

A55 Tai'r Mebion Enabling Works

Archaeological Watching Brief



Ymddiriedolaeth Archaeolegol Gwynedd
Gwynedd Archaeological Trust

A55 Tai'r Meibion Enabling Works

Prosiect Rhif/Project No. G2588

Report No. 1484

Prepared for: Ymgynghoriaeth Gwynedd Consultancy

March 2019

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Cover Illustration: Start of scheme - view along Roman Road & hedge terminal (Archive Ref: G2588_001)

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<i>CRYNODEB ANNHECHNEGOL</i>	1
<i>NON TECHNICAL SUMMARY</i>	1
1 INTRODUCTION	2
1.1 Fieldwork Aims and Objectives.....	4
2 ARCHAEOLOGICAL AND HISTORICAL BACKGROUND.....	5
3 METHODOLOGY	6
4 RESULTS	7
5 CONCLUSION	8
6 SOURCES CONSULTED	9
Appendix I	11
Gwynedd Archaeological Trust Written Scheme of Investigation.....	11
Appendix II.....	12
Gwynedd Archaeological Trust Photographic Metadata.....	12

Figures

Figure 01: Overall scheme extent and the location of assets in proximity to the Enabling Works

Figure 02: Reproduction of YGC Drawing No. 5055/GA/50

Figure 03: Caernarfonshire 2nd Edition County Series Map Sheets VII.10 & VII.11 published 1900. Scale 1:1500@A4

Figure 04: Caernarfonshire 3rd Edition County Series Map Sheets VII.10 & VII.11 published 1914. Scale 1:1500@A4

Plates

Plate 01: Topsoil strip, hedge and slate fence (archive reference: G2588_008).

Plate 02: Hedge, clawdd and slate fence, scale: 1x1m (archive reference: G2588_012).

Plate 03: View of hedgerow and clawdd; scale: 1x1m (archive reference: G2588_023).

Plate 04: Working shot of hedge translocation; scale: 1x1m (archive reference: G2588_062).

Plate 05: Remains of field boundary and culvert (Primary Reference Number 77218) after hedge translocation; scale - 1x1m (archive reference G2588_084).

Plate 06: Hedgerow after translocation; scale: 1x1m (archive reference G2588_080)

CRYNODEB ANNHECHNEGOL

Comisiynwyd Ymddiriedolaeth Archaeolegol Gwynedd gan Ymgynghoriaeth Gwynedd Consultancy i gynnal Briff Gwyllo Archaeolegol yn ystod y gwaith galluogi ar gyfer cynllun gwella'r ffordd yr A55 Abergwyngregyn i Dai'r Meibion. Gwnaed y gwaith galluogi mewn caeau ac ar hyd ochr y ffordd sydd wedi'i leoli 874m i'r gogledd o hyd lôn a elwir yn "Ffordd Rufeinig". Roedd y gwaith galluogi yn cynnwys sribyn o uwchbridd o'r ardal drawsleoli, y trawsleoli o wrych, a chloddio i lefel ffurfio'r ardal lle'r oedd y gwrych wedi'i leoli'n wreiddiol. Adnabuwyd tystiolaeth o ffin gaeau cynharach a cheuffos yn yr ardal drawsleoli a oedd yn cynrychioli gweithgaredd sy'n gysylltiedig ag Ystâd y Penrhyn.

NON TECHNICAL SUMMARY

Gwynedd Archaeological Trust was commissioned by Ymgynghoriaeth Gwynedd Consultancy to conduct an Archaeological Watching Brief during the enabling works for the A55 Abergwyngregyn to Tai'r Meibion road improvement scheme. The enabling works were undertaken in fields and along the roadside to the north of an 874m length of road known as "Roman Road". The enabling works comprised a topsoil strip of the translocation area, the translocation of a hedgerow, and the excavation to formation level of the area where the hedge was originally located. Evidence for an earlier field boundary and culvert were identified within the translocation area that represented activity associated with the Penrhyn Estate.

1 INTRODUCTION

Gwynedd Archaeological Trust (GAT) was commissioned by Ymgynghoriaeth Gwynedd Consultancy (YGC) to undertake an archaeological watching brief during enabling works for the A55 Abergwyngregyn to Tai'r Meibion road improvement scheme. The enabling works were located between NGR SH62917162 and NGR SH63727153 (Figure 01) and incorporated an 874m length of a local road known as "Roman Road", as well as fields to the north, as detailed on YGC Drawing No. 5055/GA/50 (Figure 02). The aim of the enabling works was to prepare the road for widening and included the translocation of an existing hedgerow to the immediate north, a topsoil strip of the translocation area, and the excavation to formation level of the road widening area.

The watching brief was a continuation of a programme of archaeological fieldwork undertaken for the A55 road improvement scheme, which also included a pre-commencement evaluation of the road widening/translocation area in 2016 (GAT Report 1323) and a watching brief along the A55 between Abergwyngregyn and Tai'r Meibion, during 2017 and 2018 (GAT Report 1432).

The archaeological watching brief monitored the following:

- a record of the existing lane/hedgerow before the start of works;
- a watching brief during the topsoil strip of the translocation area;
- inspection of the original position of the hedgebank for exposed deposits following removal of the hedgerow; and
- monitoring of the excavation to formation level of the area where the hedgebank was originally located.

The enabling works were undertaken by Jones Bros Civil Engineering UK on behalf of YGC and the watching brief was completed between 8th January 2019 and 12th March 2019.

The watching brief was monitored by the Gwynedd archaeological Planning Service; a written scheme of investigation was prepared by GAT prior to attendance ([Appendix I](#)). The Gwynedd Archaeological Trust Historic Environment Record Event Primary Reference Number for this project was 45381.

The watching brief was completed in accordance with the following guidance:

- Standard and Guidance for Archaeological Watching Brief (Chartered Institute for Archaeologists, 2014);
- Management of Archaeological Projects (English Heritage, 1991);
- Management of Research Projects in the Historic Environment: The MoRPHE Project Managers' Guide (Historic England, 2015); and
- Guidelines for the creation and deposition of the digital archive as set out in *Archaeological Archives- A guide to best practice in creation, compilation, transfer and curation* (English Heritage *et al.* 2011) will be followed.

Gwynedd Archaeological Trust is certified to ISO 9001:2015 and ISO 14001:2015 (Cert. No. 74180/B/0001/UK/En) and is a Registered Organisation with the Chartered Institute for Archaeologists and a member of the Federation of Archaeological Managers and Employers (FAME).

1.1 Fieldwork Aims and Objectives

The key aims and objectives of the watching brief were to:

- record the existing hedgerow before translocation;
- identify and record any archaeological activity identified during the enabling works. Archaeological activity within the local area has included prehistoric (Late Neolithic earth oven), Roman (Canovium to Segontium Roman Road), medieval (medieval township at Wig Farm) and agricultural activity, and the objective was to establish the date and nature of any archaeological remains identified within the translocation route and assess their implications for understanding the historical development of the area, in conjunction with the known archaeological record; and
- if no archaeological activity was identified, establish why this may have been the case.

2 ARCHAEOLOGICAL AND HISTORICAL BACKGROUND

GAT completed an Assessment of the Significance of the Impact of Development on Historic Landscape report (McNichol 2015a: GAT Report 1257) and a heritage desk based assessment report (McNichol, 2015b: GAT Report 1258) of the A55 (T) Abergwyngregyn to Tai'r Meibion Improvement in 2015. The desk based assessment report included recommendations for trial trenching prior to any other work on site at two potential sites within the scheme footprint: the proposed site of a medieval township at Wig (Primary Reference Number 6811) and the proposed route of the Canovium - Segontium Roman Road to the south of Tai'r Meibion (National Primary Reference Number 405340). Four trial trenches were excavated, three at Wig Farm and one at Tai'r-meibion. No evidence for medieval settlement was identified at Wig Farm, whilst Trench 04 at Tai'r Meibion revealed evidence for two modern drains and a stone and earth field boundary bank of unknown date; no evidence for the Roman Road was encountered within the confines of the trench (McGuinness 2016: GAT Report 1323).

GAT subsequently completed an archaeological watching brief during the A55 Abergwyngregyn to Tai'r Meibion improvement works along the south side of the A55 (Ryan Young and Reilly, 2018: GAT Report 1432). The watching brief was completed between February 2017 and January 2018 and was followed by post-excavation assessment and analysis of a prehistoric pit identified during the works towards the Abergwyngregyn end (Figure 02). The pit contained heat fractured stone and fragments of charcoal; the latter were submitted for radiocarbon dating that produced a date range within the Late Neolithic.

3 METHODOLOGY

The watching brief was completed between the 8th January 2019 and 12th March 2019. All monitored groundworks were completed by Jones Bros Civil Engineering UK.

Prior to the start of the translocation work, a record of the existing hedgerow was completed by GAT. Photographic images were taken using a digital SLR (Nikon D3100) camera set to maximum resolution (3008 × 2000 6.1 effective megapixels) in RAW format; a photographic record was maintained on site using GAT pro-formas and digitised in Microsoft Access as part of the fieldwork archive and dissemination process. Photographic images were archived in TIFF format using Adobe Photoshop; the archive numbering system was G2588_001 to G2588_93 (cf. [Appendix II](#)). Where practical, a photographic ID board was used to record site code, image orientation and any relevant context numbers. The written description was completed using GAT pro-formas. The archaeological watching brief was carried out during the topsoil strip of the receptor area for the hedgerow translocation, and the original location of the hedge was examined after its removal and during any ground reduction to formation level.

4 RESULTS

The field boundaries comprised a mixture of hedge and colddau which extended along the majority of the length of the scheme; there were also slate fencing and short lengths of post and wire fence. The hedgerow included a mixture of ash, elm, blackthorn, birch, sycamore, wild privet and hazel, with dog rose, bramble, holly and ivy. The hedge base was inspected for archaeological activity and the hedge was coppiced and trimmed before the translocation was carried out. There slate fencing included an earlier phase around which the hedge had grown that was dilapidated and in need of repair (Plate 01) and a later phase of replacement/repair that ran along the north side of the boundary (Plate 02). There were occasional lengths of post and wire fence where there were gaps in the hedge and clawdd.

As part of the translocation scheme, a temporary fenced easement was established within which a 13 tonne excavator with a toothless bucket undertook a topsoil strip; the topsoil was stored in a temporary windrow next to the fence for re-use later (Plates 03 and 04). Subsoil was then excavated from the base of the hedge to create a small mound along the new line of the hedgerow.

A 35 tonne excavator was utilised for the hedge translocation. The hedge roots were first loosened with a toothed bucket and then slid across to the new location with the back of the toothless bucket. The exposed area was then checked for archaeological features. The hedge was translocated between 5 to 7m north from its original position.

Archaeological activity was limited to the remains of a field boundary and culvert at NGR SH63637153 (Primary Reference Number 77218; Figure 04; Plate 5) that was identified within the former hedgerow after translocation. The field boundary was visible at foundation level and measured 1.1m in width and appeared to be a former clawdd. It was aligned north to south and abutted an existing east west boundary of clawdd construction. In addition to the boundary at the same location was a slate capped culvert that measured 1.0m in width and was orientated north to south. Both the clawdd and culvert were interpreted as activity associated with former Penrhyn Estate management. An examination of the First to Third Edition 25-inch to 1-mile Ordnance Survey for the area (Sheets VII.10 and VII.11) suggests that the former boundary was present until the publication of the First Edition in 1889 (Figure 03), but that the boundary was realigned to its current position before the publication of the Third Edition in 1914 (Figure 04), with a noticeable kink in the boundary alignment removed and the north-south boundary line straightened.

5 CONCLUSION

A watching brief was undertaken by Gwynedd Archaeological Trust during the enabling works for the A55 Abergwyngregyn to Tai'r Meibion road improvement scheme in fields and along the roadside to the north of an 874m length of highway known as "Roman Road".

Archaeological activity was limited to evidence of Penrhyn Estate management, represented by a former clawdd and culvert; with the clawdd, as suggested by historic map evidence, to have been in use until the early twentieth century, when it was replaced by a realigned boundary.

No other archaeological activity was identified within the confines of the watching brief area.

6 SOURCES CONSULTED

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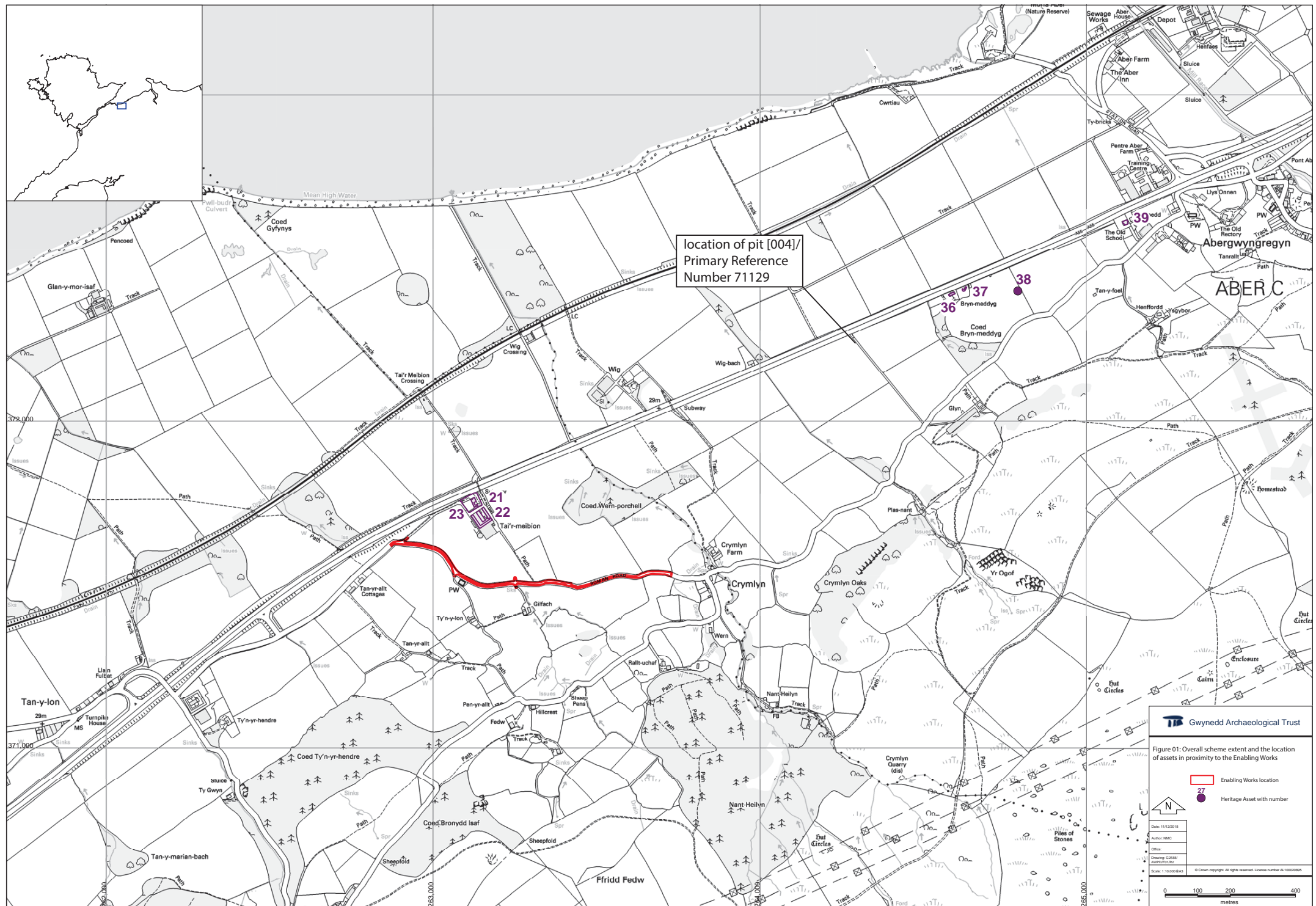
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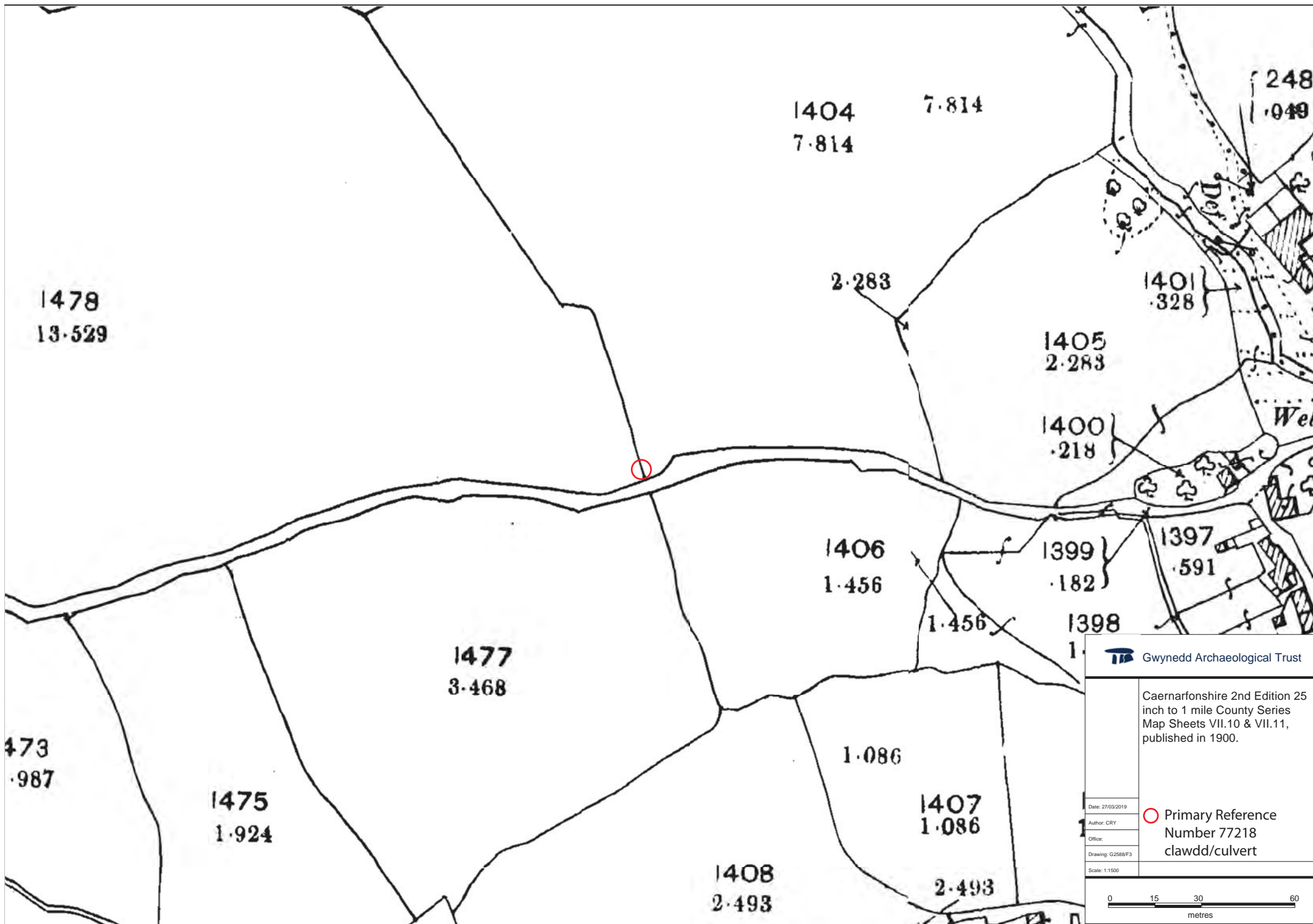
Ryan Young C, and Reilly S, 2018: *Abergwyngregyn to Tai'r Meibion Improvement Scheme: Mitigation Report*. GAT Report 1432

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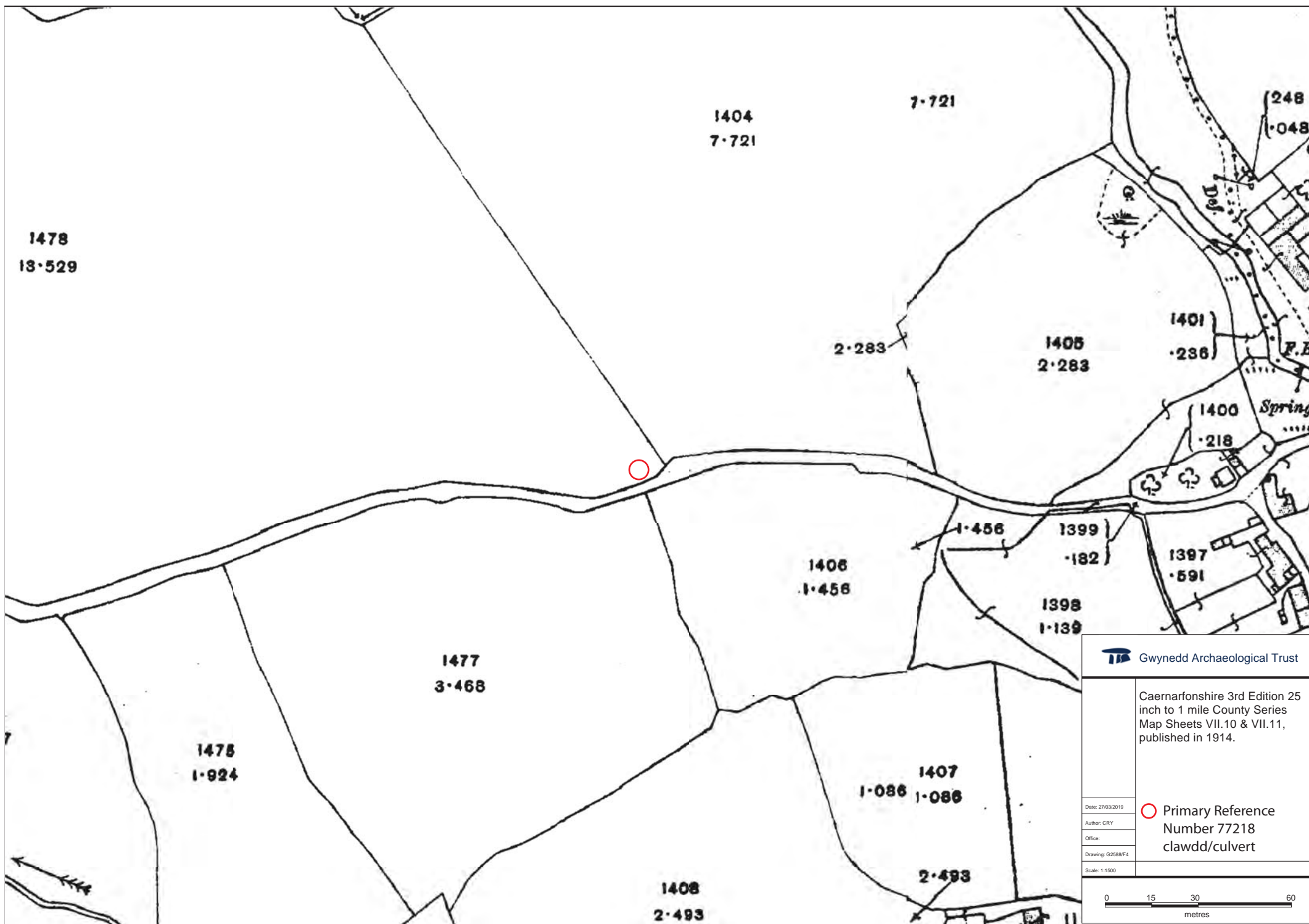




Plate 01: Topsoil strip, hedge and slate fence (archive reference: G2588_008).



Plate 02: Hedge, clawdd and slate fence, scale: 1x1m (archive reference: G2588_012).



Plate 03: View of hedgerow and clawdd; scale: 1x1m (archive reference: G2588_023).



Plate 04: Working shot of hedge translocation; scale: 1x1m (archive reference: G2588_062).



Plate 05: Remains of field boundary and culvert (Primary Reference Number 77218) after hedge translocation; scale - 1x1m (archive reference G2588_084)



Plate 06: Hedgerow after translocation; scale: 1x1m: (archive reference G2588_080)

APPENDIX I

Gwynedd Archaeological Trust Written Scheme of Investigation

A55 TAI'R MEBION ENABLING WORKS (G2588)

WRITTEN SCHEME OF INVESTIGATION FOR AN
ARCHAEOLOGICAL WATCHING BRIEF




Prepared for

Ymgynghoriaeth Gwynedd Consultancy

December 2018



Ymddiriedolaeth Archaeolegol Gwynedd
Gwynedd Archaeological Trust

Approvals Table				
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Originated by	Document Author	NEIL MCGUINNESS		18/12/18
Reviewed by	Document Reviewer	JOHN ROBERTS		18/12/18
Approved by	Principal Archaeologist	JOHN ROBERTS		18/12/18

Revision History			
Rev No.	Summary of Changes	Ref Section	Purpose of Issue
1.1	Changes to scope and timing of watching brief	1,3.1,3.2,5	Further method statement and timetable received from client

All GAT staff should sign their copy to confirm the project specification is read and understood and retain a copy of the specification for the duration of their involvement with the project. On completion, the specification should be retained with the project archive:

Name

Signature

Date

A55 TAI'R MEBION ENABLING WORKS (G2588)

WRITTEN SCHEME OF INVESTIGATION FOR AN ARCHAEOLOGICAL WATCHING BRIEF

Prepared for *Ymgynghoriaeth Gwynedd Consultancy*, December 2018

1	INTRODUCTION	5
1.1	Fieldwork Aims and Objectives	7
2	ARCHAEOLOGICAL AND HISTORICAL BACKGROUND	8
3	METHODOLOGY	9
3.1	Record of the existing lane/hedgerow before works	9
3.2	Watching brief / inspection of the original position of the hedgebank for exposed deposits	9
3.3	Human Remains	12
3.4	Ecofacts	13
3.5	Artefacts	14
3.6	Monitoring Arrangements	16
3.7	Fieldwork Archiving	17
4	REPORTING	18
5	DISSEMINATION AND ARCHIVING	19
5.1	Historic Environment Record	20
6	PERSONNEL	21
7	HEALTH AND SAFETY	22
8	SOCIAL MEDIA	23
9	INSURANCE	24
9.1	Public/Products Liability	24
9.2	Employers Liability	24
9.3	Professional Indemnity	24
10	SOURCES CONSULTED	25

FIGURES

Appendix I

Jones Bros Civil Engineering UK, A55 Abergwyngregyn Enabling Works, Method
Statement for dealing with Hedgerow Translocation

Appendix II

Gwynedd Archaeological Trust photographic metadata pro-forma

Appendix III

Gwynedd Archaeological Trust watching brief pro-forma

1 INTRODUCTION

Gwynedd Archaeological Trust (GAT) has been asked by Ymgynghoriaeth Gwynedd Consultancy (YGC) to prepare a Written Scheme of Investigation (WSI) for an archaeological watching brief to monitor aspects of the enabling works for the A55 Abergwyngregyn to Tai'r Meibion road improvement scheme. The enabling works will be undertaken along the roadside and in fields to the north of an 874m length of the highway known as "Roman Road" between NGRs SH62917162 and SH63727153 as shown on YGC Drawing No. 5055/GA/50 (Figure 01). The enabling works include a topsoil strip of the translocation area, the translocation of a hedgerow, and the excavation to formation level of the area where the hedgerow was originally located.

This watching brief is the latest in a program of archaeological fieldwork conducted by GAT for the A55 road improvement scheme which includes pre-commencement trial trench evaluation in 2016 (McGuinness 2016: GAT Report 1323) and a watching brief conducted in 2017-18 (Ryan Young and Reilly, 2018: GAT Report 1432).

The archaeological watching brief will incorporate the following:

- a record of the existing lane/hedgerow before the start of works;
- a watching brief during the topsoil strip of the translocation area;
- inspection of the original position of the hedgebank for exposed deposits following removal of the hedgerow; and
- monitoring of the excavation to formation level of the area where the hedgebank was originally located.

The enabling works will be undertaken by Jones Bros Civil Engineering UK. The archaeologically sensitive aspects of the works are scheduled to take place between 8th January 2019 and 12th March 2019 (see Sec 3.2 for details).

The watching brief will be monitored by the Gwynedd archaeological Planning Service (GAPS); the content of this WSI and all subsequent reporting by GAT must be approved by GAPS prior to final issue.

The watching brief will be completed in accordance with the following guidance:

- Standard and Guidance for Archaeological Watching Brief (Chartered Institute for Archaeologists, 2014);
- Management of Archaeological Projects (English Heritage, 1991);
- Management of Research Projects in the Historic Environment: The MoRPHE Project Managers' Guide (Historic England, 2015); and
- Guidelines for the creation and deposition of the digital archive as set out in *Archaeological Archives- A guide to best practice in creation, compilation, transfer and curation* (English Heritage *et al.* 2011) will be followed.

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1.1 Fieldwork Aims and Objectives

The key aims and objectives of the watching brief are to:

- record the existing hedgerow before translocation;
- identify and record any archaeological activity identified during the enabling works. Archaeological activity within the local area has included prehistoric (Late Neolithic earth oven), Roman (Canovium to Segontium Roman Road), medieval (medieval township at Wig Farm) and agricultural activity, and the objective would be to establish the date and nature of any archaeological remains identified within the translocation route and assess their implications for understanding the historical development of the area, in conjunction with the known archaeological record; and
- if no archaeological activity is identified, establish why this may be the case.

2 ARCHAEOLOGICAL AND HISTORICAL BACKGROUND

GAT completed an Assessment of the Significance of the Impact of Development on Historic Landscape report (McNichol 2015a: GAT Report 1257) and a heritage desk based assessment report (McNichol, 2015b: GAT Report 1258) of the A55(T) Abergwyngregyn to Tai'r Meibion Improvement in 2015. The desk based assessment report included recommendations for trial trenching, prior to any other work on site at two potential sites within the scheme footprint: the proposed site of a medieval township at Wig (Primary Reference Number 6811) and the proposed route of the Canovium - Segontium Roman Road to the south of Tai'r Meibion (National Primary Reference Number 405340). Four trial trenches were excavated, three at Wig Farm and one at Tai'r-meibion. No evidence for medieval settlement was identified at Wig Farm, whilst Trench 04 at Tai'r Meibion revealed evidence for two modern drains and a stone and earth field boundary bank of unknown date; no evidence for the Roman Road was encountered within the confines of the trench (McGuinness 2016: GAT Report 1323).

GAT subsequently completed an archaeological watching brief during the A55 Abergwyngregyn to Tai'r Meibion improvement works along the south side of the A55 (Ryan Young and Reilly, 2018: GAT Report 1432). The watching brief was completed between February 2017 and January 2018 and was followed by post-excavation assessment and analysis of a prehistoric pit identified during the works towards the Abergwyngregyn end (Figure 02). The pit contained heat fractured stone and fragments of charcoal; the latter were submitted for radiocarbon dating that produced a date range within the Late Neolithic.

3 METHODOLOGY

The watching brief will be undertaken during the course of the enabling works following the methodologies set out in the Jones Bros Civil Engineering Method Statement for Dealing With Archaeological Aspects of the Work (Appendix I) and Method Statement for Dealing with Hedgerow Translocation (Appendix II).

3.1 Record of the existing lane/hedgerow before works

Prior to the start of the translocation work, a record of the existing hedgerow will be made. The record will include a descriptive and photographic record of the lane/hedgerow, between NGR SH62897163 and SH63737153; length 874.0m. The descriptive record will be completed using GAT pro-formas (Appendix III; Appendix V) and will summarise the existing appearance of the designated area and any apparent phasing, key dimensions and topographic location. Photographic images will be taken using a digital SLR (Nikon D40) camera set to maximum resolution (3008 × 2000 6.1 effective megapixels) in RAW format; a photographic record will be maintained on site using GAT pro-formas (Appendix II) and digitised in Microsoft Access as part of the fieldwork archive and dissemination process. Photographic images will be archived in TIFF format created using Adobe Photoshop; the archive numbering system will start from G2588_001. When possible, a photographic ID board will be used to record site code, image orientation and any relevant context numbers.

3.2 Watching brief / inspection of the original position of the hedgebank for exposed deposits

An archaeological watching brief is defined by the Chartered Institute for Archaeologists as a formal programme of observation and investigation conducted during any operation carried out for non-archaeological reasons 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 (CiFA, 2014).

An archaeological watching brief can be divided into four categories:

- comprehensive (present during all ground disturbance)
- intensive (present during sensitive ground disturbance)
- intermittent (viewing the trenches after machining)

- partial (as and when seems appropriate).

For this scheme, the archaeological watching brief will be completed on an **intensive** basis and will be conducted in order to:

- **monitor the topsoil strip of the receptor area for the hedgerow translocation;**
- **monitor the topsoil strip of any intervening ground that the hedgebank has to cross to get to the new position;**
- **in order to inspect the original hedgebank location after its removal; and to**
- **monitor the works to reduce the original location of the hedgebank to formation level.**

The proposed timetable for the works is as follows:

Activity		Dates	No of Days
Topsoil strip of translocation area		08/01/19 - 18/1/19	10
Watching brief on hedgerow works		08/01/19 - 18/1/19	10
Excavation to formation level	Ch 0-200	18/1/19 - 23/1/19	4
	Ch 200-390	8/2/19 - 14/2/19	5
	Ch 390-874	28/2/19 - 12/3/19	9

- During the watching brief and inspection of the original hedgebank position, all attendances and any identified features will be recorded using GAT watching brief pro-formas (Appendix V);
- Photographic images will be taken using a digital SLR (Nikon D40) camera set to maximum resolution (3008 × 2000 6.1 effective megapixels) in RAW format; a photographic record will be maintained on site using GAT pro-formas (Appendix IV) and digitised in *Microsoft Access* as part of the fieldwork archive and dissemination process. Photographic images will be archived in TIFF format using Adobe Photoshop; the archive numbering system will start from the next sequential number to be used after completion of the existing lane/hedgerow record. When practical, a photographic ID board will be used during the watching brief/hedgebank inspection to record site code, image orientation and any relevant context numbers.

- Any subsurface features will be recorded photographically, with detailed notations and a measured survey (completed using a *Trimble R8* GPS unit);
- Any archaeological features/deposits/structures encountered within the watching brief area and inspection area will be manually cleaned and examined to determine extent, function, date and relationship to adjacent activity. The following excavation strategy will generally apply: 50% sample of each sub-circular feature, 10% sample of each linear feature (terminal ends and intersection points with other features will be prioritised). However, if discrete features are identified within the topsoil strip area or translocation trench, these will be 100% excavated as will any exposed segments of linear features. Features such as burnt mounds, which comprise a spread of material rather than a cut feature, will be completed in quadrants (if fully extant within the mitigation area) or 100% excavated if present as a discrete spread. *In the event of the identification of extensive/complex remains (for example burials, structures or preserved wooden or organic artefacts), additional time, resourcing and costs may be required for GAT to complete an appropriate programme of works;*
- Any required plans or sections to be drawn at a minimum 1:10 scale using GAT A4 or A2 pro-forma permatrace;
- Should dateable artefacts, human remains and/or ecofacts be recovered, an **interim report** will be submitted summarising the results of the watching brief, along with an assessment of potential for analysis post-excavation project design (in line with the MAP2 process). *Additional time, resourcing and costs will be required to undertake any post-excavation programme of works.*

3.3 Human Remains

If any human remains identified are to be excavated, and cannot be preserved in situ this will take place under appropriate regulations and with due regard for health and safety issues. In order to excavate human remains, a Ministry of Justice licence is required under Section 25 of the Burials Act 1857 for the removal of any body or remains of any body from any place of burial. In accordance with the Ministry of Justice licence, recovered remains will be reburied once the investigation and/or assessment/analysis are complete.

Non-fragmented skeletal remains will be excavated using wooden tools and collected and stored in polyethylene bags (with appropriate references for context, grave number, et al) and placed in a lidded cardboard archive box (note: separate boxes for each grave) and stored in a suitable manner within GAT premises. If significant quantities of human remains are encountered, a human osteologist should be contacted and appointed to advise the team during the fieldwork. The osteologist will be an external appointment: Dr. Genevieve Tellier | Tel: 01286 238827 | email: northwalesosteology@outlook.com who will assist in devising the excavation, recording and sampling strategy for features containing human remains. The osteologist should also help to ensure that adequate post-excavation processing of human remains is carried out so that the material is in a fit state for assessment during the post-excavation stage. For inhumations, this will involve washing, drying, marking and packing.

If human remains are recovered that are deemed suitable for further assessment/analysis, this will be completed in accordance with the osteologist's requirements and with *Human Bones from Archaeological Sites Guidelines for producing assessment documents and analytical reports* (Chartered Institute for Archaeologists, 2017).

3.4 Ecofacts

Due to the existing ground conditions and the depth of the proposed works it is unlikely that waterlogged/organic deposits will be encountered. If they are however, bulk samples will not be taken by GAT from any waterlogged/organic deposits, but the GAT archaeologist will monitor and record the depth and context of the deposit or deposits. Based on initial results and potential, e.g., an extensive depth of waterlogged deposits, recourse may be made to a specialist (via Lucy Whittingham | Project Manager (post-excavation) | AOC Archaeology | telephone: 0208 843 7380 | email: lucy.whittingham@aocarchaeology.com) for advice on a palaeoenvironmental assessment and analysis strategy.

Should any archaeological features be identified that include sealed deposits deemed suitable for dating, samples will be taken of not less than 40 litres for bulk samples (or 100% if the feature is smaller). The sampling strategy will be undertaken in accordance with the principles set out in *Environmental Archaeology: a guide to the theory and practice of methods, from sampling and recovery to post-excavation* (Historic England, 2011).

For any ecofact samples taken from human burials, this will be completed in accordance with an appointed osteologist's guidance.

3.5 Artefacts

Diagnostic artefacts will be retained for further examination and identification. Pottery sherds of 19th and 20th century date will be examined on site and the context from which they were retrieved noted but the sherds will not be retained. The artefacts will be treated according to guidelines issued by the UK Institute of Conservation, in particular the advice provided within *First Aid for Finds* (Watkinson and Neal 2001).

Any waterlogged artefacts (e.g. wood or leather) that are to be recovered for post-excavation assessment and analysis will be processed in accordance with *Environmental Archaeology: a guide to the theory and practice of methods, from sampling and recovery to post-excavation* (English Heritage, 2011) and specifically in accordance with Brunning and Watson (2010) for waterlogged wood and Historic England (2012) for waterlogged leather. In such cases an external specialist will be contacted to agree an appropriate sampling and recovery strategy via Lucy Whittingham | Project Manager (post-excavation) | AOC Archaeology | telephone: 0208 843 7380 | email: lucy.whittingham@aocarchaeology.com).

All finds are the property of the landowner; however, it is Trust policy to recommend that all finds are donated to an appropriate museum (in this case Storiol Museum and Art Gallery, Ffordd Gwynedd, Bangor, Gwynedd, LL57 1DT), where they can receive specialist treatment and study. Access to finds must be granted to the Trust for a reasonable period to allow for analysis and for study and publication as necessary. Trust staff will undertake initial identification, but any additional advice would be sought from a wide range of consultants used by the Trust, including National Museums and Galleries of Wales at Cardiff.

All finds of treasure must be reported to the coroner for the district within fourteen days of discovery or identification of the items. Items declared Treasure Trove become the property of the Crown, on whose behalf the Portable Antiquities Scheme acts as advisor on technical matters, and may be the recipient body for the objects.

The Treasure Valuation Committee, based at the British Museum, and informed by the Portable Antiquities Scheme, will decide whether they or any other museum may wish to acquire the object. If no museum wishes to acquire the object, then the Secretary of State will be able to disclaim it. When this happens, the coroner will notify the occupier and landowner that he intends to return the object to the finder after 28 days unless he receives no objection. If the coroner receives an objection, the find will be retained until the dispute has been settled.

GAT will contact the landowner (via YGC) for agreement regarding the transfer of artefacts, initially to GAT and subsequently to the relevant museum (Storiel Museum and Art Gallery). A GAT produced pro-forma will be issued to the landowner where they are given the option to donate the finds or to record that they want them returning to them once analysis and assessment has been completed. Artefacts will be transferred to the Storiel Museum and Art Gallery will in accordance with *Guidelines for the Preparation and deposition of Archaeological Archives: An agreement between and Gwynedd Museums Service* (Gwynedd Council, 2009).

3.6 Monitoring Arrangements

The GAPS Archaeologist will need to be informed of the project timetable and of the subsequent progress and findings. This will allow the GAPS Archaeologist time to arrange monitoring visits and attend site meetings (if required) and enable discussion about the need or otherwise for FAWDs (if required) as features of potential archaeological significance are encountered. The curator contact details are:

- Jenny Emmett jenny.emmett@heneb.co.uk | 01248 370926; and
- Ashley Batten ashley.batten@heneb.co.uk | 01248 370926

3.7 Fieldwork Archiving

Following the completion of the fieldwork, a programme of field work archiving will be completed based on following task list;

1. Pro-formas: all cross referenced and complete;
2. Photographic Metadata: completed in *Microsoft Access* and cross-referenced with all pro-formas;
3. Survey data: downloaded using a Computer Aided Design package;
4. Sections: all cross referenced and complete (to include matrices);
5. Plans: all cross referenced and complete;
6. Artefacts (if relevant): quantified and identified; register completed;
7. Ecofacts (if relevant): quantified and register completed;
8. Context register (if relevant): quantified and register completed;
9. Site Matrix.

All data will be processed, final illustrations will be compiled and a report will be produced which will detail and synthesise the results.

4 REPORTING

Following completion of the stages outlined above, a report will be produced within one month incorporating the following:

1. Non-technical summary
2. Introduction
3. Background
4. Methods and techniques, including details and location of project archive
5. Watching Brief Results
6. Summary and conclusions (including any further recommendations – if relevant)
7. List of sources consulted.
8. Appendix I – approved GAT written scheme of investigation

Illustrations will include plans of the location, site plans and individual plans and sections of archaeological features identified as appropriate. Historical maps, when appropriate and if copyright permissions allow, will be included. A draft copy of the report will be sent to the client prior to production of the final report.

5 DISSEMINATION AND ARCHIVING

A full archive including plans, photographs, written material and any other material resulting from the project will be prepared. The archaeological watching brief outlined in this WSI is currently scheduled to be completed in March 2019. A draft report (or interim report) will be submitted within one month of fieldwork completion (April 2019) and a final report will be submitted to the Gwynedd Historic Environment Record, Craig Beuno, Garth Road, Bangor, Gwynedd, LL57 2RT within six months of approval.

The following dissemination will apply:

- A digital report will be provided to the client and GAPS (draft report then final report);
- A paper report plus a digital report will be provided to the Gwynedd Historic Environment Record; this will be submitted within six months of report completion (final report only);
- A digital report and archive (including photographic and drawn) data will be provided to the Gwynedd Historic Environment Record (final report only);
- A digital report and archive (including photographic and drawn) data will be provided to the Royal Commission on Ancient and Historic Monuments Wales (RCAHMW; final report only). This will be in accordance with the RCAHMW Guidelines for Digital Archives Version 1. Digital information will include the photographic archive and associated metadata;

5.1 Historic Environment Record

In line with the Gwynedd Historic Environment Record (HER) requirements, the HER will be contacted at the onset of the project to ensure that any data arising is formatted in a manner suitable for accession to the HER and follows the guidance set out in *Guidance for the Submission of Data to the Welsh Historic Environment Records (HERs)* (The Welsh Archaeological Trusts, 2018). The HER will be informed of the project start date, location including grid reference, estimated timescale for the work, and further relevant information associated with the project.

6 PERSONNEL

The project will be managed by John Roberts, Principal Archaeologist GAT Contracts Section and attended by a project archaeologist. The project archaeologist will be responsible for the watching brief, including all field management duties, e.g. GAPS liaison, main contractor liaison, osteologist or palaeoenvironmentalist liaison (if relevant). The project archaeologist will be responsible for completing the watching brief record sheets as well as all other on site pro-formas and the fieldwork archive itemised in Sec 3.7. The project archaeologist will also be responsible for submitting a draft final report (or interim report) for project manager review and approval. The report will then be submitted as per the arrangements defined in Sec 5.

7 HEALTH AND SAFETY

The GAT Project Archaeologist(s) will be CSCS certified. Copies of the site specific risk assessment will be supplied to the client and site contractor prior to the start of fieldwork. Any risks and hazards will be indicated prior to the start of work via a submitted risk assessment. All staff will be issued with required personal safety equipment, including high visibility jacket, steel toe-capped boots and hard hat.

8 SOCIAL MEDIA

One of the key aims in the GAT mission statement is to improve the understanding, conservation and promotion of the historic environment in our area and inform and educate the wider public. To help achieve this, GAT maintains an active social media presence and seeks all opportunities to promote our projects and results. With permission, GAT would like the opportunity to promote our work on this scheme through our social media platforms. This could include social media postings during our attendance on site as well as any postings to highlight results. In all instances, approval will be sought from client prior to any postings.

9 INSURANCE

9.1 Public/Products Liability

Limit of Indemnity- £5,000,000 any one event in respect of Public Liability

INSURER Aviva Insurance Limited

POLICY TYPE Public Liability

POLICY NUMBER 24765101CHC/UN/000375

EXPIRY DATE 21/06/2019

9.2 Employers Liability

Limit of Indemnity- £10,000,000 any one occurrence.

The cover has been issued on the insurers standard policy form and is subject to their usual terms and conditions. A copy of the policy wording is available on request.

INSURER Aviva Insurance Limited

POLICY TYPE Employers Liability

POLICY NUMBER 24765101 CHC / UN/000375

EXPIRY DATE 21/06/2019

9.3 Professional Indemnity

Limit of Indemnity- £5,000,000 in respect of each and every claim

INSURER Hiscox Insurance Company Limited

POLICY TYPE Professional Indemnity

POLICY NUMBER 9446015

EXPIRY DATE 22/07/2019

10 SOURCES CONSULTED

Brunning, R and Watson, J 2010, *Waterlogged Wood: Guidelines on the Recording, Sampling, Conservation and Curation of Waterlogged Wood* (3rd edition)

Chartered Institute for Archaeologists, 2014, *Standard and Guidance for Archaeological Excavation*

Chartered Institute for Archaeologists, 2014, *Standard and Guidance for Archaeological Watching Brief*

Chartered Institute for Archaeologists, 2014, *Standard and guidance for the collection, documentation, conservation and research of archaeological materials*

Chartered Institute for Archaeologists, 2014, *Standard and guidance for the creation, compilation, transfer and deposition of archaeological archives*

Chartered Institute for Archaeologists, 2017, *Updated Guidelines to the Standards for Recording Human Remains*

English Heritage, 1991, *Management of Archaeological Projects (MAP2)*

English Heritage, 2011, *Environmental Archaeology: a guide to the theory and practice of methods, from sampling and recovery to post-excavation*

Gwynedd Museum Service, 2009, *Guidelines For The Preparation and Deposition of Archaeological Archives: An agreement between Gwynedd Museums Service and Gwynedd Council*

Historic England, 2012, *Waterlogged Organic Artefacts Guidelines on their Recovery, Analysis and Conservation*

Historic England, 2015, *Management of Research Projects in the Historic Environment (MoRPHE)*

McGuinness, N, 2016, *A55(T) Abergwyngregyn To Tai'r Meibion Improvement: Pre-Commencement Archaeological Evaluation*, GAT Report 1323

McNichol D, 2015, *Abergwyngregyn to Tai'r Meibion Improvement: Desk Based Assessment Report*, GAT Report 1258

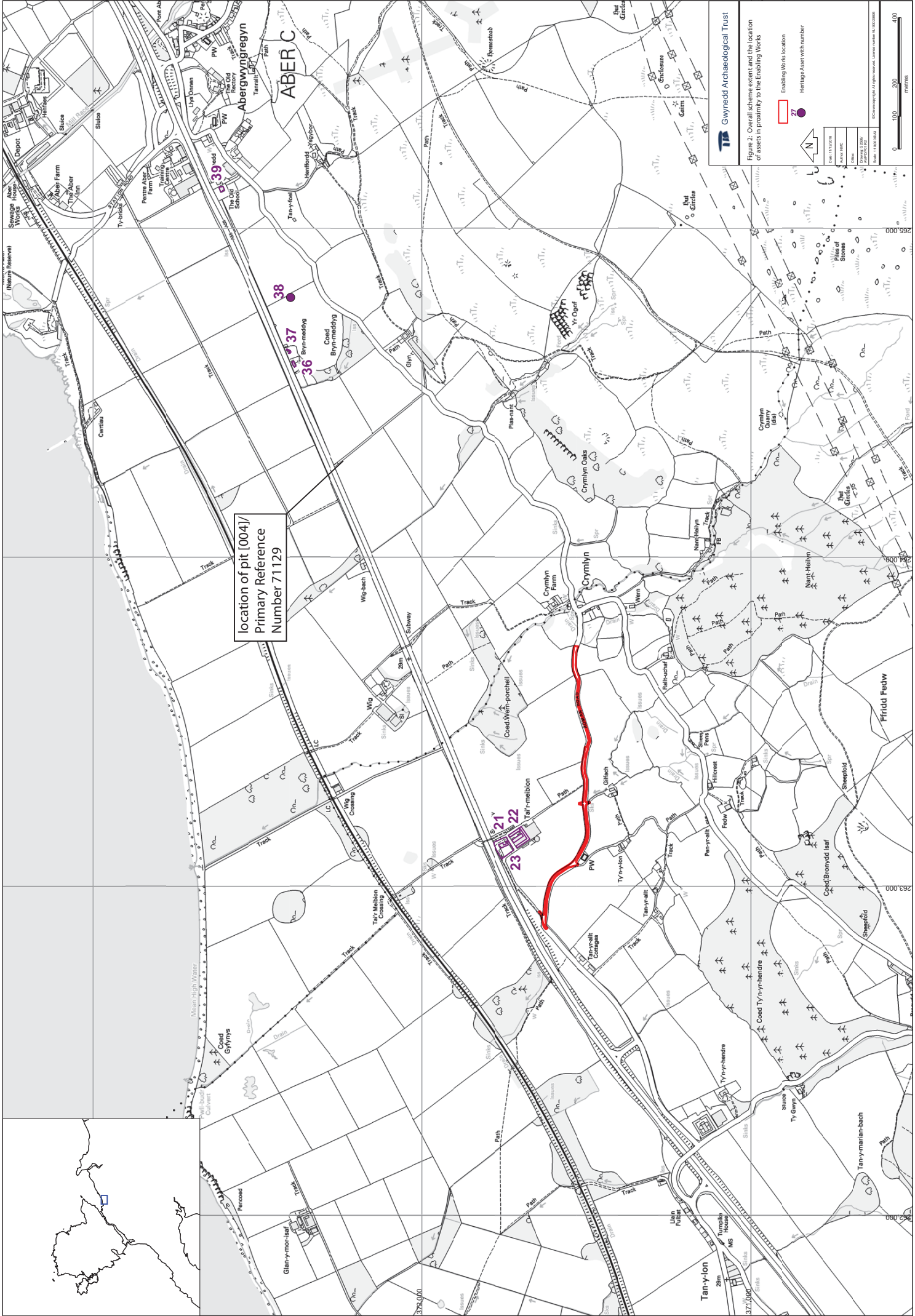
Royal Commission on Ancient and Historic Monuments of Wales, 2015, *Guidelines for digital archives*

Ryan Young C, and Reilly S, 2018: *Abergwyngregyn to Tai'r Meibion Improvement Scheme: Mitigation Report*. GAT Report 1432

The Welsh Archaeological Trusts, 2018, *Guidance for the Submission of Data to the Welsh Historic Environment Records (HERs)*

Watkinson, D and Neal, V, 2001, *First aid for finds* (3rd edition)

FIGURES



APPENDIX I

**Jones Bros Civil Engineering UK, A55 Abergwyngregyn Enabling Works,
Method Statement for Dealing with Archaeological Aspects of the Work**

Q4 - Please provide your method statement in relation to dealing with the archaeological aspects of the works

Method Statement for dealing with Archaeological aspects of the work

- Plant to be used** - 1 No 13 ton excavator for topsoil and subsoil works
- Traffic Management signs and barriers.
Labour to be used - 1 No banksman

Programme

The programme of works for the archaeology will firstly be discussed with the client and the archaeological team with dates proposed for the start and finish of the archaeological related activities discussed – these include - soil stripping, formation excavation and hedge translocation. During this meeting a programme will be drawn up which will allow the archaeological teams to resource the works as required.

Soil Stripping

The soil stripping will be carried out using a 13 ton excavator under the watch of a client supplied archaeologist. The 13 ton excavator will be guided by a banksman at all times. The 13 ton excavator will need to access the field to be stripped through the field gate and position itself on the area to be stripped and await the arrival of the archaeologist. The temporary fencing will already have been erected at the required distance from the existing hedge.

Once the archaeologist is on site the excavator can begin the stripping works. He will work under the supervision of the archaeologist taking instruction on further excavation when required and also stopping periodically so that detailed ground inspection work can be undertaken as required.

The excavator will sit on the grass side of the excavation at all times and never track on to the stripped subsoil surface unless instructed by the archaeologist.

The excavator will strip the topsoil and place this in a neat windrow next to the temporary fence line.

The banksman will be the link between the archaeologist and the excavator operator and he will ensure that the requirements of the PPI rules (plant and people interface) are adhered to at all times in order to protect people from the interface with the excavator. The banksman and the archaeologist will stand behind a barrier during the time when the excavator is working. This barrier will be located at a safe distance from the plant interface zones.

If further archaeological work is required in areas and further resource is brought in to dig the areas then this are will be segregated from the rest of the works with safety barriers.

The archaeologist will work on the topsoil stripping in the field until this activity is completed as per the programme. This activity runs concurrently with other activities associated with the hedge translocation for approximately 2 weeks. The topsoil strip will be carried out in one visit.

Hedge Translocation

Prior to the hedge being coppiced there is a requirement to check the existing hedge base for archaeological remains. This activity can be carried out during the topsoil stripping works to the field possibly with an additional archaeological resource tracking up the hedge line as the work on the soil stripping progresses. Should any excavator work then be required along the hedge then this can easily be supplied by the 13 ton excavator working adjacent. Once the hedge has been passed off complete by the archaeologist then work can begin on the translocation.

Excavation to Formation

Once the translocation is completed there is a requirement for the archaeologist to search the remains of the hedge base for any archaeological remains.

Following on from the translocation activity will be an activity to complete the excavation to formation of the area where the existing hedge was located. This activity will be carried out using a 13 ton excavator who will be placed next to the existing road excavating to formation level through the works assisted by a banksman.

Again it is proposed that this activity will be led by the archaeological team and the excavator and banksman will be there to assist and ensure compliance with PPI much the same as the Topsoil stripping activity. The archaeologist will stop periodically for inspection of the subsoil surface and will direct the excavating activity as required.

The excavator will sit on the topside of the excavation removing material under the watch of the archaeologist, whilst placing the material in a dumper for depositing behind the newly translocated hedge. If distances will accommodate, then the material can be deposited directly by the 13 ton excavator behind the hedge where it can be levelled at a later date.

This activity is completed in the 3 phases as per the programme and therefore will require 3 visits from the archaeologist as per those detailed on the programme. Again this activity runs concurrently with placing capping material on the formation once the formation is excavated and passed off by the archaeologist.

APPENDIX II

**Jones Bros Civil Engineering UK, A55 Abergwyngregyn Enabling Works,
Method Statement for dealing with Hedgerow Translocation**

Q2 - Please provide your method statement in relation to dealing with the translocation of the hedgerow.

Method Statement for dealing with Hedgerow Translocation

- Plant to be used**
- 1 No 35 ton excavator for main translocation works
 - 1 No 13 ton excavator for topsoil and subsoil works
 - Traffic Management signs and barriers.
- Labour to be used**
- 2 No Traffic Marshalls on Roman Road.
 - 1 No banksmen working on the field side.

Timescale

Work on translocating the hedgerow will start in early January as per the programme for a Period of circa 5 weeks to fit within the identified ecological translocation window (November to March)

Topsoil Strip

The 13 ton excavator and a single banksman will work in the field side stripping the topsoil and depositing it in a windrow next to the temporary fence so this can be re-used later for re-instatement. The soil shall be stripped in accordance with the Site Ecologist's method statement for working in habitats with low numbers of reptiles. Soils shall only be removed in temperatures above 5 degrees between October and March.

The excavator will work on stripping the soils to depth working its way up the field until the whole of the area is completely stripped. The soil stripping will be carried out under an Archaeological watching brief – see additional method statement No3 for further detail on this. The soil will be placed in a temporary windrow next to the temporary fence line where it can be easily accessed and re – used later in the works.

Forming new hedge mound

Following stripping of the topsoil, the line of the new hedge will be marked out and prepared in order to receive the translocated hedge. The 13 ton excavator will excavate subsoil from the area adjacent to the existing hedge and will deposit this in a small mound to the correct line and level forming a new embankment where the translocated hedge will be positioned. The excavator will then create a shallow level receiving trench within the embankment fill material for the translocated hedge root ball to bed.

Coppicing Existing Hedge

An archaeological record shall be made of the existing hedgerow before any works commence on translocating the hedge bank.

Once the area for the translocation is prepared and the archaeologist recording work within the existing hedge bank is complete, then work will begin on coppicing and pruning the existing hedge prior to the translocation activity. The coppicing will be done using a small excavator with a shear attachment and 2 chainsaw operators who will be there to cut the smaller stems. This method will ensure that the entire stem pruning will result in only clean pruning wounds which will enhance the hedges resistance to disease. The pruning will be carried out under the guidance of the Site Ecologist who will ensure compliance with the Specification. Those stems which are greater than 225mm will be cut to a height 1m above

the ground, whilst those less than 225mm dia will cut to a height of 300mm above the ground. The coppiced hedge stems will then be collected and put through a chipper following the completion of the translocation and the chip used to cover the base of the translocated hedge. The coppice work will follow the topsoil stripping team and progress slowly up chainage starting at the western end.

Hedge Translocation

The translocation will follow on from the coppice teams once the Site Ecologist has confirmed that the donor hedge is sufficiently coppiced and that the receptor site has been prepared appropriately. A 35 ton excavator will be used to translocate the existing hedge over to its new location approximately 5 – 7m north. The translocation will be carried out in carefully measured increments so as not to rip apart the hedge stem and root growth.

The first operation will be to cut into the base of the south side of the hedge with a wide ditching bucket, in order to dislodge the bank and ease initial movement of the hedge over. This work can be carried out by the 130 excavator sitting on the field side and reaching over the top of the hedge. A banksman will work with the excavator operator carrying out this work directing each bucket movement as the excavator driver will not be in view of the bucket all the time.



Since the Roman Road will be partially open to a limited number of local residents traffic at this point, we will be installing traffic management in the form of warning signs to ensure that all traffic using the road are aware of translocation works ahead. This together with banksmen on the road side slowing and stopping traffic temporarily when the excavator bucket is cutting into the bank will ensure safety of road users. The local residents will have been visited during the course of the works in order to inform them of the dates and times when works will be carried out. These measures should assist in the management of traffic through the works during this activity and ensure safety of road users and the site team.

Once a section of the bank base has been dislodged and the bank begins to move more freely then the bucket shall be reversed so that the bank is pulled away from its original location and moved to its new location using the back flat aspect of the bucket. The bank will be moved over to its new location in small increments using the 35 ton excavator pulling the hedge line over a couple of metres at a time in a snake like movement. The operator, and the banksman will work together to guide the hedge over with precise bucket movements whilst the Site Ecologist tracks up and down the selected section of hedge ensuring that the integrity of the section is always retained. It is vital that the hedge is not ripped apart at root growth and that the stems of the hedge are not damaged during this time.

Completion/Aftercare Works

Once the hedge is translocated to its new position the site of the original hedge bank will be inspected by an archaeologist for any deposits that may have been exposed. The exposed edge of the existing road will also be made safe with cones and barriers in order to protect the road users.

A55 Abergwyngregyn – Enabling Works Quality Submission



On completion of the translocation the contractor shall repair any minor collapses and re face any bare sections of the bank as required. Following the translocation activity, the 13 ton excavator will excavate to formation along the new road line and place the fill generated on the north side of the newly translocated hedge in order to support and stabilise the root ball until this has re-established.

The translocated hedge will be subject to aftercare cover where the site will be inspected weekly during the construction period and then 3 monthly thereafter to ensure that weed control is kept up and that watering of the translocated hedge is carried out when required during dryer weather spells. Any failed plants and/or gaps in the hedgerow will be replanted during the aftercare period with planting of local provenance.

APPENDIX III

Gwynedd Archaeological Trust hedgerow recording sheet pro-forma

[illegible]

GWYNEDD ARCHAEOLOGICAL TRUST BOUNDARY RECORDING SHEET

Hedgerow type:	Shrubby hedgerow	Line of trees	Both
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Management - current:	Flailed/trimmed	Coppiced	Laid	Planted	Pollarded	None
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Management - past:	Flailed/trimmed	Coppiced	Laid	Planted	Pollarded	None
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Adjacent Land-use:	Arable Crop	Arable crop		Uncropped margin	
	Grass	Improved		Semi-improved	
	Woodland	Young		Semi-improved	
	Road/Route	Road	Track	Footpath	Railway
	Water	River	Stream	Lake / pond	

WOODY SPECIES IN 30m SURVEY SECTION ONLY – Add any others, including non-natives.








[illegible]

Local Hedgerow Field Survey Form				
8 - ASSOCIATED FEATURES – See also Part B section 18				
	Side A	Side B		
8a - Bank - Height (in metres) to nearest 25cm			8f - Ditch - internal - Dry (tick)	
8b - Average herb vegetation height (cm) to nearest 5cm			8g - Ditch - internal - Wet (tick)	
8c - Fence (tick)				
8d - Ditch - external - Dry (tick)				
8e - Ditch - external - Wet (tick)				

9 - UNDISTURBED GROUND (measured from the centreline of the hedgerow)	Side A	Side B
9a - Average width of undisturbed ground (m) to nearest 50cm*		
9b - Average width of perennial herbaceous vegetation (m) to nearest 50cm*		
NB * mark N/A or road etc if a road or built feature or hedge is adjacent to grassland or woodland		

10 – NUTRIENT ENRICHMENT GROUND FLORA INDICATOR SPECIES								
Estimate % cover of each species within a 2m wide band alongside the hedgerow (to nearest 5%)								
10a – Nettles	Side A	Side B	10b - Cleavers	Side A	Side B	10c - Docks	Side A	Side B

11 - RECENTLY INTRODUCED, NON-NATIVE SPECIES			
11a - RECENTLY INTRODUCED, NON-NATIVE GROUND FLORA SPECIES			
	Species	Side A	Side B
% cover of introduced species in the hedge-bottom (to nearest 5% or enter just the name if <5%)			
11b - RECENTLY INTRODUCED, NON-NATIVE WOODY SPECIES			
	Species	Side A	Side B
% cover of introduced species in the shrub layer (to nearest 5% or enter just the name if <5%)			



12 - HEDGEROW SHAPE – See also Part B section 19a			
What shape is the hedgerow? - Circle diagram of cross-section that most closely resembles hedgerow.			
			
a) Trimmed & dense	b) Intensively managed	c) Untrimmed	d) Tall & leggy
			
e) Untrimmed, with outgrowth	f) Recently coppiced (facing view)	g) Recently laid (facing view)	h) Other - Sketch

13 - DIMENSIONS			
13a - Average Height (m) Excluding bank, to nearest 25cm		13b - Average Width (m) At the widest point of canopy; excluding bank, to nearest 25cm	

14 - INTEGRITY - Continuity and height of canopy along hedgerow			
14a - % GAPS - percentage gaps, to nearest 5%			
14b - Any gaps >5m? (Y/N)		14c - Average height of base of canopy (m) to nearest 25cm	

15 - ISOLATED HEDGEROW TREES – See also Part B section 21			
Use one row per specimen or one row and a number if there are many individuals of the same species in the same size class. Estimate DBH to nearest 5cm or nearest 1cm if DBH less than 5cm.			
Species	DBH (cm)	Species	DBH (cm)

16 – NOTES – Whole hedgerow or 30m survey section			
16a - Fauna (evidence of)			
16b - Features (including evidence of recent planting)			
16c - Photograph numbers (and locate on map)			

Local Hedgerow Field Survey Form												
PART B - OPTIONAL ASSESSMENTS												
18 - ASSOCIATED FEATURES												
18a – Banks												
Typical cross section of hedgerow-banks where present (please circle one)												
												
a) Half-bank		b) Full hedge-bank		c) Other (sketch)								
Bank type and management												
Bank type		Bank Management										
Stone		Earth		None		Fenced off		Grazed		Mown/cut		
Side A												
Side B*												
19 - HEDGEROW/MARGIN MANAGEMENT												
19a - Hedgerow Management				Flailed/ trimmed	Coppiced	Laid	Planting/ Gapping	Pollarding trees	None			
Signs of Recent Management <2 years												
Signs of Management 2-10 years												
Signs of older Management >10 years												
19b - Hedge-bottom Management				Mowing/cutting		Herbicides		Cultivation		Grazing		None
Signs of Recent Management <2 years												
Signs of Management 2-10 years												
19c - Margin/Headland Management												
Average width (m)		Side A		Side B*								
Margin Management												
Grazed		Side A	Side B*	Cut	Side A	Side B*	Unmanaged		Side A	Side B*		
* Where visible												
20 - GROUND FLORA SPECIES PER 30M												
Species			% cover		Species			% cover				
			Q1 Q2					Q1 Q2				
<i>Agrostis</i> sp. Bent					<i>Plantago lanceolata</i> - Ribwort plantain							
<i>Alopecurus pratensis</i> - Meadow foxtail					<i>Plantago major</i> - Greater plantain							
<i>Anthoxanthum odoratum</i> - Sweet vernal-grass					<i>Potentilla reptans</i> - Creeping cinquefoil							
<i>Arrhenatherum elatius</i> - False oat-grass					<i>Primula vulgaris</i> - Primrose							
<i>Cynosurus cristatus</i> - Crested dog's-tail					<i>Pteridium aquilinum</i> - Bracken							
<i>Dactylis glomerata</i> - Cocksfoot					<i>Ranunculus repens</i> - Creeping buttercup							
<i>Elytrigia repens</i> - Couch					<i>Rubus fruticosus</i> - Bramble							
<i>Festuca rubra</i> - Red fescue					<i>Rumex</i> sp. - Docks							
<i>Holcus lanatus</i> - Yorkshire fog					<i>Senecio jacobaea</i> - Ragwort							
<i>Holcus mollis</i> - Creeping soft-grass					<i>Silene dioica</i> - Red Campion							
<i>Lolium perenne</i> - Perennial rye-grass					<i>Stellaria holostea</i> - Greater stitchwort							
<i>Phleum pratense</i> - Timothy					<i>Trifolium pratense</i> - Red clover							
<i>Poa annua</i> - Annual meadow-grass					<i>Trifolium repens</i> - White clover							
<i>Poa trivialis</i> - Rough meadow-grass					<i>Urtica dioica</i> - Common nettle							
					<i>Veronica chamaedrys</i> – Ivy-leaved speedwell							

			<i>Viola</i> sp. - Violet		
<i>Achillea millefolium</i> - Yarrow					
<i>Alliaria petiolata</i> - Garlic mustard					
<i>Anemone nemorosa</i> - Wood anemone					
<i>Anthriscus sylvestris</i> - Cow parsley					
<i>Arum maculatum</i> - Lords-and-ladies					
<i>Centaurea nigra</i> - Common knapweed					
<i>Cirsium arvense</i> - Creeping thistle					
<i>Cirsium vulgare</i> - Spear thistle					
<i>Galium aparine</i> - Cleavers					
<i>Galium mollugo</i> - Hedge bedstraw					
<i>Geranium dissectum</i> - Cut-leaved cranesbill					
<i>Geranium molle</i> - Dove's-Foot cranesbill					
<i>Geranium robertianum</i> - Herb-Robert			Bryophytes - mosses & liverworts		
<i>Glechoma hederacea</i> - Ground ivy			Bare ground		
<i>Hedera helix</i> - Ivy			Location of quadrats		
<i>Heracleum sphondylium</i> - Hogweed			Under canopy		
<i>Hyacinthoides non-scripta</i> - Bluebell			Bank		
<i>Mercurialis perennis</i> - Dog's mercury			Verge		
Record all ground flora species within each of the two 2 x 1 m quadrats and estimate percentage cover to the nearest 5%.			Field edge		

21 - VETERAN TREE FEATURES

To be recorded on any tree of 1 metre DBH and over, or any tree smaller if in the truly ancient class for that species

Species												
Surveyor												
Grid Ref							Hedgerow reference					
							Date					
	100km	Easting					Northing					
	Letters or numbers	10km	1km	100m	10m	1m	10km	1km	100m	10m	1m	
Diameter at Breast Height (1.3m) in metres (To nearest 5cm)							m					
Form	Maiden	Pollard	Coppice	Other:								
Condition												
Percentage of live canopy (To nearest 5%)										%		
										Tick		
Dead wood attached to the tree, any piece more than 1m long and 8cm in diameter												
Loose, split, missing and dead bark, any piece more than 30cm x 30cm												
Bark sap runs												
Tears, splits, scars, lightning strikes more than 30cm long												
Hollow trunks or hollow major limbs												
Major rot sites, any more than 15cm across												

Notes - e.g. photograph numbers, threats, landscape/social importance, bracket fungi, mosses, lichens, nest holes etc.

APPENDIX IV

Gwynedd Archaeological Trust photographic metadata pro-forma

Digital Photographic Record

Include main context numbers for each shot, drawing numbers for sections and any other relevant numbers for cross referencing. Delete any unwanted photos **immediately** from the camera. Regularly upload photographs to computer.

[illegible]

APPENDIX V

Gwynedd Archaeological Trust watching brief pro-forma

YMDDIRIEDOLAETH ARCHAEOLEGOL GWYNEDD ARCHAEOLOGICAL TRUST		
WATCHING BRIEF DAY RECORD		Date
Project name	Project number	Compiler
Location		
Description		
Times of travelling and on-site		
Drawn record details		
Photographic record details		

APPENDIX II

Gwynedd	Archaeological	Trust	Photographic	Metadata
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PHOTO RECORD NUMBER*	SITE SUB- DIVISION	DESCRIPTION*	CONTEXT NUMBER (S)	SCALE(S)	VIEW FROM	CREATOR OF DIGITAL PHOTO*	DATE OF CREATION OF DIGITAL PHOTO*	ORIGINATING ORGANISATION	Plate
G2588_01	Roman Road	Start of scheme - view along Roman Road & hedge terminal	n/a	1m	W	Stuart Reilly	08/01/2019	Gwynedd Archaeological Trust	
G2588_02	Roman Road	Hedge terminal at start of scheme	n/a	1m	W	Stuart Reilly	08/01/2019	Gwynedd Archaeological Trust	
G2588_03	Field 01	N face of hedge in Field 01 (adjacent to compound) with slate fencing	n/a	1m	N	Stuart Reilly	08/01/2019	Gwynedd Archaeological Trust	
G2588_04	Field 01	N face of hedge in Field 01 with clawdd	n/a	1m	N	Stuart Reilly	08/01/2019	Gwynedd Archaeological Trust	
G2588_05	Field 01	Commencement of top soil strip	n/a		W	Stuart Reilly	08/01/2019	Gwynedd Archaeological Trust	
G2588_06	Roman Road	Example of south face of hedge Field 01 (road side)	n/a	1m	S	Stuart Reilly	08/01/2019	Gwynedd Archaeological Trust	
G2588_07	Roman Road	View of Roman Road and south face of hedge along Field 01	n/a	1m	E	Stuart Reilly	08/01/2019	Gwynedd Archaeological Trust	
G2588_08	Roman Road	Start of WB strip - taken from the road	n/a	1m	W	Bethan Jones	09/01/2019	Gwynedd Archaeological Trust	01
G2588_09	Field 01	Sheepfold gate within hedgerow- view of end point of early slate fence and modern wire fencing in field 01	n/a	1m	N	Bethan Jones	09/01/2019	Gwynedd Archaeological Trust	

PHOTO RECORD NUMBER*	SITE SUB-DIVISION	DESCRIPTION*	CONTEXT NUMBER (S)	SCALE(S)	VIEW FROM	CREATOR OF DIGITAL PHOTO*	DATE OF CREATION OF DIGITAL PHOTO*	ORIGINATING ORGANISATION	Plate
G2588_10	Field 01	View of repair work on hedgerow with planking used to prevent collapse (height 0.8m)	n/a	1m	NNE	Bethan Jones	09/01/2019	Gwynedd Archaeological Trust	
G2588_11	Field 01	View of late 19th/early 20th slate fence protruding from clawdd & narrowing hedge. 2730m - 410m along scheme	n/a	1m	W	Bethan Jones	09/01/2019	Gwynedd Archaeological Trust	
G2588_12	Field 01	Collapse of clawdd below hedgerow with later repairs	n/a	1m	N	Bethan Jones	09/01/2019	Gwynedd Archaeological Trust	02
G2588_13	Field 01	View of field boulder stones placed against former clawdd to support collapse. c.350m - 410m	n/a		N	Bethan Jones	09/01/2019	Gwynedd Archaeological Trust	
G2588_14	Field 01	View of where clawdd base ends c.176m along scheme	n/a	1m	NE	Bethan Jones	09/01/2019	Gwynedd Archaeological Trust	
G2588_15	Field 01	Gap in hedgerow with slate fencing & black berry bushes at the junction by Capel Gilfach - c. 190m	n/a	1m	NE	Bethan Jones	09/01/2019	Gwynedd Archaeological Trust	
G2588_16	Roman Road	View of bouldered clawdd (stones 60cm x 30cm) - taken close to Gilfach field entrance	n/a	1m	S	Bethan Jones	09/01/2019	Gwynedd Archaeological Trust	
G2588_17	Roman Road	Better view of bouldered clawdd (stones 60cm x 30cm) - taken close to Gilfach field entrance	n/a	1m	S	Bethan Jones	09/01/2019	Gwynedd Archaeological Trust	
G2588_18	Field 01	Slate slabs uncovered during strip, placed below hedgerow (dumped) though no apparent connection to boundary	n/a	1m	NW	Bethan Jones	09/01/2019	Gwynedd Archaeological Trust	

PHOTO RECORD NUMBER*	SITE SUB-DIVISION	DESCRIPTION*	CONTEXT NUMBER (S)	SCALE(S)	VIEW FROM	CREATOR OF DIGITAL PHOTO*	DATE OF CREATION OF DIGITAL PHOTO*	ORIGINATING ORGANISATION	Plate
G2588_19	Field 01	Oblique view of large boulders at base of clawdd and standing stone gate entrance in the background	n/a	1m	NW	Bethan Jones	09/01/2019	Gwynedd Archaeological Trust	
G2588_20	Field 01	Close-up view demonstrating phasing and repairs (including modern fence)	n/a	1m	N	Bethan Jones	09/01/2019	Gwynedd Archaeological Trust	
G2588_21	Field 01	Watching brief end of day shot	n/a	1m	W	Bethan Jones	09/01/2019	Gwynedd Archaeological Trust	
G2588_22	Field 01	Watching brief end of day shot	n/a	1m	E	Bethan Jones	09/01/2019	Gwynedd Archaeological Trust	
G2588_23	Field 01	View of hedgerow at start of scheme showing clawdd & hedgerow	n/a	1m	N	Bethan Jones	10/01/2019	Gwynedd Archaeological Trust	03
G2588_24	Field 01	Hedgerow with early slate fencing within, clawdd and modern fencing	n/a	1m	NNE	Bethan Jones	10/01/2019	Gwynedd Archaeological Trust	
G2588_25	Field 01	Narrowing hedgerow, late C19 /C20 fencing, modern fence, no clawdd c. 354m from SW end of scheme	n/a	1m	NNW	Bethan Jones	10/01/2019	Gwynedd Archaeological Trust	
G2588_26	Field 01	View of hedgerow without clawdd and slate fencing (though visibly seen on photo edge)	n/a		NNW	Bethan Jones	10/01/2019	Gwynedd Archaeological Trust	
G2588_27	Field 01	Hedgerow at W end of Gilfach field entrance with culvert and standing stone	n/a	1m	N	Bethan Jones	10/01/2019	Gwynedd Archaeological Trust	

PHOTO RECORD NUMBER*	SITE SUB- DIVISION	DESCRIPTION*	CONTEXT NUMBER (S)	SCALE(S)	VIEW FROM	CREATOR OF DIGITAL PHOTO*	DATE OF CREATION OF DIGITAL PHOTO*	ORIGINATING ORGANISATION	Plate
G2588_28	Field 01	Image of hedgerow phasing and visible repairs, roughly c.430m from SW end of scheme.	n/a	1m	N	Bethan Jones	10/01/2019	Gwynedd Archaeological Trust	
G2588_29	Roman Road	Evidence of possible in-situ burning with reddened clay below hedge c.37m from SW end of scheme	n/a	1m	S	Bethan Jones	16/01/2019	Gwynedd Archaeological Trust	
G2588_30	Roman Road	Evidence of possible in-situ burning with reddened clay below hedge c.37m from SW end of scheme	n/a	1m	S	Bethan Jones	16/01/2019	Gwynedd Archaeological Trust	
G2588_31	Roman Road	End of day shot at hedge translocation at 00m-210m from SW end of scheme	n/a	1m	E	Bethan Jones	16/01/2019	Gwynedd Archaeological Trust	
G2588_32	Roman Road	End of day shot at hedge translocation at 00m-210m from SW end of scheme	n/a	1m	W	Bethan Jones	16/01/2019	Gwynedd Archaeological Trust	
G2588_33	Roman Road	End of day shot at hedge translocation at 00m-210m from SW end of scheme	n/a	1m	SW	Bethan Jones	16/01/2019	Gwynedd Archaeological Trust	
G2588_34	Roman Road	View of large boulder used as part of clawdd from road 460m from SW end of scheme	n/a	1m	S	Bethan Jones	21/01/2019	Gwynedd Archaeological Trust	
G2588_35	Roman Road	Metal stile placed over former stone entrance into field at boundary of fields 01 \02	n/a	1m	S	Bethan Jones	21/01/2019	Gwynedd Archaeological Trust	
G2588_36	Roman Road	1.2m high embankment c. 500-550m from SW end of scheme	n/a	1m	S	Bethan Jones	21/01/2019	Gwynedd Archaeological Trust	

PHOTO RECORD NUMBER*	SITE SUB- DIVISION	DESCRIPTION*	CONTEXT NUMBER (S)	SCALE(S)	VIEW FROM	CREATOR OF DIGITAL PHOTO*	DATE OF CREATION OF DIGITAL PHOTO*	ORIGINATING ORGANISATION	Plate
G2588_37	Roman Road	View of Clawdd from roadside c. 750m from SW end of scheme	n/a	1m	S	Bethan Jones	21/01/2019	Gwynedd Archaeological Trust	
G2588_38	Roman Road	Break in hedgerow growth with clawdd boundary visible c. 400m from SW end of scheme	n/a	1m	S	Bethan Jones	21/01/2019	Gwynedd Archaeological Trust	
G2588_39	Roman Road	Oblique view of hedgerow along road in view of oak stump (01)	n/a	1m	E	Bethan Jones	21/01/2019	Gwynedd Archaeological Trust	Front Cover
G2588_40	Field 02	View of public footpath entrance taken from boundary of fields 01\02	n/a	1m	E	Bethan Jones	21/01/2019	Gwynedd Archaeological Trust	
G2588_41	Field 02	Ancient hedgerow growing over clawdd with view of slate fence	n/a	1m	N	Bethan Jones	21/01/2019	Gwynedd Archaeological Trust	
G2588_42	Field 02	View of ancient hedgerow showing roots grown over clawdd	n/a	1m	N	Bethan Jones	21/01/2019	Gwynedd Archaeological Trust	
G2588_43	Field 02	View of ancient hedgerow showing roots grown over clawdd	n/a	1m	N	Bethan Jones	21/01/2019	Gwynedd Archaeological Trust	
G2588_44	Field 02	View of break in hedgerow, placement of standing stones suggests former entrance. Standing stone similar to previous	n/a	1m	N	Bethan Jones	21/01/2019	Gwynedd Archaeological Trust	
G2588_45	Field 02	Close up view of stone at gate entrance (culvert in background)	n/a	1m	W	Bethan Jones	21/01/2019	Gwynedd Archaeological Trust	

PHOTO RECORD NUMBER*	SITE SUB- DIVISION	DESCRIPTION*	CONTEXT NUMBER (S)	SCALE(S)	VIEW FROM	CREATOR OF DIGITAL PHOTO*	DATE OF CREATION OF DIGITAL PHOTO*	ORIGINATING ORGANISATION	Plate
G2588_46	Field 02	View of culvert and hedgerow	n/a	1m	N	Bethan Jones	21/01/2019	Gwynedd Archaeological Trust	
G2588_47	Field 02	Further bouldering against clawdd c. 750m from SW end of scheme	n/a	1m	N	Bethan Jones	21/01/2019	Gwynedd Archaeological Trust	
G2588_48	Field 02	View of oak tree Field 01	n/a	1m	N	Bethan Jones	21/01/2019	Gwynedd Archaeological Trust	
G2588_49	Field 02	View of clawdd and hedgerow c. 700m from SW end of scheme	n/a	1m	N	Bethan Jones	21/01/2019	Gwynedd Archaeological Trust	
G2588_50	Roman Road	View of oak tree 02 from the road	n/a	1m	N	Bethan Jones	21/01/2019	Gwynedd Archaeological Trust	
G2588_51	Field 02	Commencement of top soil strip in field 02 (culvert behind)	n/a	1m	W	Bethan Jones	21/01/2019	Gwynedd Archaeological Trust	
G2588_52	Field 02	View of oak 02 from field. Tree grown over clawdd and slate fencing	n/a	1m	N	Bethan Jones	21/01/2019	Gwynedd Archaeological Trust	
G2588_53	Field 02	View of stripped area showing snowy weather conditions	n/a	1m	E	Bethan Jones	21/01/2019	Gwynedd Archaeological Trust	
G2588_54	Field 02	View of the end of this phase of soil strip at the NE end of the field.	n/a	1m	W	Bethan Jones	21/01/2019	Gwynedd Archaeological Trust	

PHOTO RECORD NUMBER*	SITE SUB- DIVISION	DESCRIPTION*	CONTEXT NUMBER (S)	SCALE(S)	VIEW FROM	CREATOR OF DIGITAL PHOTO*	DATE OF CREATION OF DIGITAL PHOTO*	ORIGINATING ORGANISATION	Plate
G2588_55	Field 02	Location shot at start of the day on SW side of disused gas main	n/a	-	SW	Anne Marie Oattes	29/01/2019	Gwynedd Archaeological Trust	
G2588_56	Field 02	Hedgerow partially translocated	n/a	-	WSW	Anne Marie Oattes	29/01/2019	Gwynedd Archaeological Trust	
G2588_57	Field 02	Location shot showing live gas main marker	n/a	-	WSW	Anne Marie Oattes	29/01/2019	Gwynedd Archaeological Trust	
G2588_58	Field 02	View of area where hedgerow was removed at NE end of working area	n/a	-	ENE	Anne Marie Oattes	29/01/2019	Gwynedd Archaeological Trust	
G2588_59	Field 02	View of area where hedgerow was removed at SW end of working area	n/a	-	ENE	Anne Marie Oattes	29/01/2019	Gwynedd Archaeological Trust	
G2588_60	Field 01	View towards Capel Gilfach of translocated hedge from gas main	n/a	1x1m	ENE	Carol Ryan Young	30/01/2019	Gwynedd Archaeological Trust	
G2588_61	Field 01	Hedge prior to translocation from Gas Main to Gilfach footpath	n/a	1x1m	W	Carol Ryan Young	30/01/2019	Gwynedd Archaeological Trust	
G2588_62	Field 01	Hedge translocation completed Gilfach footpath to gas main (subsoil)	n/a	1x1m	E	Carol Ryan Young	30/01/2019	Gwynedd Archaeological Trust	04
G2588_63	Field 01	Hedge translocation completed gas main to Capel Gilfach (Subsoil)	n/a	1x1m	W	Carol Ryan Young	30/01/2019	Gwynedd Archaeological Trust	

PHOTO RECORD NUMBER*	SITE SUB- DIVISION	DESCRIPTION*	CONTEXT NUMBER (S)	SCALE(S)	VIEW FROM	CREATOR OF DIGITAL PHOTO*	DATE OF CREATION OF DIGITAL PHOTO*	ORIGINATING ORGANISATION	Plate
G2588_64	Field 02	Soil strip for bunding against the hedgerow	n/a	1m	SE	Bethan Jones	31/01/2019	Gwynedd Archaeological Trust	
G2588_65	Field 02	Soil strip for bunding against the hedgerow	n/a	1m	W	Bethan Jones	31/01/2019	Gwynedd Archaeological Trust	
G2588_66	Field 02	Soil strip for bunding against the hedgerow at edge of field 02	n/a	1m	E	Bethan Jones	31/01/2019	Gwynedd Archaeological Trust	
G2588_67	Field 03	Former entrance into Field 02 with late 19th cen. slate fence against the hedge	n/a	1m	N	Bethan Jones	31/01/2019	Gwynedd Archaeological Trust	
G2588_68	Field 03	View of mossed over clawdd & slate post wire fence in hedge & a former sapling growth	n/a	1m	N	Bethan Jones	31/01/2019	Gwynedd Archaeological Trust	
G2588_69	Field 03	Water service marker placed on clawdd within hedge and modern fence	n/a	1m	N	Bethan Jones	31/01/2019	Gwynedd Archaeological Trust	
G2588_70	Field 03	Re-continuation of slate fence on relict clawdd with hedgerow	n/a	1m	N	Bethan Jones	31/01/2019	Gwynedd Archaeological Trust	
G2588_71	Field 03	View of collapsed slate fence and contemporary boundary "repairs"	n/a	1m	N	Bethan Jones	31/01/2019	Gwynedd Archaeological Trust	
G2588_72	Field 03	View of collapsed dog rose and brambles at end of scheme (proposed entrance to wig farm)	n/a	1m	NW	Bethan Jones	31/01/2019	Gwynedd Archaeological Trust	

PHOTO RECORD NUMBER*	SITE SUB-DIVISION	DESCRIPTION*	CONTEXT NUMBER (S)	SCALE(S)	VIEW FROM	CREATOR OF DIGITAL PHOTO*	DATE OF CREATION OF DIGITAL PHOTO*	ORIGINATING ORGANISATION	Plate
G2588_73	Roman Road	View of hedgerow and slate post wire fence on N edge of road	n/a	1m	W	Bethan Jones	31/01/2019	Gwynedd Archaeological Trust	
G2588_74	Roman Road	Commencement of soil strip into Field 03	n/a	1m	SW	Bethan Jones	31/01/2019	Gwynedd Archaeological Trust	
G2588_75	Roman Road	Watching brief at end of the day - no archaeology. Top-soil strip onto natural 0.13 max depth	n/a	1m	W	Bethan Jones	31/01/2019	Gwynedd Archaeological Trust	
G2588_76	Field 03	End of top soil strip in Field 03 - no archaeology to note	n/a	1m	W	Bethan Jones	07/02/2019	Gwynedd Archaeological Trust	
G2588_77	Roman Road	View of hedgerow translocation at the end of Field 02 (entrance to Gilfach)	n/a	1m	W	Bethan Jones	07/02/2019	Gwynedd Archaeological Trust	
G2588_78	Roman Road	End of day view of translocation of hedgerow c.520m along scheme	n/a	1m	W	Bethan Jones	07/02/2019	Gwynedd Archaeological Trust	
G2588_79	Roman Road	End of day view of translocation of hedgerow c.6200m along scheme	n/a	1m	E	Bethan Jones	07/02/2019	Gwynedd Archaeological Trust	
G2588_80	Roman Road	Hedgerow translocation c.700m along scheme with bright yellow natural	n/a	1m	W	Bethan Jones	11/02/2019	Gwynedd Archaeological Trust	06
G2588_81	Roman Road	Break in hedgerow due to slate culvert	n/a	1m	S	Bethan Jones	11/02/2019	Gwynedd Archaeological Trust	

PHOTO RECORD NUMBER*	SITE SUB- DIVISION	DESCRIPTION*	CONTEXT NUMBER (S)	SCALE(S)	VIEW FROM	CREATOR OF DIGITAL PHOTO*	DATE OF CREATION OF DIGITAL PHOTO*	ORIGINATING ORGANISATION	Plate
G2588_82	Roman Road	Translocation at end of Field 02 c.700m along scheme - end of day shot	n/a	1m	E	Bethan Jones	11/02/2019	Gwynedd Archaeological Trust	
G2588_83	Roman Road	View of slate culvert as initially appeared below hedgerow during translocation	n/a	1m	S	Bethan Jones	12/02/2019	Gwynedd Archaeological Trust	
G2588_84	Roman Road	View of slate culvert post hedgerow translocation	n/a	1m	S	Bethan Jones	12/02/2019	Gwynedd Archaeological Trust	05
G2588_85	Roman Road	View of hedgerow translocation at end of scheme in Field 03	n/a	1m	E	Bethan Jones	12/02/2019	Gwynedd Archaeological Trust	
G2588_86	Roman Road	View of translocation near gas line with subsoil layer below hedgerow	n/a	1m	W	Bethan Jones	12/02/2019	Gwynedd Archaeological Trust	
G2588_87	Roman Road	View of hedgerow translocation in Field 02 with orangey natural	n/a	1m	W	Bethan Jones	12/02/2019	Gwynedd Archaeological Trust	
G2588_88	Roman Road	View of hedgerow translocation in Field 02 with orangey natural	n/a	1m	E	Bethan Jones	12/02/2019	Gwynedd Archaeological Trust	
G2588_89	Roman Road	Translocation of hedgerow at c.450 - 500m along scheme	n/a	1m	S	Bethan Jones	12/02/2019	Gwynedd Archaeological Trust	
G2588_90	Roman Road	View of hedgerow post translocation c.450 - 500m along scheme	n/a	1m	W	Bethan Jones	12/02/2019	Gwynedd Archaeological Trust	

PHOTO RECORD NUMBER*	SITE SUB- DIVISION	DESCRIPTION*	CONTEXT NUMBER (S)	SCALE(S)	VIEW FROM	CREATOR OF DIGITAL PHOTO*	DATE OF CREATION OF DIGITAL PHOTO*	ORIGINATING ORGANISATION	Plate
G2588_91	Roman Road	View of hedge translocation at gas pipeline c.150m	n/a	1m	SW	Bethan Jones	12/02/2019	Gwynedd Archaeological Trust	
G2588_92	Roman Road	Hedge translocation at very end of scheme - 875m	n/a	1m	E	Bethan Jones	12/02/2019	Gwynedd Archaeological Trust	
G2588_93	Field 02	View of early 20th cen. water service recovered very near to previous foot path stile	n/a		S	Bethan Jones	12/02/2019	Gwynedd Archaeological Trust	



Gwynedd Archaeological Trust
Ymddiriedolaeth Archaeolegol Gwynedd

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