH 52364156

Period: Probably Modern

A trackway leading to Llwyn Mafon Isaf. It is not shown on the Ynyscynhaearn tithe map of 1840, although the farmhouse is (Fig. 4), but is shown on the 1st edition 25 inch Ordnance Survey map of 1889, where the farmhouse is named as (Fig. 5). It is likely to date from between 1840 and 1889, to provide access between the farmhouse and the road, and is likely to be contemporary with the trackway to Llwyn Mafon Isaf (Feature 3). It predates the modern track (Feature 1).

Category: C Impact: Likely

Recommendations for further assessment: None

Recommendations for mitigatory measures: Basic recording

Features 5 and 6 Reservoirs on the Afon Cedron (Plate 3)

SH 52264144

Period: Probably Modern

There are two small reservoirs on the Afon Cedron (Feature 5). These are likely to form part of an agricultural water supply system. The river is bounded on the north-west side by a boundary wall (Feature 6).

Category: D Impact: Likely

Recommendations for further assessment: None

Recommendations for mitigatory measures: None for the reservoirs, basic recording for the adjacent boundary wall.

Feature 7 Relict Field Boundary

SH 52494124

Period: Post-medieval

A *clawdd* or stone clad field boundary. It follows an irregular course south west and then east from the road. It is constructed of small to large field stones, and wanders more than the neighbouring walls. It may be 18th century or earlier in date and appears to have formed part of a pre 19th century field system. It is shown on the Penmorfa tithe map of 1838 (Fig. 3), where it is shown to be more extensive than is currently clear, and on the 1st edition 25 inch Ordnance Survey map of 1888 (Fig. 5). It is likely to be related to feature 2

Category: B Impact: Likely

Recommendations for further assessment: None

Recommendations for mitigatory measures: Basic recording

Feature 8 Field Boundary (Plates 4-5)

SH 52724123

Period: Post medieval

A regular *clawdd*, shown on the 1st edition 25 inch Ordnance Survey map of 1888 (Fig. 5), but not on the tithe map of 1838. It would appear to form part of 19th century enclosure.

Category: C Impact: Likely

Recommendations for further assessment: None

Recommendations for mitigatory measures: Basic recording

Feature 9 Field Boundary (Plate 6)

SH 52994103

Period: Post medieval

A regular *clawdd*, shown on the 1st edition 25 inch Ordnance Survey map of 1888 (Fig. 5), but not on the tithe map of 1838. It would appear to form part of 19th century enclosure.

Category: C Impact: Likely

Recommendations for further assessment: None

Recommendations for mitigatory measures: Basic recording

Feature 10 Glan Byl Farmhouse and outbuildings

SH 52734101

Period: Post medieval

A farmhouse, shown on the 1838 tithe map of Penmorfa (Fig. 3, Field 136), but now significantly altered. Glan Byl was formerly the property of the Brogyntyn Estate. It is likely to be originally late 18th or early 19th century in date. Outbuildings exist to the west and these are probably late 18th or early 19th century in origin also. They are described as a barn and yard (Field 142) on the tithe apportionment and form the core of the current complex of buildings

Category: B Impact: None

Recommendations for further assessment: None

Recommendations for mitigatory measures: Avoidance

Feature 11 Field Boundary

SH 53004104

Period: Post medieval

A regular *clawdd*, shown on the 1st edition 25 inch Ordnance Survey map of 1888 (Fig. 5), but not on the tithe map of 1838, which shows a more irregular and probably earlier field system close to this location. It would appear to form part of 19th century enclosure.

Category: C Impact: Likely

Recommendations for further assessment: None

Recommendations for mitigatory measures: Basic recording

Feature 12 Field Boundary and Trackway

SH 52944099

Period: Post medieval

A regular *clawdd*, shown on the 1st edition 25 inch Ordnance Survey map of 1888 to the south of the road and bounding the track way to Cefn-y-Meuseusydd Uchaf (Fig. 5), but not on the tithe map of 1838. It would appear to form part of 19th century enclosure.

Category: C Impact: Likely

Recommendations for further assessment: None

Recommendations for mitigatory measures: Basic recording

Feature 13 Field Boundary

SH 53194102

Period: Post medieval

A *clawdd* or stone clad field boundary. It is constructed of small to large field stones, and wanders more than the neighbouring walls. It may be 18th century or earlier in date and appears to have formed part of a pre 19th century field system, although its appearance suggests that it may be later rather than earlier. It is shown on the Penmorfa tithe map of 1838 (Fig. 3), and on the 1st edition 25 inch Ordnance Survey map of 1888 (Fig. 5).

Category: C Impact: Likely

Recommendations for further assessment: None

Recommendations for mitigatory measures: Basic recording

Feature 14 Trackway to Gwernddwryd

SH 53194102

Period: Post medieval

A trackway to Gwernddwryd, shown on the Penmorfa tithe map of 1838 (Fig. 3) and likely to date from the 18th or early 19th centuries.

Category: C Impact: Likely

Recommendations for further assessment: None

Recommendations for mitigatory measures: Basic recording

Feature 15 Field Boundary

SH 53314098

Period: Post medieval

A *clawdd* or stone clad field boundary. It is constructed of small to large field stones, and wanders more than the neighbouring walls. It may be 18th century or earlier in date and appears to have formed part of a pre 19th century field system, although its appearance suggests that it may be later rather than earlier. It is shown on the Penmorfa tithe map of 1838 (Fig. 3), and on the 1st edition 25 inch Ordnance Survey map of 1888 (Fig. 5).

Category: C Impact: Likely

Recommendations for further assessment: None

Recommendations for mitigatory measures: Basic recording

Feature 16 Field Boundary

SH 53194102

Period: Post medieval

A *clawdd* or stone clad field boundary. It is constructed of small to large field stones, and wanders more than the neighbouring walls. It may be 18th century or earlier in date and appears to have formed part of a pre 19th century field system. It is shown on the Penmorfa tithe map of 1838 (Fig. 3), and on the 1st edition 25 inch Ordnance Survey map of 1888 (Fig. 5).

Category: C Impact: Unknown

Recommendations for further assessment: None

Recommendations for mitigatory measures: Avoidance or Basic recording

Feature 17 Garnedd Hir Farmhouse

SH 53124128

Period: Post medieval

A substantial post-medieval farmhouse.

Category: B Impact: None

Recommendations for further assessment: None

Recommendations for mitigatory measures: Avoidance

Feature 18 Gorseddau tramway

SH 52864149- SH 53794058

Period: Post medieval

The track bed of the former Gorseddau tramway, about 8m wide, from the Prince of Wales Slate Quarry to the north lies within the study area (PRN 25,573; SH 53244084 C). It is clearly shown on the 1st edition 25 inch map of 1888, Caernarfonshire sheets XXXIV.6 and 7 (Fig. 5). The Tremadoc tramway (sometimes known as the *Llidiartyspytty Railway*) was built by William Madocks sometime before 1842, and possibly as early as the 1830s. It connected the ironstone mine at Llidiart Ysptyty to the harbour at Porthmadog. The ironstone mine was not successful and the tramway was extended to serve a nearby slate quarry owned by the *Bangor & Portmadoc Slate & Slab Co. Ltd.* In 1856 the Bangor & Portmadoc Slate & Slab company requested tenders to extend the line 2¼ miles to the Gorseddau Quarry at Glan Bwll. The extended railway, completed in 1857, was known as the Gorseddau Tramway. The course of the extended tramway is not visible close to the route, and is probably heavily disturbed, but may be encountered during the ground works near to SH 52664114.

Category: B Impact: Likely

Recommendations for further assessment: Topographic Survey of tramway embankment within the 25.0m scheme impact buffer zone prior to the commencement of works and Detailed Recording of Embankment

Recommendations for mitigatory measures: Excavation Section across embankment to understand the construction techniques if affected within the 25.0m scheme impact buffer zone

Feature 19 Ruins of Cae Canol Farmhouse (Plate 7)

SH 53124128

Period: Post medieval

The remains of a post medieval farmhouse, of probable 18th century date, to the south of the road on a rock outcrop. Gwynedd Consultancy Drawing 957/GA/300 (Fig. 8) suggests that the ruins lie outside and to the west of the area of the proposed ground works, therefore it is possible that the site will not be affected. The area of the ruins is overgrown and this would have to be cleared in advance of recording works which would need to take place during enabling works.

Category: B Impact: Unknown

Recommendations for further assessment: Detailed Recording if the site cannot be avoided, which would need to take place prior to enabling works

Recommendations for mitigatory measures: Avoidance or Trial Trenching. If trial trenching is required this would need to take place after building recording had been carried out during the enabling works, the locations of which would be decided after the survey had been carried out.

Feature 20 Llwyn Derw Farmhouse (Plate 8)

SH 53774084

Period: Post medieval

A post medieval farmhouse to the north of the road, which appears to have been much altered in recent times.

Category: C Impact: None

Recommendations for further assessment: None

Recommendations for mitigatory measures: Avoidance

5. SUMMARY OF ARCHAEOLOGICAL POTENTIAL

5.1 Location Summary

The proposed improvement section of the A487 (T) between Llwyn Mafon and Golan Junction is located at a height of between 124m and 111m OD, falling from the north-west to south east, between Dolbenmaen and Penmorfa (between NGR SH25184160 and SH53734078). The land on both sides of the road is pasture land with a small amount of woodland, although within a general north to south slope incorporating enclosed sheep and cattle grazing with dispersed farm settlement, although at the west of the scheme the land is low lying and boggy in the north-west south-east sloping valley of the Afon Cedron. There is a caravan park located at Glan Byl.

5.2 Environmental Remains and Soil Morphology

There is considered to be some potential for the survival of palaeoenvironmental remains, as the western and south eastern part of the scheme runs through an area of wet low-lying land where peat deposits may be preserved. The survival of palaeoenvironmental remains in the drier areas is unknown. It is suggested that advice from a specialist regarding its potential is sought in advance of works, with reference to any geotechnical information available.

5.3 Artefactual Potential

The potential for the survival of medieval or earlier artefacts is unknown, but it is likely that medieval and post medieval finds might be encountered, although no specific sites have been identified. It is likely however that they would be present close to cae Canol Farmhouse.

6. SUMMARY OF RECOMMENDATIONS

6.1 Summary of Specific Recommendations

Number	Name	Importance	Impact	Recommendation for further evaluation	Mitigation recommendations
1	Trackway	D	Likely	None	Basic Recording
2	Clawdd	C	Likely	None	Basic recording, including a drawn section of the breach in the clawdd
3	Trackway to Llwyn Mafon Isaf	C	Likely	None	Basic Recording
4	Trackway to Bryn Neuadd (Cefn Peraidd Bach)	C	Likely	None	Basic Recording
5	Reservoirs on the Afon Cedron	D	Likely	None	Basic Recording
6	Boundary Wall on the Afon Cedron	C	Likely	None	Basic Recording
7	Relict Field	B	Likely	None	Basic Recording

	Boundary				
8	Field Boundary	C	Likely	None	Basic Recording
9	Field Boundary	C	Likely	None	Basic Recording
10	Glan Byl Farmhouse and outbuildings	B	None	None	Avoidance
11	Field Boundary	C	Likely	None	Basic Recording
12	Field Boundary and Trackway	C	Likely	None	Basic Recording
13	Field Boundary	C	Likely	None	Basic Recording
14	Trackway to Gwernddwryd	C	Likely	None	Basic Recording
15	Field Boundary	C	Likely	None	Basic Recording
16	Field Boundary	C	Unknown	None	Avoidance or Basic Recording
17	Garnedd Hir Farmhouse	B	None	None	Avoidance
18	Gorseddau tramway	B	Likely	Topographic Survey of tramway embankment within the 25.0m scheme impact buffer zone study area prior to the commencement of works and Detailed Recording of Embankment	Excavation Section across embankment within the 25.0m scheme impact buffer zone to understand the construction techniques
19	Ruins of Cae Canol Farmhouse	B	Unknown	Detailed Recording if the site cannot be avoided; the site would have to be cleared of vegetation in advance	Avoidance or Trial Excavation (if the site cannot be avoided)
20	Llwyn Derw Farmhouse	C	None	None	Avoidance

6.2 General Recommendations

In addition to the specific recommendations given above the following scheme wide general recommendations are made.

- As there is some potential for the identification of below ground archaeological remains, it is recommended that an **Intensive Watching Brief** be carried out during the groundworks for this project.
- It is recommended that boundary walls and *cloddau* be rebuilt in a sympathetic manner where they have been breached.
- It is recommended that a programme of environmental sampling be carried out in suitable areas of the route to test for paleoenvironmental remains, subject to specialist advice.

7. CONCLUSIONS

The dominant cultural context within the area in the post-medieval period is rural farming, primarily enclosed sheep and cattle farming. However, the wider area can also be seen within an industrial and

urban context, typified by an assortment of mines and quarries, with their associated tramways and railways, as well as townships dating back to the medieval period and most likely beyond.

The archaeological assessment identified seventeen features that are likely to be impacted upon by the scheme. The most significant of these is the site of the former Gorseddau tramway (Site 18), the remainder being field boundaries and trackways.

The former Cae Canol farm (Site 19) is located within the “Scheme Extent” defined in Ymgynghoriaeth Gwynedd/Gwynedd Consultancy Drawing No. **957/MI/011** (reproduced as Fig. 1). However, it appears to be outside of the direct impact zone highlighted in Ymgynghoriaeth Gwynedd/Gwynedd Consultancy Drawing Nos. **957/GA/100** to **957/GA/300** (reproduced as Figs. 6 to 8) and the 25m impact buffer zone identified by Ymgynghoriaeth Gwynedd/Gwynedd Consultancy. If this feature is to be affected by the scheme (including ancillary works e.g. compound or laydown areas), then the mitigation programme defined in **para. 6.1** is recommended.

All the features identified within the 25m impact buffer zone are of post medieval date, and recommendations for the archaeological mitigation of these are given above.

There is also some potential however for the survival of relict prehistoric and medieval archaeology, below the ground based on the proximity of identified sites within the 250m assessment zones. An **intensive archaeological watching brief** during groundworks has been recommended.

There is also some potential however for the survival of palaeoenvironmental remains in the more waterlogged areas. A **palaeoenvironmental sampling** programme has been recommended, to be undertaken in advance of main groundworks, based on specialist feedback.

8. 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 **G2254**.

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.

9. REFERENCES AND OTHER SOURCES CONSULTED

Boyd, J. I.C. 1988 *Narrow Gauge Railways in South Caernarvonshire, Volume 1* (2nd edition ed.).

British Geological Society 1982 *British Geological Survey-Sheet 135 Solid Edition*

Cadw 1998 *Register of Landscapes of Outstanding Historic Interest in Wales*

Cooke, R. 2009 A487 (T) *Ty Cerrig, Garndolbenmaen Road Improvements Cultural Heritage Assessment (G2095)*. Unpublished GAT Report No. 824

Davies, R. 1999 *The Tithe Maps of Wales* (National Library of Wales)

Fenton, R. 1917 *Tours in Wales 1804-1813* (Cambrian Archaeological Association)

IFA 1994 *Standard and Guidance for Archaeological Desk-based Assessment* (rev. 2001).

RCAHMW 1956 *An Inventory of Ancient and Historic Monuments for Caernarfonshire. Vol 2: Central*

Smith, B. and George, T.N. 1961 *British Regional Geology- North Wales*

Gwynedd Archives, Caernarfon

Tithe maps and Apportionments of the Parishes of Penmorfa 1838 and Ynysynhaearn 1840

GAT Historic Environment Record

Ordnance Survey maps:

1888 First Edition County Series XXXIV.06 and 07

1900 Second Edition County Series XXXIV.06 and 07

1915 Third Edition County Series XXXIV.06 and 07

RCAHM Wales Aberystwyth

Aerial Photographs

Sortie: 106G/UK/1467 Date: 03/05/1946 Frames: 3173

Sortie: 106G/UK/1469 Date: 04/05/1946 Frames: 4266

Sortie: Cardiff 72-269 Date: 18/07/1972 Frames 151

APPENDIX 1

Sites on the Gwynedd HER database, Listed Buildings and Scheduled Ancient Monuments (SAM), within 1.5km of the study area

PRN	NAME	NGR	TYPE	PERIOD	STATUS
11996	Carreg-felin	SH53383983	BUILDING	Post-Medieval	Listed Building
12563	Clenennau, Barn	SH53164246	BUILDING	Post-Medieval	Listed Building
158	Clenennau (Medieval House), Golan	SH53164246	HOUSE	Medieval	-
181	Settlement (Medieval), Gesail Gyfarch	SH54154192	DESERTED RURAL SETTLEMENT	Medieval	-
185	Platform House, Craig y Gesail	SH54064121	HOUSE PLATFORM	Medieval	-
189	Inscribed Stone ("CVNALIPI"), Gesail Gyfarch	SH54024170	INSCRIBED STONE	Early Medieval	Scheduled Ancient Monument
2356	Rotary Quern, Findspot, Gwernddwryd	SH53154065	FINDSPOT	Roman	-
2357	Roman Copper Cake, Findspot, Clenenney	SH53204246	FINDSPOT	Roman	-
2365	Homestead, Cae-Gwenllian	SH51994003	ENCLOSED SETTLEMENT	Roman	-
2377	Cremation Urn & Burial, Site Of, Llyn-y-mafon-isaf	SH52004120	FINDSPOT	Prehistoric	-
2380	Bronze Axe, Findspot, Tyddyn-dicwm-uchaf	SH54204090	FINDSPOT	Bronze Age	-
4056	Spindle Whorl - Findspot, Pentrefelin	SH52663985	FINDSPOT	Prehistoric	-
5260	House - Clwt y Ffolt, Dolbenmaen	SH53104220	HOUSE	Post-Medieval	Snowdonia National Park
6758	Gesail Gyfarch (2)	SH54154192	LONG HUT	Medieval	-
6759	Gesail Gyfarch (3)	SH54154192	LONG HUT	Medieval	-
6760	Gesail Gyfarch (5)	SH54154192	LONG HUT	Medieval	-
6761	Gesail Gyfarch (6)	SH54154192	LONG HUT	Medieval	-
7376	Penyfed Medieval Township	SH54004100	TOWNSHIP	Medieval	-

APPENDIX 2

Definitions of terms used within the report

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 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.

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.

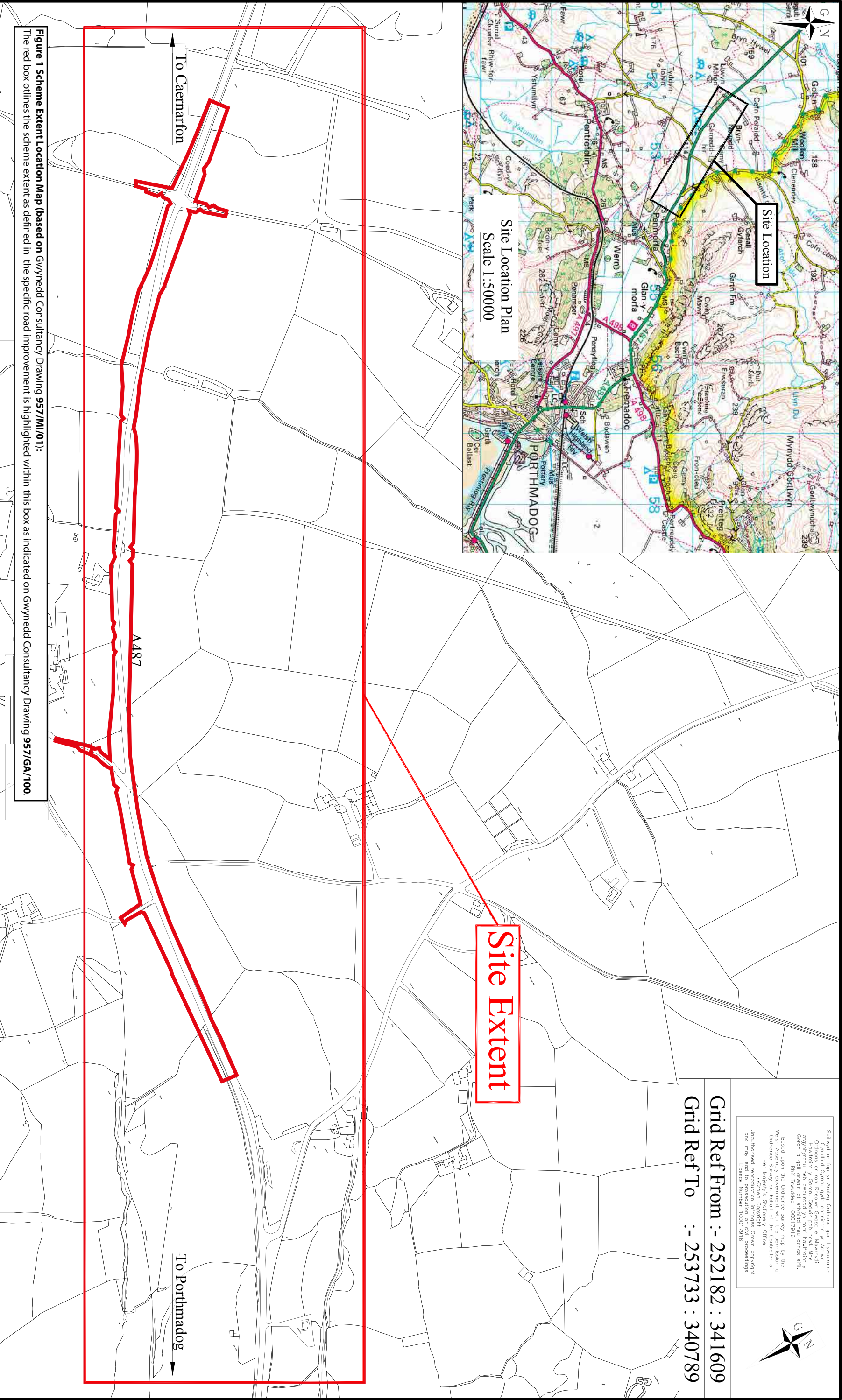
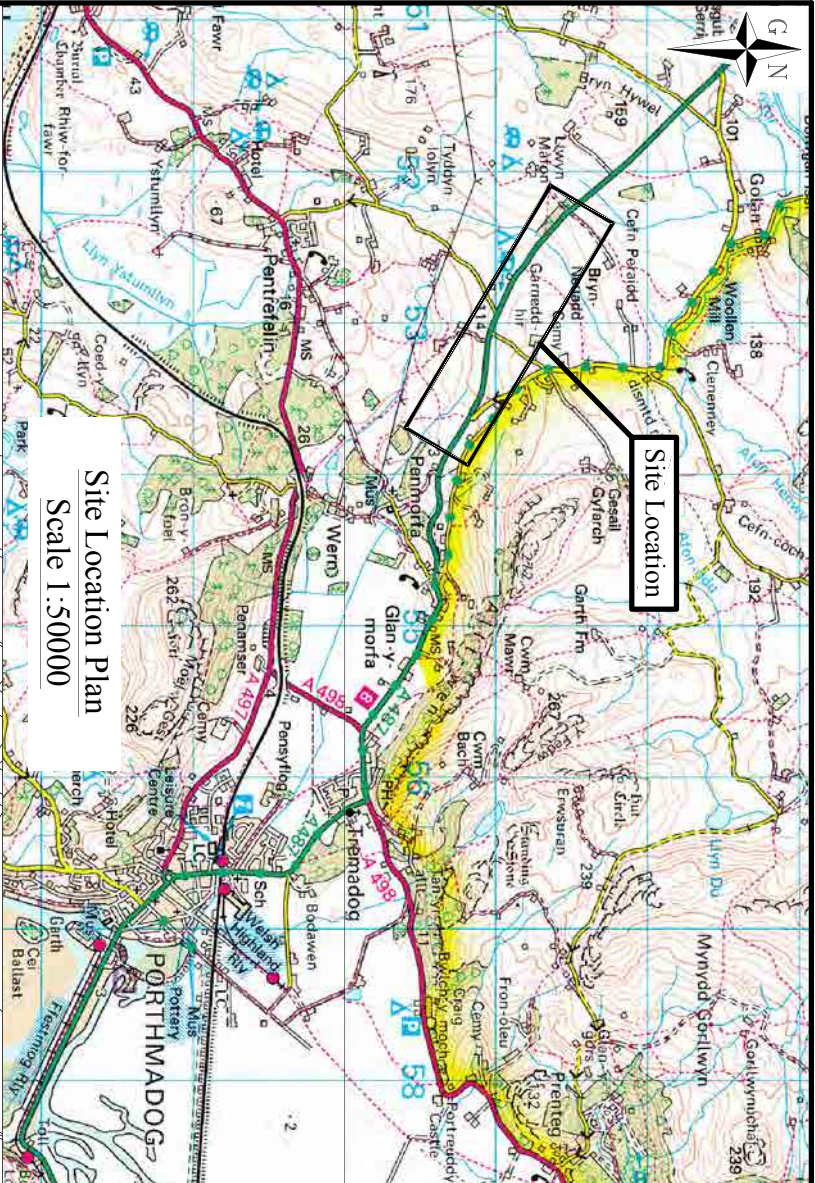




Figure 1 Scheme Extent Location Map (based on Gwynedd Consultancy Drawing 957/MI/01):
The red box outlines the scheme extent as defined in the specific road improvement is highlighted within this box as indicated on Gwynedd Consultancy Drawing 957/GA/100.

Seiliedig ar fapiau'r Arloes Ordnans gan Lloeddwrth
Ordnans ar fon Rhydwir Gwysg ei Wymysd
Hwysdant y Gwysg Gwysg pob hawl, Mae
gwysgwrth y Gwysg Gwysg Gwysg Gwysg
Gwysg Gwysg Gwysg Gwysg Gwysg Gwysg
Rhif Treysdod 100017916
Based upon the Ordnance Survey map by the
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Grid Ref From :- 252182 : 341609
Grid Ref To :- 253733 : 340789

CILEIANT/CLIENT :		CYLLUN/SCHEME :	
		A487 Llwyn Mafon to Golau Junction	
		TEITL LLUNIAD/DRAWING TITLE :	
		Location Plan	
		Rhif Lluniad Drawing No. 957/MI/01	
		CYW REV	

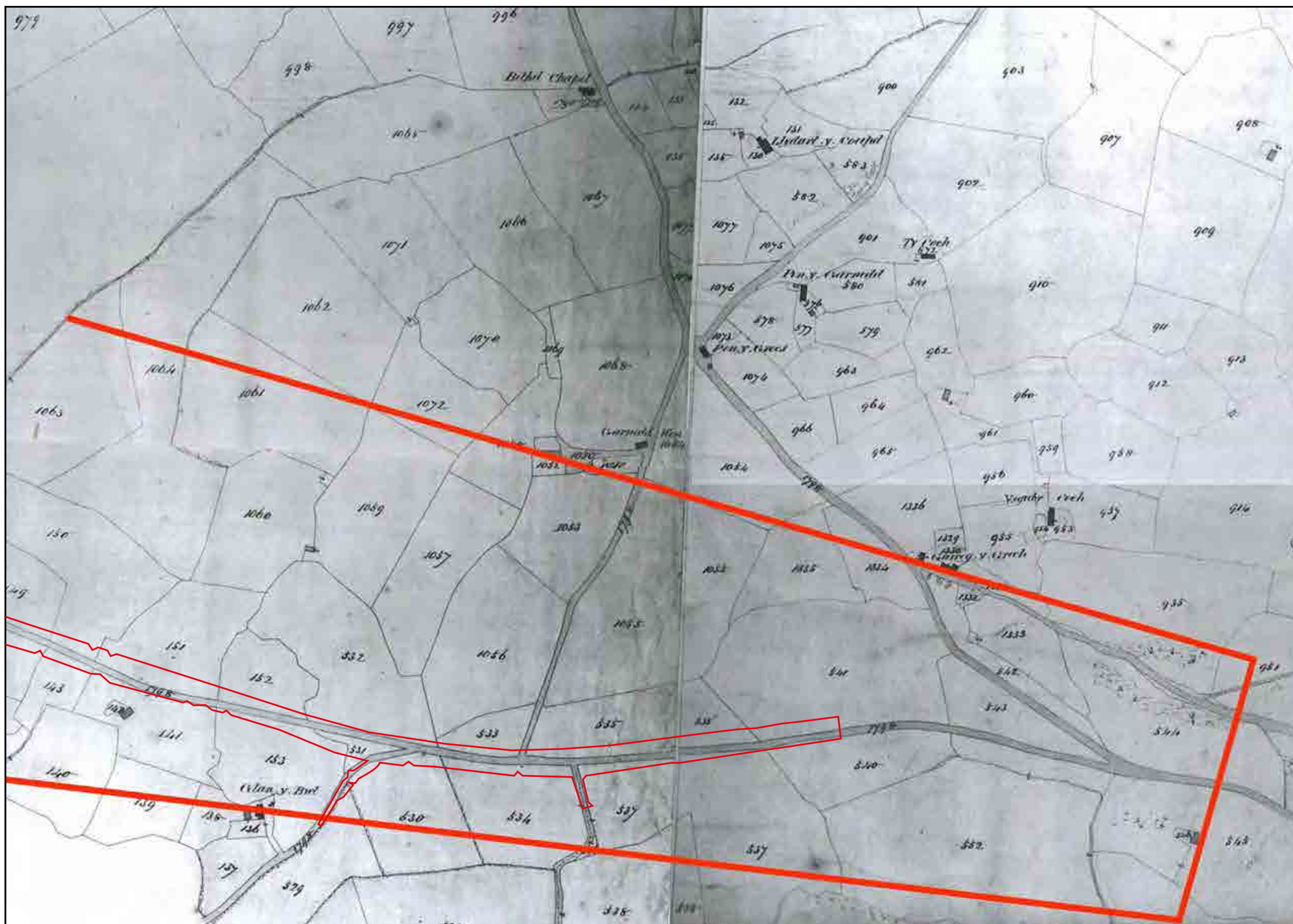


Figure 3 Reproduction of the Tithe Map of the Parish of Penmorfa of 1838: The red box outlines the scheme extent as defined in Gwynedd Consultancy Drawing **957/MI/01**; the specific road improvement scheme impact is highlighted within this box as indicated on Gwynedd Consultancy Drawing **957/GA/100**.

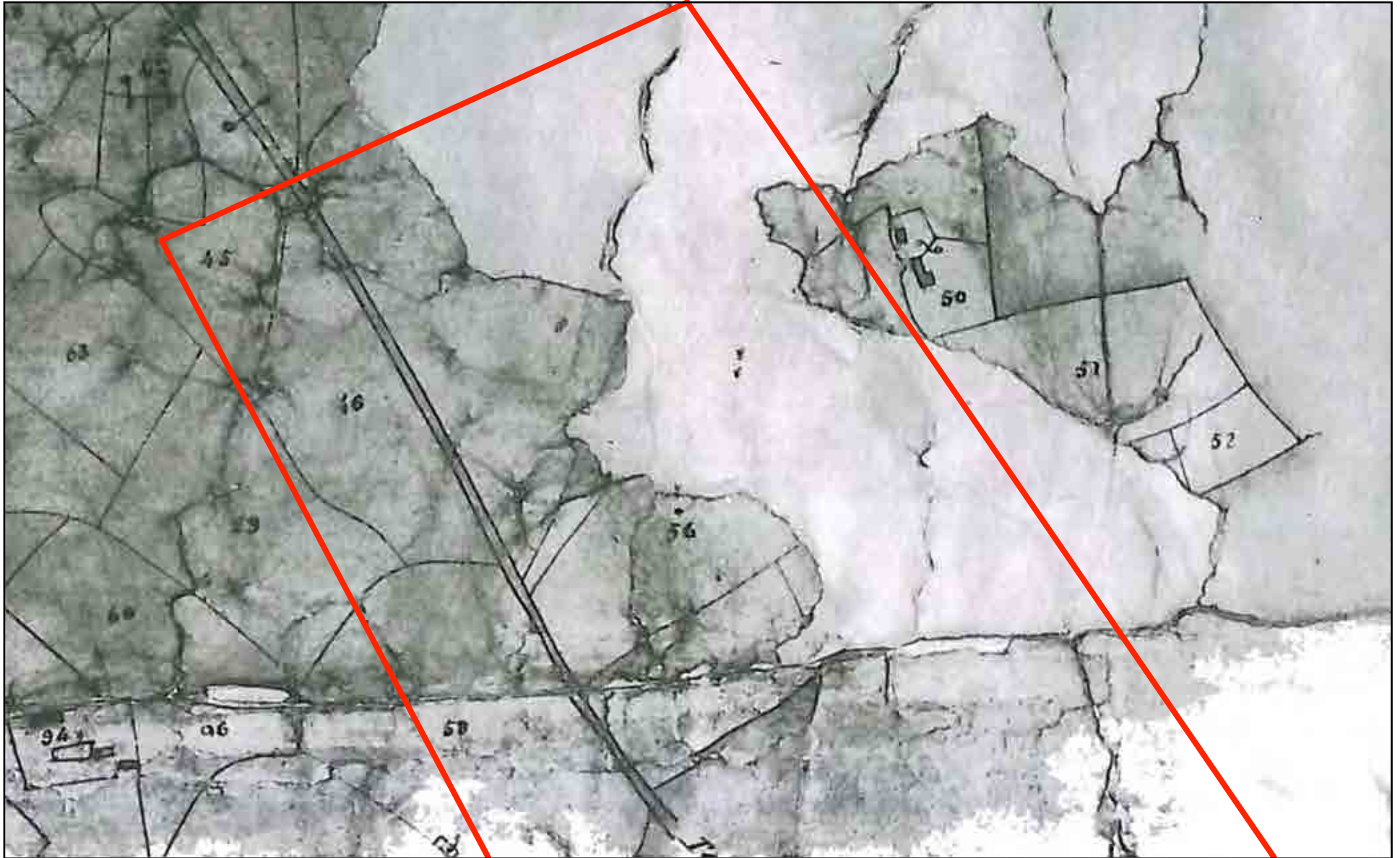


Figure 4 Reproduction of the Tithe Map of the Parish of Ynyscynhaearn of 1840: The red box outlines the scheme extent as defined in Gwynedd Consultancy Drawing **957/MI/01**; the specific road improvement scheme impact is highlighted within this box as indicated on Gwynedd Consultancy Drawing **957/GA/100**.

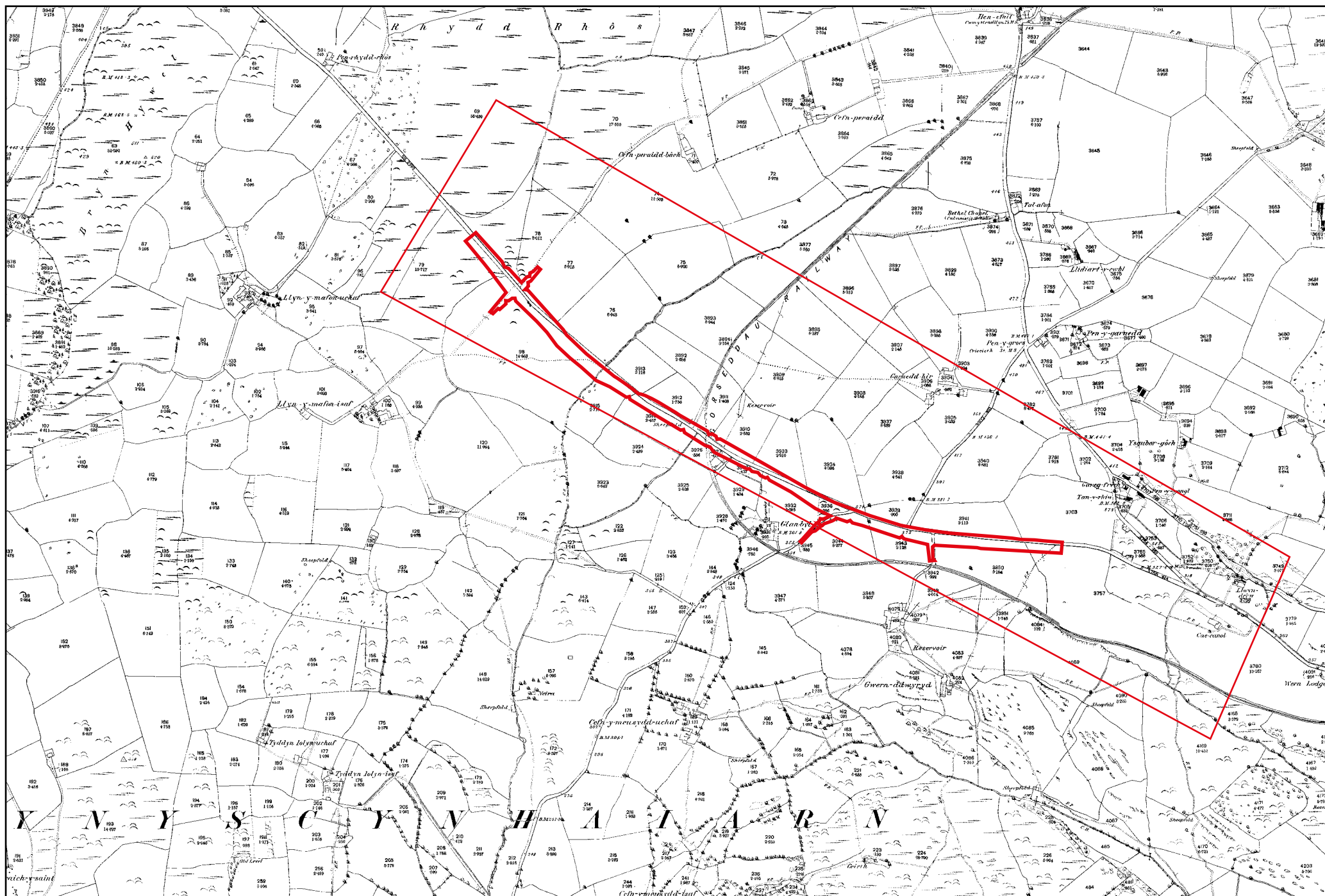


Figure 5 25" Ordnance Survey 1888 First Edition County Series Caernarvonshire Sheet XXXIV.06 and 07:

The red box outlines the scheme extent as defined in Gwynedd Consultancy Drawing **957/MI/01**; the specific road improvement scheme impact is highlighted within this box as indicated on Gwynedd Consultancy Drawing **957/GA/100**. Scale 1:10000@A4

CLIENT/CLIENT :

- ## NODIADAU/NOTES
1. All dimensions in millimetres unless otherwise stated.
 2. All levels in metres above Ordnance Datum.
 3. All chainages in metres.

Site Location

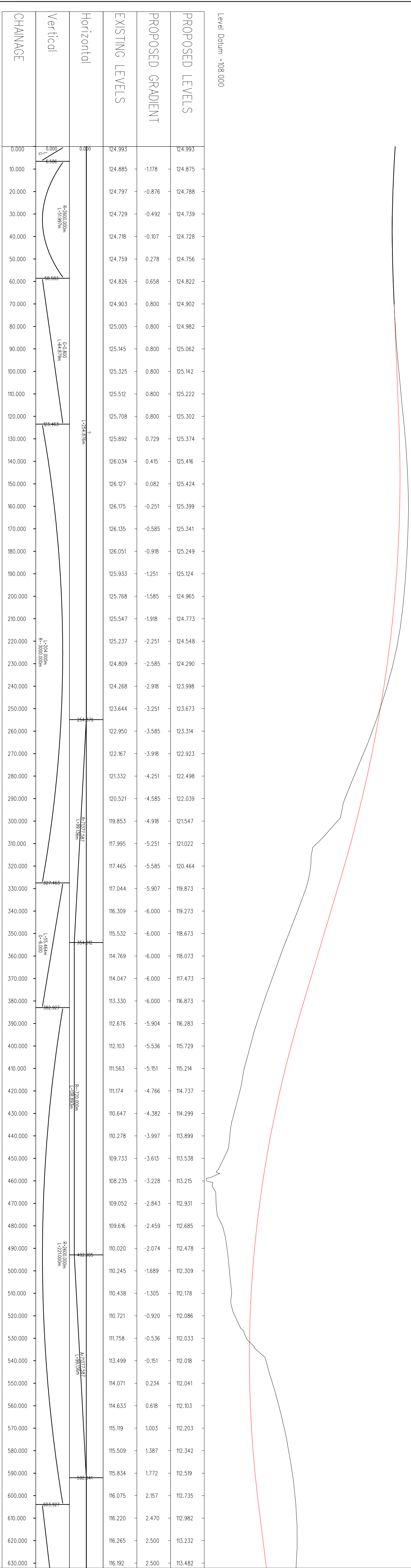
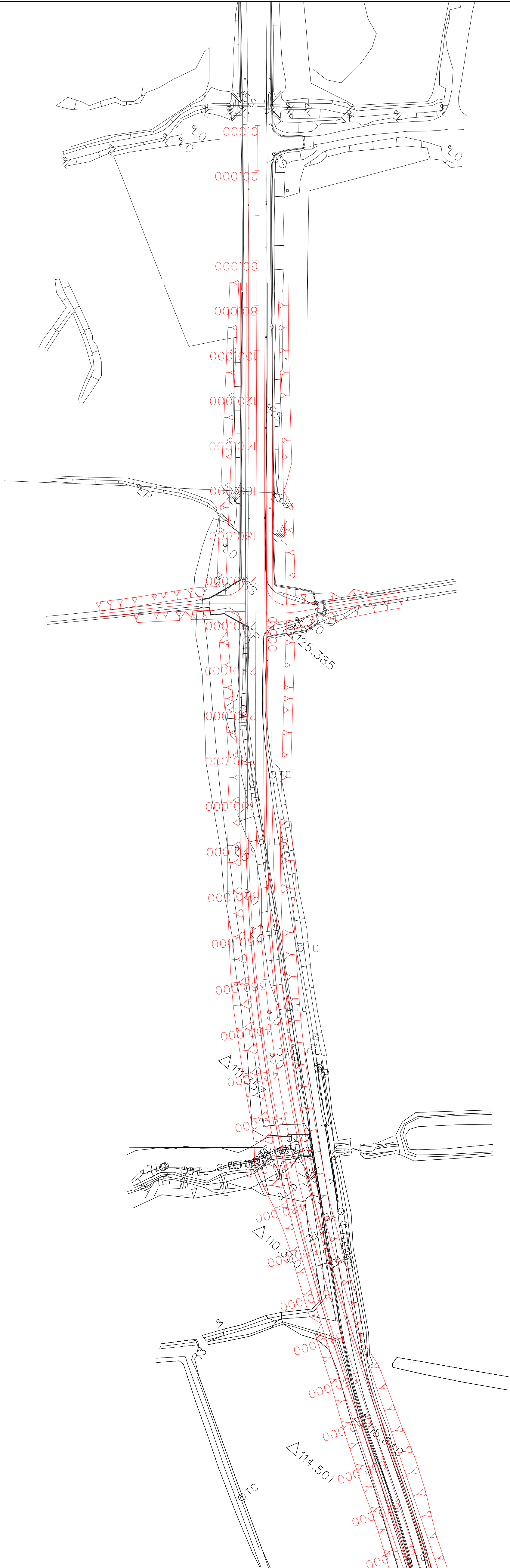
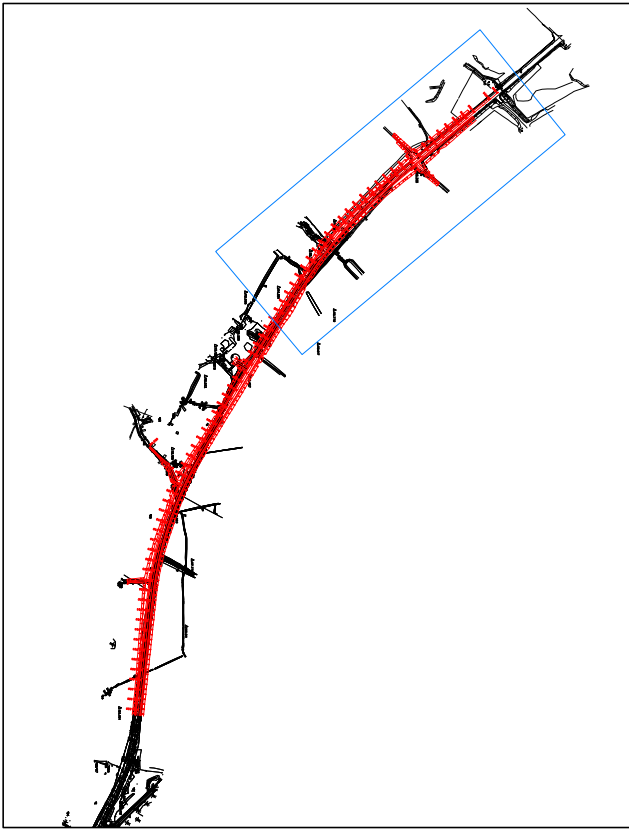


Figure 6 Reproduction of Gwynedd Consultancy Drawing 957/GA/100 detailing scheme impact within the northwestern portion of the route

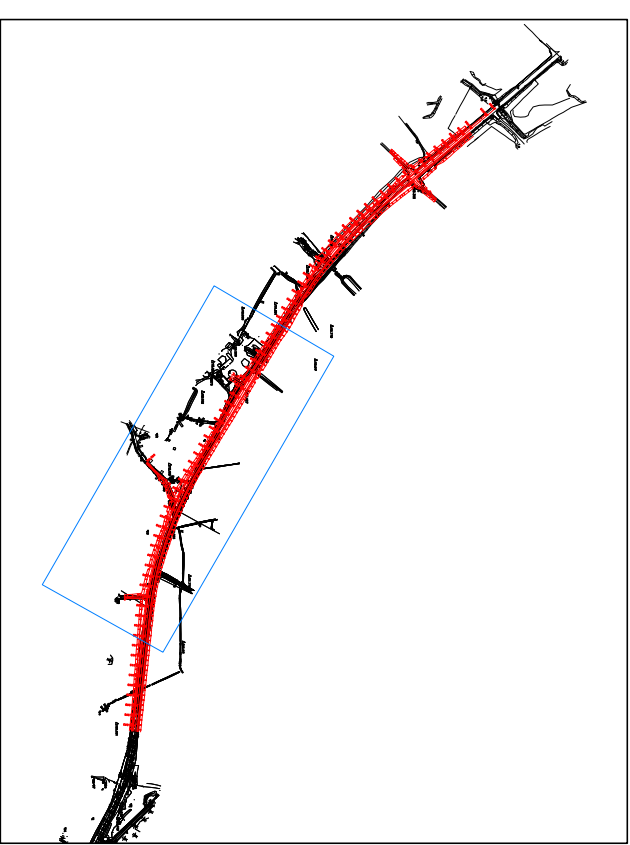
Centreline Longsection

[illegible]

CLIENT/CLIENT :

- ## NODIADAU/NOTES
1. All dimensions in millimetres unless otherwise stated
 2. All levels in metres above Ordnance Datum.
 3. All changes in metres.

Site Location



Level Datum = +08.000		
PROPOSED LEVELS		
PROPOSED GRADIENT		
EXISTING LEVELS		
Horizontal		
Vertical		
CHANGING		

Centreline Longsection

Figure 7 Reproduction of Gwynedd Consultancy Drawing 957/GA/200 detailing scheme impact within the northwestern portion of the route

[illegible]



Plate 01: Golan Junction from the east



Plate 02: Roadside Clawdd boundary wall (Site 2)



Plate 03: Site 5 from the south east



Plate 04: Roadside Site 8 from the west. Scale 1m



Plate 05: Site 8 from the west



Plate 06: Site 10 from the west across the wet ground



Plate 07: Site 19 Cae Canol (Far left) with associated boundary wall



Plate 08: Llwyn Derw (Site 20) from the south

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12563	Clenennau, Barn	SH53164246	BUILDING	Post-Medieval	Listed Building
158	Clenennau (Medieval House), Golan	SH53164246	HOUSE	Medieval	-
181	Settlement (Medieval), Gesail Gyfarch	SH54154192	DESERTED RURAL SETTLEMENT	Medieval	-
185	Platform House, Craig y Gesail	SH54064121	HOUSE PLATFORM	Medieval	-
189	Inscribed Stone ("CVNALIPI"), Gesail Gyfarch	SH54024170	INSCRIBED STONE	Early Medieval	Scheduled Ancient Monument
2356	Rotary Quern, Findspot, Gwernddwryd	SH53154065	FINDSPOT	Roman	-
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2377	Cremation Urn & Burial, Site Of, Llyn-y-mafon-isaf	SH52004120	FINDSPOT	Prehistoric	-
2380	Bronze Axe, Findspot, Tyddyn-dicwm-uchaf	SH54204090	FINDSPOT	Bronze Age	-
4056	Spindle Whorl - Findspot, Pentrefelin	SH52663985	FINDSPOT	Prehistoric	-
5260	House - Clwt y Ffolt, Dolbenmaen	SH53104220	HOUSE	Post-Medieval	Snowdonia National Park
6758	Gesail Gyfarch (2)	SH54154192	LONG HUT	Medieval	-
6759	Gesail Gyfarch (3)	SH54154192	LONG HUT	Medieval	-
6760	Gesail Gyfarch (5)	SH54154192	LONG HUT	Medieval	-
6761	Gesail Gyfarch (6)	SH54154192	LONG HUT	Medieval	-
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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 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.

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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