New Ysgol Bro Aberffraw Primary School, Newborough, Anglesey

Mitigation: An Assessment of Potential for Analysis
MAP2: Phase 3

Ymddiriedolaeth Archaeolegol Gwynedd
Gwynedd Archaeological Trust

Ysgol Bro, Newborough, Ynys Mon

An Assessment of Potential for Analysis MAP2: Phase 3

GAT Enq Ref: GATHER1223 / EVENT PRN: 45790

Project No. G2530

Report No. 1497

Prepared for: Cyngor Sir Mon

September 2019

Written by: Robert Evans and John Roberts

Specialist Contributions by: Jackaline Robertson, George Smith, Frances Lynch

Cover Illustration: Group of Postholes [5026] - possible granary.
Scale 1 x 1m (archive Ref: G2530_084)

Cyhoeddwyd gan Ymddiriedolaeth Achaeolegol Gwynedd
Ymddiriedolaeth Archaeolegol Gwynedd
Craig Beuno, Ffordd y Garth,
Bangor, Gwynedd, LL57 2RT

Published by Gwynedd Archaeological Trust
Gwynedd Archaeological Trust
Craig Beuno, Garth Road,
Bangor, Gwynedd, LL57 2RT

Approvals Table				
	Role	**Printed Name**	**Signature**	**Date**
Originated by	Document Author	Robert EVANS		16/01/20
Reviewed by	Document Reviewer	JOHN ROBERTS		16/01/20
Approved by	Principal Archaeologist	JOHN ROBERTS		16/01/20

Revision History			
Rev No.	**Summary of Changes**	**Ref Section**	**Purpose of Issue**
1	Amendments to text to provide additional clarity and updates	2.1, 3.2, 4, 5, Appendix III. New Figure 07	For GAPS approval

CONTENTS

Figures

CRYNODEB ANNHECHNEGOL

Comisiynwyd Ymddiriedolaeth Archaeolegol Gwynedd gan Gyngor Sir Ynys Môn i gynnal asesiad ôl-gloddiad yn dilyn rhaglen o liniaru archaeolegol cyn ac yn ystod cyfnod adeiladu'r ysgol gynradd newydd: Ysgol Bro Aberffraw, Niwbwrch, Ynys Môn. Cododd yr angen yma'n dilyn adnabod gweithgarwch archaeolegol cynhanesyddol a chanoloesol posib, a dadorchuddio ecoffactau ac arteffactau cysyllteidig.

Er mai ond casgliad bychan gafwyd, dangosodd yr asesiad lithig bresenoldeb gweithgarwch y cyfnod Mesolithig Hwyrach. Mae'r fflint o arwyddocad cenedlaethol gan ei fod yn dangos presenoldeb gweithgarwch Mesolithig ym mherfeddwlad Môn, a phrin iawn yw'r dystiolaeth archaeolegol ar gyfer hynny. Mae'r dystiolaeth o garreg yn dangos bod y tyllau gyda cherrig llosg, yr awgrymwyd iddynt fod yn boptai pydew, yn debygol o fod yn gysylltiedig gydag aneddiad yr Oes Efydd sydd gerllaw.

Nodwyd bod yr arteffactau crochenwaith yn dyddio o'r Oes Efydd ganol i hwyr, ac yn nodweddiadol o'r deunydd gafwyd ar safleoedd cyffelyb yn yr ardal. Awgrymir y dylid darlunio'n archaeolegol deilchion o dri pot, a'u cynnwys mewn adroddiad archifol llawn a gynhyrchir er mwyn rhoi dadansoddiad manwl o'r gwaith wnaethpwyd ar y safle, gan gynnwys dyddio radio carbon, a gosod y canlyniadau mewn cyd-destun rhanbarthol a chenedlaethol.

O ystyried mor fychan yw'r casgliad, nododd yr asesiad ecoffactol na ddylid adnabod rhywogaethau ymhellach. Argymhellir hefyd y dylid dadansoddi ac adrodd ar beth o'r deunydd clwm. Dylid cynnal rhaglen o ddyddio radio carbon o gyd-destunau allweddol, a chlustnodwyd deuddeg sampl o saith cyd-destun gwahanol ar gyfer dyddio radio carbon.

NON TECHNICAL SUMMARY

Gwynedd Archaeological Trust was commissioned by Cyngor Sir Ynys Môn to undertake a post-excavation assessment following a programme of archaeological mitigation before and during the construction stage of the New Ysgol Bro Aberffraw Primary School, Newborough, Ynys Môn. This was required as a result of the identification of suspected prehistoric and medieval archaeological activity and the recovery of associated ecofacts and artefacts.

The lithic assessment indicated that although there was a small assemblage recovered, it shows the presence of Later Mesolithic activity. The flint is of national significance, as it indicates the presence of Mesolithic activity some way inland on Anglesey, for which archaeological evidence is very limited. The stone evidence also shows that the pits with burnt stone, suggested to be pit ovens, are probably associated with Bronze Age settlement close by.

The pottery artefacts are noted to be middle to late Bronze Age in date, and typical of material found on comparable sites in the area. It is recommended that sherds from three pots are drawn archaeologically and incorporated into a full archive report that is produced detailing the full analysis of the work carried out on the site, including the radiocarbon dates, and placing the results in a regional and national context.

The ecofact assessment noted that given the small size of the assemblage no further species identifications were recommended. It is also recommended that some concreted material is analysed and reported on. A programme of radiocarbon dating should be undertaken from key contexts, and twelve samples from seven different contexts are recommended for radiocarbon dating.

1 INTRODUCTION

Gwynedd Archaeological Trust (GAT) was commissioned by Cyngor Sir Ynys Môn to undertake a post-excavation assessment following a programme of archaeological mitigation before and during the construction stage of the New Ysgol Bro Aberffraw Primary School, located in Newborough, Ynys Môn (NGR SH4247566010; Figure 01) and the identification of suspected prehistoric and medieval archaeological activity and the recovery of associated ecofacts and artefacts. The post-excavation is being completed under the requirements of a Planning Condition, reference number 45LPA1029A/CC/ECON.

The post-excavation will be undertaken as a phased process in accordance with guidelines specified in *Management of Archaeological Projects: MAP2* (English Heritage 1991), and the relevant guidelines from *Management of Research Projects in the Historic Environment: The MoRPHE Project Managers' Guide* (Historic England 2015). Five project phases are specified in MAP2:

- MAP2 Phase 1: Project Planning
- MAP2 Phase 2: Fieldwork
- MAP2 Phase 3: Assessment of Potential for Analysis
- MAP2 Phase 4: Analysis and Report Preparation
- MAP2 Phase 5: Dissemination

MAP2 Phases 1 and 2 have been completed. The current report relates to the assessment of recovered artefacts and ecofacts (MAP2 Phase 3) from the pre-construction archaeological mitigation (GAT Report 1407) as well as the mitigation during the construction works (GAT Report 1436). The MAP2/Phase 4 report will contextualise the assessment results and any results from the analysis stage, including the radiocarbon dating. The MAP2/Phase 4 report will also include thematic illustrations that will detail the distribution of period specific features and what that tell us about the site, e.g., the location and distribution of the prehistoric features, the location and orientation of the medieval field systems and the location of post-medieval features, including the eighteenth century house and paddock.

The post excavation assessment was undertaken in accordance with the following guidelines:

- *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 Creation, Compilation, Transfer and Deposition of Archaeological Archives* (Chartered Institute for Archaeologists 2014);
- *Standard and Guidance for the Collection, Documentation, Conservation and Research of Archaeological Materials* (Chartered Institute for Archaeologists 2014); and
- Guidelines for digital archives (Royal Commission on the Ancient and Historic Monuments of Wales 2015).

Gwynedd Archaeological Trust is certified to ISO 9001:2015 and ISO 14001:2015 (Cert. No. 74180/A/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).

The post-excavation strategy has been monitored by Gwynedd Archaeological Planning Services (GAPS) and undertaken in accordance with an approved project design prepared by GAT (Appendix I).

1.1 Themes

The archaeological results have identified several key areas of activity and interest:

- Evidence for prehistoric domestic activity, as represented by the granaries, earth ovens and pits/postholes, primarily at the northeastern end of the site and indicative of possibly more extensive prehistoric settlement activity beyond the confines of the development;
- Evidence for medieval boundary activity, as confirmed by a thirteenth century ditch identified towards the centre of the site and suggested by linear feature [2010] at the western end of site. The thirteenth century ditch was of pre-Edwardian Conquest date;
- Evidence of phased activity at the western end of the site represented by intercutting linear features;
- Evidence for a house and paddock that likely belonged to the Lligwy estate at the southwestern end of the site; and evidence for post-medieval boundary activity, especially at the northeastern end of the site.

1.2 Post-Excavation Aims and Objectives

In response to the fieldwork results (cf. para. 2.0) and the recovery of potentially diagnostic artefacts and ecofacts, the following aims and objectives form a primary element in the post-excavation assessment and analysis strategy:

- Contextualising the prehistoric activity to understand the chronology, distribution and relationship between the known and suspected features. This will include sourcing radiocarbon dates for the granaries and earth ovens, as well as selected postholes and pits, primarily within Areas 5 to 7. In addition, the pottery and flint fragments have been assessed for provisional dating and typology, with the results included in this report. One particular area of interest is the date range between the two pits/earth ovens originally identified in trench TR13, with one pit dated to the Early Bronze Age and the other to the Late Bronze Age. Additional dates from the remaining prehistoric features will confirm where they belong within this chronology and what they collectively demonstrate in terms of how long the site was occupied and for what purpose or purposes. To help place the results in context, reference is made to *A Research Framework for the Archaeology of Wales*, specifically the *Refresh of the Research Framework for the Archaeology of Wales for the Neolithic and Earlier Bronze Age* (Dr. Amelia Pannett, February 2017). This will be qualified during the MAP2/Phase 4 process and results.
- Contextualising the medieval boundary activity as confirmed by a thirteenth century ditch identified towards the centre of the site and suggested by linear feature [2010] at the western end of site. The thirteenth century ditch was of pre-Edwardian Conquest date and it will be important to consider what this represents in terms of the occupation and use of this area at this time, immediately prior to the creation of Newborough and the resettlement it represented. Radiocarbon dating is recommended for linear feature [2010], as dateable material be recovered during the ecofact assessment in MAP2/Phase 3. Any dating could confirm where it belongs in the site chronology and more specifically in relation to the existing thirteenth century ditch. Linear feature [2010] also forms part of chronological sequence in that [2010] was cut by a later curvilinear ditch ([2008]) and in turn cut an earlier linear ditch ([2020]). If suitable, additional radiocarbon dating from this feature group could confirm the chronology for this portion of the site. To place the results in context, reference shall be made to *A Research Framework for the Archaeology of Wales*, specifically the *Refresh of the Research Framework for the Archaeology of Wales:*

Medieval (Andrew Davidson, Will Davies, Madeleine Gray, March 2017). This will be qualified during the MAP2/Phase 4 process and results.

- Contextualising the results of the remaining features on site. This includes the known post-medieval features, including the former boundary lines identified in Area 7 that appear to match a former boundary on the late nineteenth/early twentieth century First to Third Edition 25 inch Anglesey Ordnance Survey Map (sheet XXII.10), as well as any disparate and/or non-diagnostic features currently of uncertain origin.

These aims and objectives will be addressed in the final mitigation report, prepared for MAP2/Phase 4.

2 ARCHAEOLOGICAL BACKGROUND

2.1 Assessment, Evaluation and Site Mitigation

Prior to the archaeological mitigation, a desk-based assessment, walkover survey, and geophysical survey were carried out by GAT in May 2016 (GAT Report 1318), followed by trial trenching in July 2016 (GAT Report 1329). Evidence for prehistoric, medieval and post-medieval activity was identified during the trial trenching and post-excavation assessment and analysis were subsequently completed for selected ecofacts and artefacts (GAT Reports 1383 and 1412 respectively).

The assessment concluded that the development site was located to the north of the medieval core of Newborough, but within an area that was likely to have formed part of the town fields, with evidence of medieval strip fields having been identified in close proximity to the site. The site was formerly the property of Lord Boston's Lligwy estate from at least the latter part of the 18th century and a Lligwy estate map of 1782 showed a house and associated paddock at the southwestern end of the development area that is not shown on any later mapping, suggesting these were demolished during the nineteenth century. Evidence for the house and paddock were not identified during the geophysical survey, but linear anomalies suggesting former field boundaries were present.

The subsequent evaluation trenches targeted these anomalies as well as other portions of the site, including the house and paddock location. Archaeological features were encountered in 13 of the 20 trenches opened. Two Bronze Age prehistoric pits were identified in Trench 13 at the northeastern end of the site, with radiocarbon dates suggesting one pit was in use in the Early Bronze Age and another in the Late Bronze Age; the close proximity of the features suggesting activity in this area over a considerable period of time. A thirteenth century medival ditch was identified in Trench 19 towards the centre of the site, with radiocarbon dates sourced from cereal grains. The ditch measrured 1.17m wide and 0.51m deep with a blunted 'V' shaped profile. Evidence for the former house and paddock were identified, including stone walling, whilst undated linear features were also identified across the site.

Based on these results a pre-construction mitigation stage was completed by GAT targeting six specific areas (GAT Report 1407; cf. Figures 03, 04 and 05). In Area 5, which targeted the northeastern edge of the site, postholes for a prehistoric eight or nine post granary and a four post granary were identified, along with pottery of suspected Bronze Age date (Figure

07). In Area 6 to the south, which targeted the two small Bronze Age pits at the eastern end of TR13, two additional pits were identified of similar morphology and suspected origin. Collectively, the pits were interpreted as earth ovens, representing domestic food preparation. Area 1 targeted the house/paddock site and structural remains were encountered, along with drainage channels, boundary ditches and walls, suggesting evidence of a dwelling and associated enclosures, possibly including a garden boundary. In all areas, linear features on various orientations, as well as pits, were identified that were interpreted as agricultural activity, indicating different patterns of enclosure, drainage and animal husbandry.

During the main construction works, the archaeological mitigation was completed through a site wide watching brief and a controlled strip/targeted excavation of a designated area (Area 7), located between and to the west of Areas 5 and 6, aiming to identify any further prehistoric archaeological activity associated with the granaries and earth ovens. The watching brief monitored all significant foundation level groundworks, including existing field boundary breaches, ground reduction for the main car park and water tank excavations. The development was completed as indicated on Kier Construction Drawing No. NEWB-KR-00-XX-DR-C-0003 and the watching brief covered the western and northern part of the site, incorporating former archaeological mitigation Areas 1 to 4 (Figures 02-04). The watching brief results confirmed the general observations from the previous mitigation in this area, with deep topsoil/subsoil present.

The main feature of note was a linear [10001] (Figure 06), which cut into the glacial horizon and measured 22.5m long, 0.5m wide and 0.16m. The feature was to the south of but on the same northeast to southwest alignment as linear feature [2010] from mitigation Area 2 (Figure 02-03). The features were only 9.3m apart and bore similar morphology, although the ditch [2010] was wider. Context [2010] was cut by a later curvilinear ditch ([2008]) and in turn cut an earlier linear ditch ([2020]), suggesting it was part of a more complex multi-phase activity; contexts [2006], [2012] and [2014] in this area were another example of phased activity. No diagnostic artefacts were recovered from these features; the linear feature represented by [10001] may be of medieval origin, as it does not match any known field boundaries evident on historic mapping. A total of thirty three features were identified during the controlled strip/targeted excavation in Area 7 (Figure 06; Appendix I), including a disparate spread of sub-circular pits and postholes, and five linear gullies and ditches. The sub-circular features did not form a cohesive pattern to suggest a concentrated area of activity, as identified in Areas 5 and 6, although multiple features were interpreted as

prehistoric, based on morphology and/or artefact content, with one example, context [7014] containing 14 pottery sherds of suspected Early Bronze Age date, probably from a single pot. The remaining features were either post-medieval in date or of unknown provenance.

2.2 Site Archive

The physical, documentary, digital photographic and survey archive created by the project work in both the evaluation and mitigation phases is quantified in the table below:

Item	**Mitigation Phase (G2530)**	**Evaluation Phase (G2467)**
Context Sheets	252	116
Digital Photographic Images	582	175
Digital Survey data	Yes	Yes
Scale section and plan drawings	191	38
Trench Sheets		20
Day sheets	30	
Lithic and ceramic Artefacts	45	2
Ecofact samples	67	15

3 METHODOLOGY

3.1 Ecofact Assessment

A total of 67 ecofact samples were recovered during the archaeological mitigation. The primary aim of the ecofact assessment was to recover charred macroplant remains for radiocarbon dating and to recover additional artefacts. Ten samples were excluded from further assessment as were interpreted as post-medieval in origin. The ecofact assessment was limited to the following samples:

Sample No.	Context No.	Context Type	provisional interpretation	notes
3	(4007)	Sole fill of pit [4006]	prehistoric	small pit
4	(4009)	Sole fill of pit [4008]	prehistoric/natural	small pit
5	(3007)	Sole fill of linear [3006]	medieval	feature dated as part of Trench 19
7	(3011)	Sole fill of linear [3010]	unknown	ditch fill
9	(2005)	Sole fill of linear [2004]	unknown	boundary ditch
10	(2017)	Sole fill of pit [2016]	unknown	small pit
11	(2019)	Sole fill of pit [2018]	unknown	small pit
13	(2009)	Ditch fill	unknown	part of a group of intercutting features in Area 2
14	(2011)	Sole fill of linear [2010]	unknown	part of a group of intercutting features in Area 2
15	(2021)	Sole fill of linear [2020]	unknown	possible boundary ditch
16	(1038)	Sole fill of posthole	prehistoric	flint recovered (ref. 3); only suspected prehistoric feature in Area 1
17	(1043)	Sole fill of pit	unknown	irregular shaped pit
19	(6009)	Sole fill of pit [6008]	prehistoric?	pit fill
20	(6011)	Basal fill of pit [6010]	prehistoric?	pit fill
21	(6012)	Secondary fill of pit [6010]	prehistoric?	pit fill
22	(5004)	Fill of posthole	prehistoric	posthole fill (artefacts recovered: ref. 1, 2 and 6)
23	(5012)	Fill of posthole	prehistoric	posthole fill , part of granary [5026]
24	(5008)	Fill of posthole	prehistoric	posthole fill , part of granary [5026]
25	(5010)	Fill of posthole	prehistoric	posthole fill , possibly part of granary [5026]
26	(5014)	Fill of posthole	prehistoric	posthole fill , part of granary [5026]
27	(5006)	Fill of posthole	prehistoric	posthole fill

Sample No.	Context No.	Context Type	provisional interpretation	notes
28	(5016)	Fill of posthole	prehistoric	posthole fill , part of granary [5026]
29	(5018)	Fill of posthole	prehistoric	posthole fill , part of granary [5026]
30	(5020)	Fill of posthole	prehistoric	posthole fill , part of granary [5026]
31	(5022)	Fill of posthole	prehistoric	posthole fill , part of granary [5026]
32	(5024)	Fill of posthole	prehistoric	posthole fill , part of granary [5026]
33	(6023)	Upper fill of pit [6004]	prehistoric	pit fill of pit [6005](Bronze Age featured dated in evaluation phase)
34	(6005)= (1304) from evaluation phase	Secondary fill of pit [6004]	prehistoric	pit fill of pit [6005](Bronze Age featured dated in evaluation phase)
35	(6024)=(1305) from evaluation phase	Basal fill of pit [6004]	prehistoric	pit fill of pit [6005](Bronze Age featured dated in evaluation phase)
36	(6025)	Upper fill of pit [6006]	prehistoric	pit fill of [6006]
37	(6007)	Secondary fill of pit [6006]	prehistoric	pit fill of [6006]
38	(6026)	Basal fill of pit [6006]	prehistoric	pit fill of [6006]
39	(5028)	Sole fill of linear [6027]	prehistoric/natural	
40	(5039)	Fill of small pit [5038]	prehistoric?	isolated feature (pit)
41	(5048)	Fill of pit [5048]	prehistoric?	pit
42	(5033)	Fill of pit [5034]	prehistoric	posthole fill , part of granary [5049]
43	(5040)	Fill of posthole [5040]	prehistoric	posthole fill , part of granary [5049]
44	(5042)	Fill of posthole [5043]	prehistoric	posthole fill , part of granary [5049]
45	(5044)	Fill of posthole [5045]	prehistoric	posthole fill , part of granary [5049]
46	7002	fill of small pit [7001]	prehistoric	pit
47	7004	fill of post-hole [7003]	prehistoric	posthole
48	7006	fill of rectangular pit [7005]	prehistoric	pit
49	7012	fill of pit [7011]	unknown	pit
50	7015	fill of post-hole [7014]	prehistoric	posthole
51	7019	fill of possible post-hole	prehistoric	posthole
52	7022	fill of large, shallow pit [7021]	unknown	large shallow pit
53	7033	fill of possible post-hole [7030]	unknown	isolated possible posthole
54	7035	fill of possible post-hole [7034]	unknown	posthole

Sample No.	Context No.	Context Type	provisional interpretation	notes
55	7043	seconary fill of post-hole [7041]	prehistoric	large posthole
57	7026	secondary fill of post-hole [7025]	prehistoric	large posthole
58	7052	fill of post-hole [7051]	prehistoric	posthole
60	7061	primary fill of oval pit [7055]	prehistoric	pit fill
61	7062	fill of small pit [7058]	prehistoric	pit fill
62	7068	fill of possible post-hole [7067]	unknown	isolated possible posthole
63	7073	fill of small pit [7072]	prehistoric	small pit fill
64	7075	fill of linear gully [7074]	prehistoric	gully fill
67	(10002)	Fill of linear (10001)	medieval?	possible medieval boundary fill/ same as (2011)

The ecofact assessment was completed as a two stage process, based on the following methodology:

1. The bulk samples were processed in house by GAT. This was consisted of flotation and wet sieving using a 500 micron mesh to collect the residue, with the “flot” collected in a 250 micron mesh. The residues were then sorted to recover any artefacts and non-floating ecofacts. Once sorted the residues were then discarded. The flots were weighed, catalogued and examined for charred macroplant remains; an archive of results was maintained throughout.
2. The charred macroplants were for specialist assessment to AOC Archaeology Group. The charred macroplant were sieved using a 4mm, 2mm and 1mm system of stack sieves and subsequently examined under magnification (x10 and up to x100). Macroplant identifications were confirmed using modern reference material and seed atlases stored at AOC Edinburgh. Taxonomic and nomenclature for plants was based on Stace, C. 2010. *New Flora of the British Isles*. 3rd Edition. Cambridge University Press. Charcoal fragments 4mm and larger were collected for species identification and recommendations were made for any subsequent analysis and radiocarbon dating.

3.2 Artefact Assessment

The artefacts were assessed for form, function and provenance by GAT nominated specialists and comprised an assessment of lithic and pottery artefacts. The results are discussed in para. 4.2. and a copy of the lithic assessment report is reproduced as Appendix III and the pottery assessment report as Appendix IV.

3.2.1 Lithic assessment

This was undertaken by George Smith and included the following 27 lithic artefacts, some of which contained more than one fragment. Material was recovered both on-site and as a result of the sample processing:

3.2.1.1 Lithic Artefacts

Find No.	Sub-Area	Context No.	Context Description	Material	Weight (g)	Description
3	1	(1039)	Fill of posthole	Flint	<1	Possible blade section of white flint
7	7	(7009)	Subsoil	Flint	6	4 pieces of unworked flint
8	7	(7017)	clay lining in [7005]	Flint		1 piece of flint (flake)
12	1	(1019)	Sole fill of pit [1018]	chert		Chip
13	2	(2009)	Sole fill of curvilinear [2008]	Flint		Gravel Fragments
14	2	(2009)	Sole fill of curvilinear [2008]	Flint		Gravel Fragments
15	2	(2009)	Sole fill of curvilinear [2008]	Cherty Flint		Irregular Fragments
16	2	(2009)	Sole fill of curvilinear [2008]	Cherty Flint		Irregular Fragments
17	2	(2009)	Sole fill of curvilinear [2008]	Cherty Flint		Flake Fragments
18	2	(2009)	Sole fill of curvilinear [2008]	Flint		Flake Fragments
19	2	(2019)	Sole fill of pit [2018]	Cherty Flint		Irregular Fragments
20	2	(2019)	Sole fill of pit [2018]	Flint		Flake Fragment
21	2	(2019)	Sole fill of pit [2018]	Flint		Microlithic Point
22	2	(2019)	Sole fill of pit [2018]	Flint		Flake Fragment
23	2	(2019)	Sole fill of pit [2018]	Flint		Flake Fragment

Find No.	Sub-Area	Context No.	Context Description	Material	Weight (g)	Description
24	2	(2021)	Sole fill of linear [2020]	Flint		Flake Fragment
25	3	(3005)	Sole fill of linear [3004]	Flint		Chip
26	3	(3005)	Sole fill of linear [3004]	Flint		Chip
27	3	(3007)	Sole fill of linear [3006]	Cherty		Gravel Fragment
28	3	(3007)	Sole fill of linear [3006]	Flint		Chip
29	3	(3007)	Sole fill of linear [3006]	Flint		Chip
30	4	(4007)	Sole fill of pit [4006]	Flint		Small Chip
31	5	(5020)	Fill of pit [5021]	Cherty Flint		Core Trimming Flake
32	5	(5039)	Fill of small pit [5038]	Cherty Flint		Gravel Fragment
33	6	(6009)	Sole fill of pit [6008]	Flint		Irregular Fragments
34	WB	(10003)	Fill of Linear [10001]	Flint		Heat pot-lid
35	WB	(10003)	Fill of Linear [10001]	Flint		Utilised Piece?

3.2.2 Pottery assessment

This was undertaken by Frances Lynch and included the following 16 artefacts recovered from 13 different contexts; all sherds are believed to be prehistoric unless otherwise indicated:

Find No.	Sub-Area	Context No.	Context Description	Material	Weight (g)	Description
1	5	5004	Fill of posthole	Ceramic	26	Rim sherd of black pot
2	5	5004	Fill of posthole	Ceramic	14	Black/orange body sherd
6	5	5004	Fill of posthole	Ceramic	11	1 sherd
9	7	7015	fill of post-hole [7014]	Ceramic	398	14 sherds
10	7	7019	fill of possible post-hole	Ceramic	4	1 sherd
11	7	7009	subsoil	Ceramic	5	1 sherd
36	5	5004	Fill of pit [5005]	Ceramic		1 small sherd
37	5	5006	Fill of pit [5007]	Ceramic		1 crumb
38	5	5010	Fill of pit [5011]	Ceramic		1 crumb
39	5	5012	Fill of pit [5013]	Ceramic		1 sherd (60 x 55 x 10 mm)
40	5	5020	Fill of pit [5021]	Ceramic		1 sherd (25 x 25 x 9 mm)
41	5	5040	Fill of posthole [5040]	Ceramic		1 crumb
42	5	5042	Fill of posthole [5043]	Ceramic		1 scrap
43	6	6005= (1304)	Secondary fill of pit [6004]	Ceramic		1 crumb, possibly **Roman Samian**
44	7	7033	fill of possible post-hole [7030]	Ceramic		1 sherd (25 x 25 x 11mm)
45	1	1036	Primary fill of ditch [1037]	Ceramic		6 crumbs of **Post-medieval glazed pottery**

3.3 Archiving

A full archive has been prepared and the following dissemination applied:

1. A copy of the GAT report has been submitted to client and GAPS;

2. A paper and digital report will be submitted to the regional Historic Environment Record, Gwynedd Archaeological Trust along with all relevant digital information, in accordance with the *Guidance for the Submission of Data to the Welsh Historic Environment Records (HERs)* (Version 1.1);

3. A digital report and archive has been prepared for submission to the Royal Commission on Ancient and Historic Monuments Wales, in accordance with the *RCAHMW Guidelines for Digital Archives Version 1*. Digital information includes the photographic archive and associated metadata.

4 RESULTS

4.1 Ecofact Assessment

4.1.1 Introduction

The following discussion, forming sections 4.1.2.1 and 4.2.1.2, is taken from the ecofact assessment report by Jackaline Robertson (Appendix II).

4.1.2 Results

4.1.2.1 Macroplant Assemblage

The report noted that a total of 384 carbonised macroplants were recovered from 30 contexts. 'A large number of cereal caryopses were observed within sample 10 (context [2017]). The macroplant assemblage was composed of food and weed taxa. The edible remains were cultivated cereals, vegetables and nuts' (Robertson 2019, Appendix II).

There were 324 cereal caryopses and three chaff fragments noted in 28 contexts. The dominant cereal species was barley followed by hulled barley, oat, wheat and bread/club wheat. The remaining cereal caryopses could not be identified further due to poor preservation. There were also six fragments of garden pea (*Pisum sativum* L) present in two contexts and one fragment of hazelnut shell (*Corylus avellana* L).

The cereal caryopses were concentrated within sample 10 (context [2017]) from which 168 were recorded. The remainder of the cereal was scattered throughout the site with no evidence of deliberate or selective disposal of remains within specific features. 'The cereal caryopses are probably evidence for the disposal and re-deposition of domestic cooking and cleaning debris. The presence of chaff suggests that cereal processing may have occurred in this location' (Appendix II).

4.1.2.2 Charcoal Assemblage

The report notes that the charcoal fragments were present in all 57 contexts, with fragments suitable for species identification present in 28 samples. The charcoal assemblage totalled 361.3g and 130 fragments were selected for species identification. The charcoal was

concentrated within seven contexts. The rest of the assemblage was scattered throughout the remaining features in small quantities. There were 21 pieces of roundwood identified as hazel, blackthorn, alder, ash and heather. 'There was no evidence for the disposal of any wood working debris, wooden artefacts of for the *in situ* burning of structural elements such as timbers, posts and stakes. The charcoal assemblage is typical of mixed fuel debris' (Appendix II).

4.1.2.3 Residues

In addition to the paeleo-environmental residues, eleven samples with cemented residue of potential interest have been identified, which are listed below. It is recommended that these are given a brief analysis by Tim Young of *GeoArch*, Caerphilly. This will enable the presence or otherwise of ferruginous material, or other mineralised matter, to be identified and suggest whether metalworking activity has been carried out on the site.

Context	**Sample**	**Weight (g)**
1033	12	0.92
1036	18	2.44
2019	10	13.78
2019	11	2.14
2019	11	7
6007	37	322
6009	19	174
6012	21	16
6025	36	62.19
7006	48	4.1
7052	58	4

4.1.3 Recommendations

The report noted that given the small size of the macroplant and charcoal assemblage no further species identifications were recommended. The cereal caryopses, hazelnut shell and charcoal were considered suitable for radiocarbon dating. The oak charcoal was not recommended for dating. It was recommended that the ecofact results from phase 3 be combined with the earlier phases to enable a single environmental analysis report to be produced. This would allow the environmental assemblage from Ysgol Bro Aberffraw to be understood both chronologically and used as a comparision with other sties in this locality that are of a similar date. While both the carbonised macroplant and charcoal assemblages are small, summarising the findings chronologically will make it possible to identfy any changes within the diet, agricultural practicies and exploitation of wild resources for both food and fuel over the time duration of the use of the site.

In addition, it is also recommended that a brief analysis is carried out on 11 samples of concreted residues from 9 different archaeological contexts, in order to further the understanding of the site use.

4.2 Artefact Assessment

4.2.1 Stone Assessments

The Lithic assessments, covering both flint and burnt stone, were carried out by George Smith, Gwynedd Archaeological Trust. The results of the assessment of the material produced the results detailed below. The following discussion is taken from the lithics and stone assessment report by George Smith (Appendix III).

4.2.1.1 Lithic Assessment

The lithic assessment carried out by George Smith indicates that although there was a small lithic assemblage recovered from the excavation, it shows the presence of Later Mesolithic activity in Area 2, probably involving the production of points for composite hunting or fishing projectiles. The amount of lithic working represented is very small, suggesting a very brief presence. However, such material is usually found as surface scatters, where radiocarbon dating is not possible, so there is a great lack of proper dating evidence for objects from this period. This means that the flint recovered is of national significance, as it indicates the presence of Mesolithic activity some way inland on Anglesey, for which archaeological evidence is very limited.

4.2.1.2 Burnt Stone Assessment

The stone evidence also shows that the pits with burnt stone in Areas 5 and 6, suggested to be pit ovens or at least dry cooking pits, are probably associated with Bronze Age settlement close by, but further dating is needed. Similar pits containing burnt stone were found at Parc Bryn Cegin, Bangor, some dated to the Early Neolithic and others to the Early and Later Bronze Age. They were scattered over a large area and apparently not associated with burnt stone mounds, several of which were present in the area, suggesting that they may belong with short-lived activity, rather than substantial settlement. The function of those was not ascertained but it was considered on lack of cereal grain macrobotanical evidence that they were probably not associated with grain processing and so more likely to be for cooking.

4.2.2 Pottery assessment

4.2.2.1 Introduction

The pottery assessment was carried out by Frances Lynch Llewellyn, and involved the analysis of 27 sherds of pottery (listed in section 3.2.2), and also additional crumbs, of which only three finds (SF 01, 06, 09) came from distinguishable individual pots. A list of the interpreted material is given in the report (Appendix IV).

4.2.2.2 Discussion

The following discussion is taken from the pottery assessment report by Frances Lynch Llewellyn (Appendix IV).

The pottery assemblage was noted to be very small, only some 27 sherds and 50 crumbs in all, and with only three individual pots distinguishable. One of these, Small Find 9 (7015), consisted of 14 sherds and other crumbs which enables the character of the pot to be identified. 'All the identified sherds are characterised by minimal decoration and simple shapes, the use of heavily stone- gritted fabric, often with rough surfaces and quite frequently with perforations below the undistinctive rims. However the fabrics, shapes and methods of working are internally consistent and can be compared in general terms to the Later Bronze Age traditions found, in similarly small quantities, in other parts of Anglesey and North Wales' (Lynch 2019, Appendix IV).

4.2.2.3 Recommendations

No further analysis is recommended for the pottery as it has been characterised in this report. It is however recommended that recommended that Small Finds 01 (Context 5004), 06 (context 5004) and 09 (context 7015) are drawn as part of the analysis phase of the reporting (MAP2 Phase 4) to provide a suitable record in the archive and final publication of the site. These form three pots, and in the case of Small Find 09 this will involve the reconstruction of a number of pottery sherds in order to show the size and profile of the pot.

5 CONCLUSION AND RECOMMENDATIONS

The archaeological work carried out at Newborough has identified evidence for prehistoric domestic activity, as represented by the granaries, earth ovens and pits and postholes, primarily located at the north-eastern end of the site and indicative of possibly more extensive prehistoric settlement activity beyond the confines of the development. This fits in well with the draft *Research Frameworks* for Wales Later Bronze Age and Iron Age research theme of settlement and land use in later prehistory (seen at www.archaeoleg.org.uk/documents2017.html). Evidence for medieval boundary activity, as confirmed by a thirteenth century ditch identified towards the centre of the site and suggested by further linear features at the western end of site. Evidence of phased activity at the western end of the site is represented by intercutting linear features, which may be of medieval and later date. This fits in well with the *Research Frameworks* for Wales key themes for the medieval period, which includes the location and distribution of settlement sites, the links between settlement type, tenure and social hierarchy, the development of field systems and morphological relationship to tenure and the wider environmental context of settlements in the agricultural landscape (Davidson, Davies and Gray 2017). These are all research areas with which this site may provide further evidence, particularly in relation to King Edward I's foundation of the town of Newborough for the evicted inhabitants of Llanfaes, which was given its charter in 1303, and the impact this had on the landscape. Post-medieval activity, the site of a former house and paddock that likely belonged to the Lligwy estate at the southwestern end of the site; and evidence for post-medieval boundary activity has been uncovered. Study of this is recommended in the post –medieval *Research Frameworks* for Wales where study the varieties of planned and unplanned settlement is recommended (Gerrard and Bailey 2017).

The ecofact assessment report noted that given the small size of the macroplant and charcoal assemblage no further species identifications were recommended. On completion of the radiocarbon dating, AOC Archaeology have recommended that an ecofact analysis report is prepared to allow the ecofacts "to be understood both chronologically and used as a comparision with other sties in this locality that are of a similar date". This information may help to "identify any changes within the diet, agricultural practicies and exploitation of wild resources for both food and fuel".

It is recommended that a basic analysis of 11 cemented residue samples be carried out by Tim Young of *GeoArch* in order to more fully understand the development and use of the site. This will enable the presence or otherwise of ferrous material, or other mineralised matter, to be identified. This will enable a suggestion whether metalworking activity has been carried out on the site, or whether the residue samples represent the remains of domestic activity or are part of a natural process.

A programme of radiocarbon (C14) dating should be undertaken from key contexts, such as the granary post-holes, probable cooking pits and linear features. They include dates from suggested prehistoric features in Areas 5 to 7, and medieval features in area 2, from where suitable samples for dating were obtained. As the mesolithic finds were from probable residual contexts, it was not possible to select any samples for dating from suitable contexts here. It is recommended that dates should be obtained from seven different contexts, resulting in the obtaining of 16 radiocarbon dates. This would assist with phasing the significant prehistoric and medieval activity on the site, and relating them to other similar finds in the wider region.

The following samples, taken from those charcoals regarded as suitable in the specialist environmental report, are recommended to be submitted for radiocarbon dating:

Context	Sample	Species	Number of Samples
2011	14	*Prunus Spinosa L. (Blackthorn)*	1
2017	10	*Betula sp./Corylus avellana (Birch, Hazel)*	2
2019	11	*Corylus* digital *avellana/Quercus (Hazel,Oak);*	2
5012	23	*Alnus glutinosa (Alder)*	2
6009	19	*Alnus glutinosa/ Calluna vulgaris/ Corylus avellana/ Prunus spinosa (Alder Heather/Hazel/Blackthorn)*	2
6012	21	*Corylus avellana (Hazel)*	1
6026	38	*Betula sp./Corylus avellana/ Fraxinus sp. (Birch, Hazel, Ash)*	2
706	48	*Alnus glutinosa (Alder)*	2
7033	53	*Alnus glutinosa/ Fraxinus sp. (Alder/Ash)*	2
		Total	**16**

Despite their undoubted significance, no further analysis is recommended for the lithic artefacts. Discussion of the implications of the flint finds will however form an important part of the MAP2 Phase 4 report, which will result in the expansion of the multi-period significance of the site. It is possible that the small size of the assemblage may be due to loss of scatters by centuries of ploughing, and also the subsequent removal of ploughsoil during the soil stripping.

The pottery artefacts are noted to be of middle to late Bronze Age in date, with which no further analysis is recommended. It is however recommended that sherds from three different pots, finds 01 (context 5004), 06 (context 5004) and 09 (context 7015), are drawn as part of the analysis phase of the reporting (MAP2 Phase 4) to provide a suitable record in the archive and final publication of the site.

When all this material has been collated the final archive report for all the excavation work at New Ysgol Bro, Newborough should be produced. This will incorporate the results of the fieldwork (MAP2 Phase 2), as well as interpretation and discussion of the implications from the assessment and analysis (MAP2 Phases 3 and 4), and the work carried out during the evaluation phase of the project (G2467 GAT Report Nos. 1329 and 1383). The interim and assessment of potential reports contain outline narratives for the sites. These will need

integrating and expanding, and closer consideration of the features is likely to lead to an improvement in the understanding of the stratigraphy of the site. The context of the artefacts and ecofacts and their distribution over the site and their implications for the function of the site will be considered. The narrative will be supported by appropriate illustrations, including of pottery finds, and selected photography.

In addition to the site narratives and specific discussion of detailed features a full discussion investigating the issues raised by the excavation will be written. This will include research into comparable sites to allow full interpretation of the features and comparisons and contrasts with contemporary sites. This will enable the site to be placed in its local and regional context. Following the production of this an article in a peer-reviewed journal (MAP2 Phase 5) will be produced to disseminate the results of this archaeological project to a wider audience.

6 SOURCES CONSULTED

Alcock, L 1960. 'Castell Odo, an Embanked Settlement on Mynydd Ystum near Aberdaron, Caernarfonshire', *Arch. Camb*. 109, 78-135.

BGS 2013. *I-geology*, British Geological Survey, Geology App, Version 4.2.

Britnell, W.J, Silvester, R.J, Gibson, A.M, Caseldine, A.E, Hunter, K.L, Johnson, S, Hamilton-Dyer, S and Vince, A. 1997: A Middle Bronze Age Round-house, at Glanfeinion, near Llandinam, Powys. *Proc. Prehistoric Soc*. 63, 79-97.

Campbell, G. Moffett, L. and Straker, V. 2011. *Environmental Archaeology: A guide to the theory and practise of methods, from sampling and recovery to post-excavation* (2nd edition).

Cappers R.T.J., Bekker R.M. and Jans J.E.A. 2006 *Digital seed atlas of the Netherlands* (Barkhuis Publishing and Groningen University Library, Groningen).

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.*

David, A., 2007. *Palaeolithic and Mesolithic Settlement in Wales with Special Reference to Dyfed*, British Archaeological Report British Series 448 (Oxford: Archaeopress).

Davidson, A., Davies, W., and Gray, M., March 2017. *A Research Framework for the Archaeology of Wales Version 03, Final Refresh Document: Medieval*.

English Heritage, 1991, *Management of Archaeological Project: MAP2.*

English Heritage, 2002, *Environmental Archaeology: A guide to the theory and practise of methods, from sampling and recovery to post-excavation.*

Evans, R. Hopewell, D. and McGuinness, N. 2016, *New Ysgol Bro Aberffraw Primary School, Newborough, Ynys Môn Archaeological Assessment and Geophysical Survey: Phase 1 Field Evaluation*, GAT Report 1318.

Evans, R. Davidson, J. and Smith, S. 2017, *New Ysgol Bro Aberffraw Primary School, Newborough, Ynys Môn: Targeted Excavation Interim Report*, GAT Report 1407.

Gerrard, C. and Bailey, J. 2017 *A Research Framework for the Archaeology of Wales. Later Post-medieval and Industrial wales 1750-1899*

Healey, E. 1987. 'Lithic technology', In Smith, C. and Lynch, F. *Trefignath and Din Dryfol: the excavation of two megalithic tombs in Anglesey*, Aberystwyth: Cambrian Archaeological Association, 50-9.

Historic England, 2015, *Management of Research Projects in the Historic Environment: The MoRPHE Project Managers' Guide.*

Jacomet. S. 2006. *Identification of cereal remains from archaeological sites*. (2nd ed) Archaeobotany Lab IPAS, Basel University.

Kenney, J. 2008. 'Recent excavations at Parc Bryn Cegin, Llandygai, near Bangor, North Wales', *Archaeologia Cambrensis* 157, 9-142.

Longley, D, Johnstone, N and Evans, J. 1998. Excavations on two farms of the Romano-British Period at Bryn Eryr and Bush Farm, Gwynedd, *Britannia*, 29, 185-246.

Lynch F.M. and Musson, C.R, 2001. A Prehistoric and Early Mediaeval complex at Llandegai, near Bangor, North Wales, *Arch. Camb*. 150, 2001, 17-142.

McGuinness, N. 2016, *New Ysgol Bro Aberffraw Primary School, Newborough, Ynys Môn Archaeological Assessment Phase 2: Trial Trenching*, GAT Report 1329.

McGuinness, N. *et al.* 2017, *New Ysgol Bro Aberffraw Primary School, Newborough, Ynys Môn An Assessment of Potential for Analysis MAP2: Phase 3*, GAT Report 1383.

Musson, C.R. 1991. *The Breiddin Hillfort: A later prehistoric settlement in the Welsh Marches*. CBA Research Report no.76.

Pannett, Dr. A, February 2017. *A Research Framework for the Archaeology of Wales Version 03, Final Refresh Document, Neolithic and Earlier Bronze Age*.

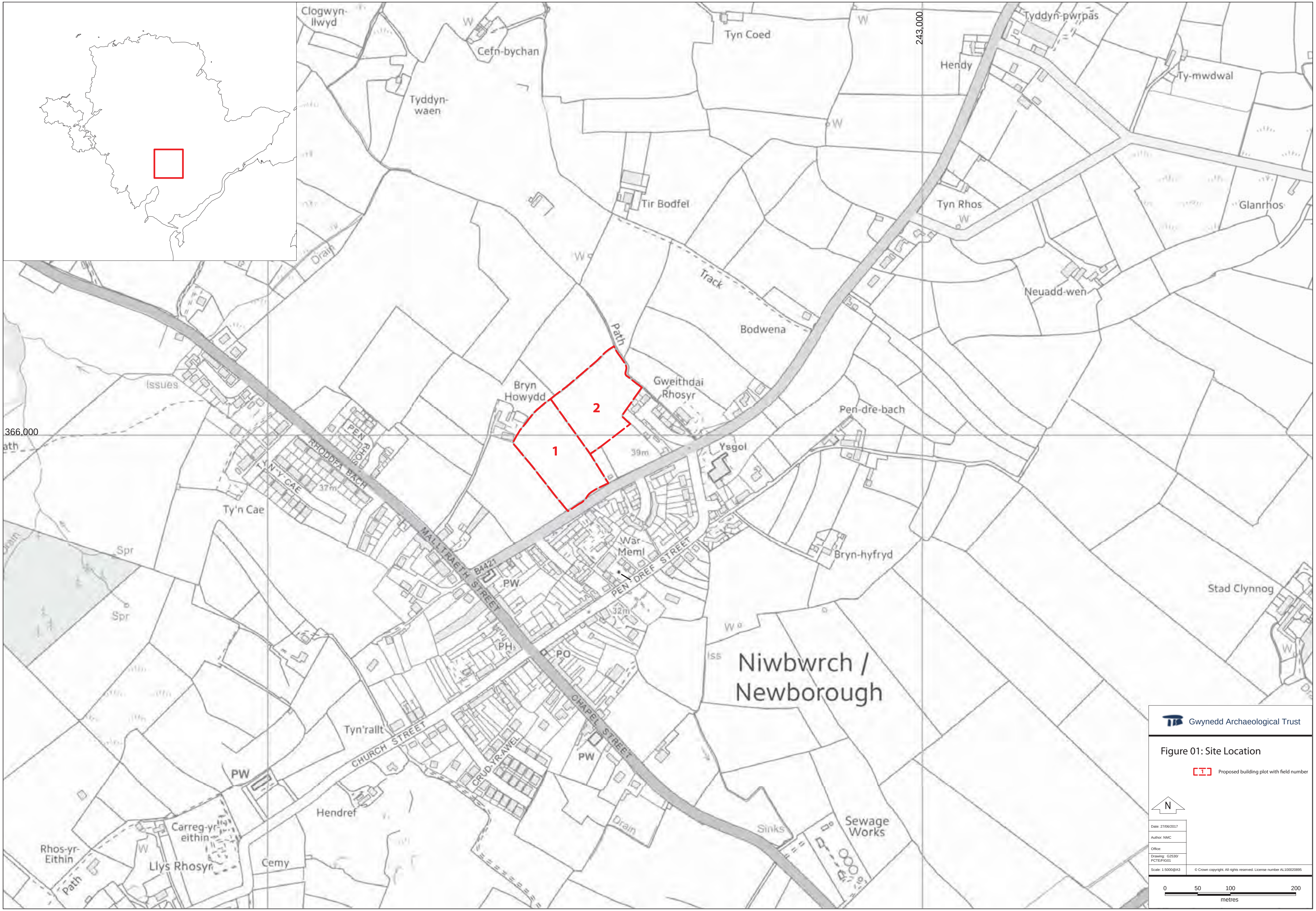
Quinnell, H and Blockley, M 1994. *Excavations at Rhuddlan, Clwyd 1969-73, Mesolithic to Medieval,* CBA Res. Report 95.

Roberts, J and Evans, R. 2018. *New Ysgol Bro Aberffraw Primary School, Newborough, Ynys Môn: Archaeological Mitigation Interim Report*, GAT Report 1436.

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

Stace,C. 2010. *New Flora of the British Isles*. 3rd Edition. Cambridge University Press

White, S.I and Smith G. 1999. 'A funerary and Ceremonial centre at Capel Eithin, Gaerwen, Anglesey', *Trans Anglesey Antiq. Soc*. 17-166.



Clogwyn-llwyd
Cefn-bychan
Tyn Coed
243,000
Tyddyn-pwrpas
Hendy
Ty-mwdwal
Tyddyn-waen
Tir Bodfel
Tyn Rhos
Glanrhos
Drain
Track
Neuadd-wen
Path
Bodwena
Issues
Bryn Howydd
Gweithdai Rhosyr
2
Pen-dre-bach
366,000
1
39m
Ysgol
PEN RHOS
RHODFA BACH
TYN-Y-CAE
37m
Ty'n Cae
Spr
War Meml
Bryn-hyfryd
MALLTRAETH STREET
B4421
PW
PEN DREF STREET
Stad Clynnog
32m
PH
PO
Iss
Niwbwrch / Newborough
Tyn'rallt
CHURCH STREET
CRUD-YR-AWEL
CHAPEL STREET
PW
Hendref
Sinks
Sewage Works
Carreg-yr-eithin
Rhos-yr-Eithin
Llys Rhosyr
Cemy
Path
Gwynedd Archaeological Trust
Figure 01: Site Location
1 Proposed building plot with field number
N
Date: 27/06/2017
Author: NMC
Office:
Drawing: G2530/PCTE/FIG01
Scale: 1:5000@A3
© Crown copyright. All rights reserved. License number AL100020895
0 50 100 200
metres

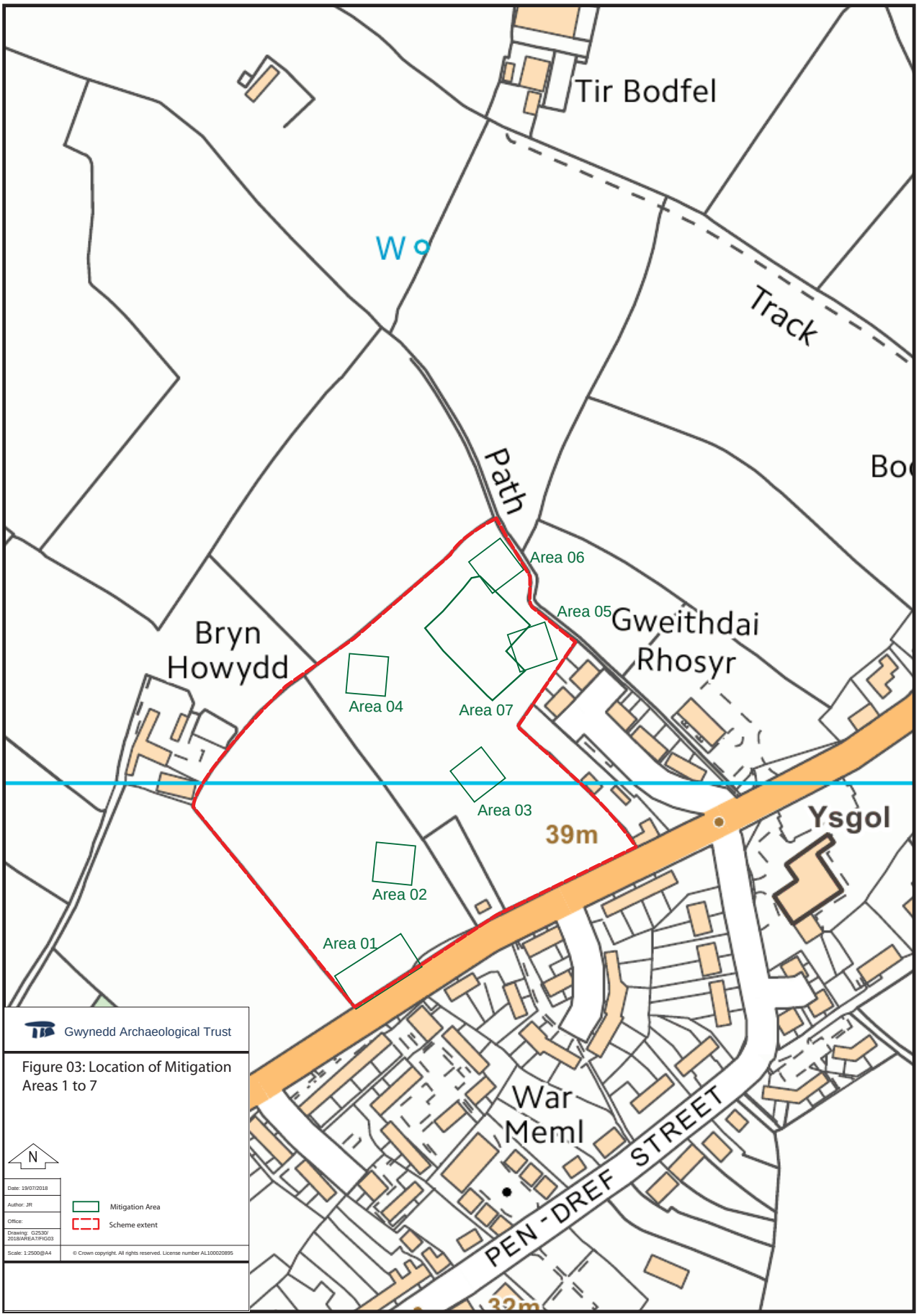
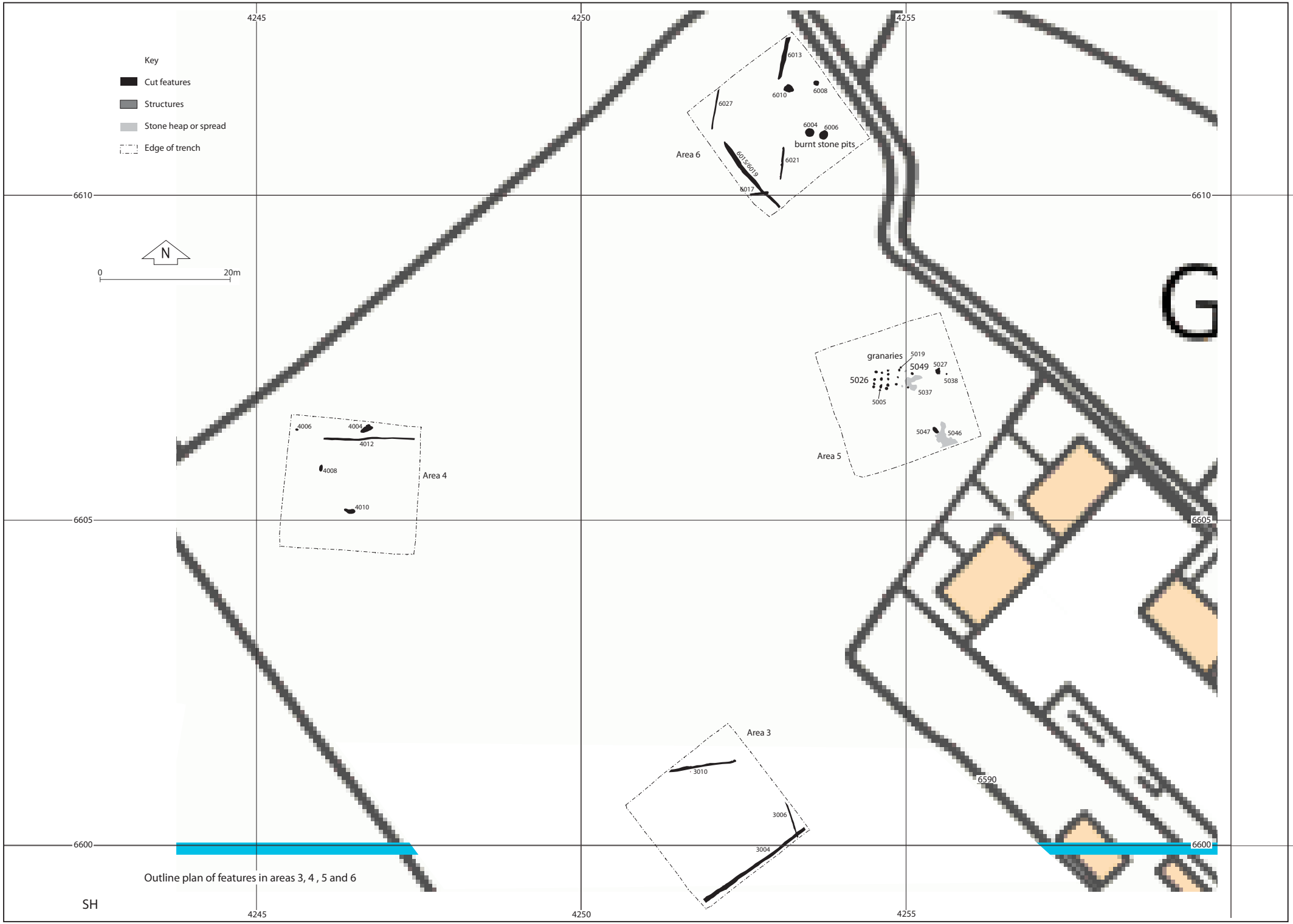
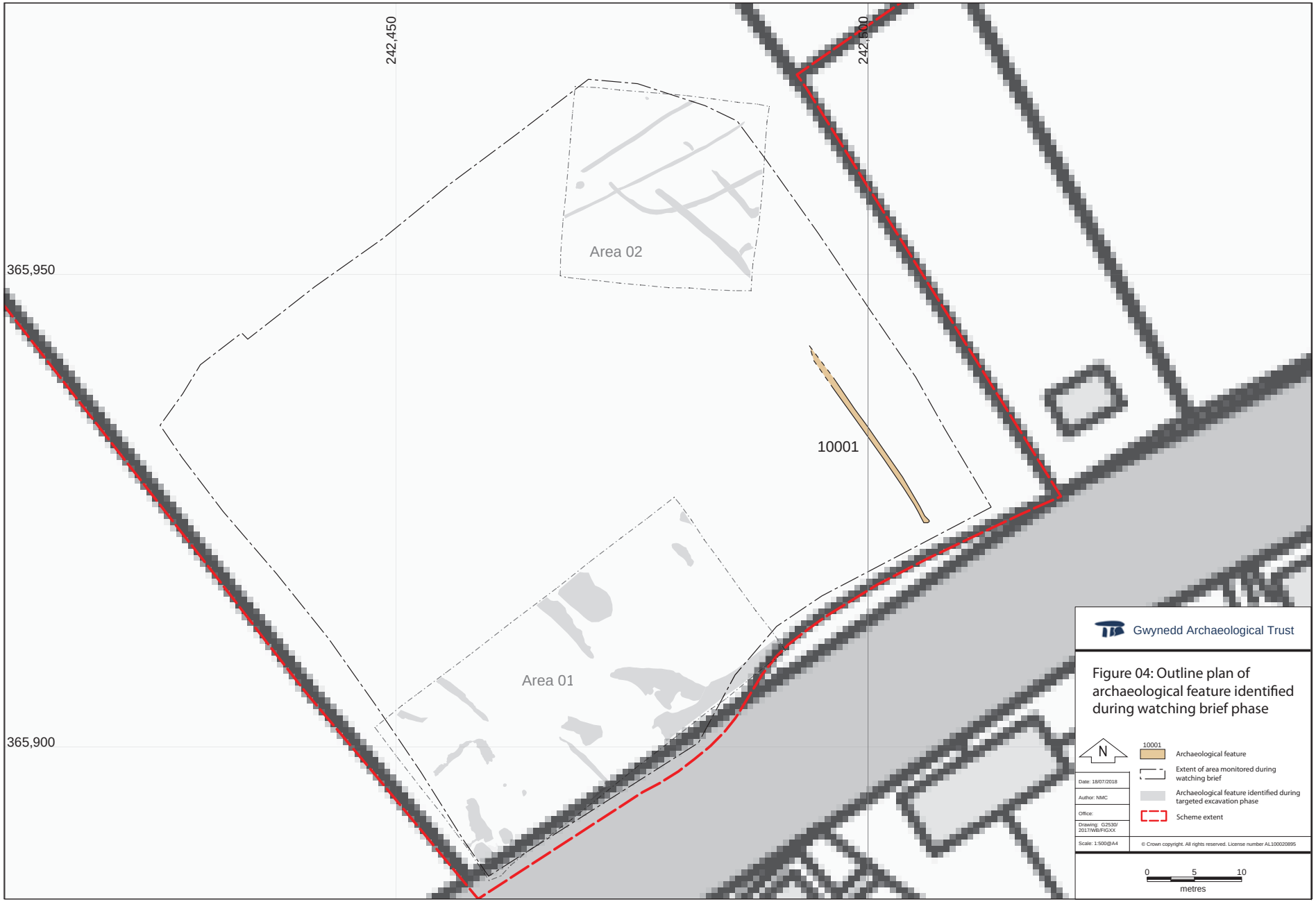

Tir Bodfel
Track
Path
Area 06
Area 05
Gweithdai
Rhosyr
Bryn
Howydd
Area 04
Area 07
Area 03
39m
Ysgol
Area 02
Area 01
War
Meml
PEN - DREF STREET
32m
Gwynedd Archaeological Trust
Figure 03: Location of Mitigation Areas 1 to 7
N
Date: 19/07/2018
Author: JR
Office:
Drawing: G2530/2018/AREA7/FIG03
Scale: 1:2500@A4
Mitigation Area
Scheme extent
© Crown copyright. All rights reserved. License number AL100020895

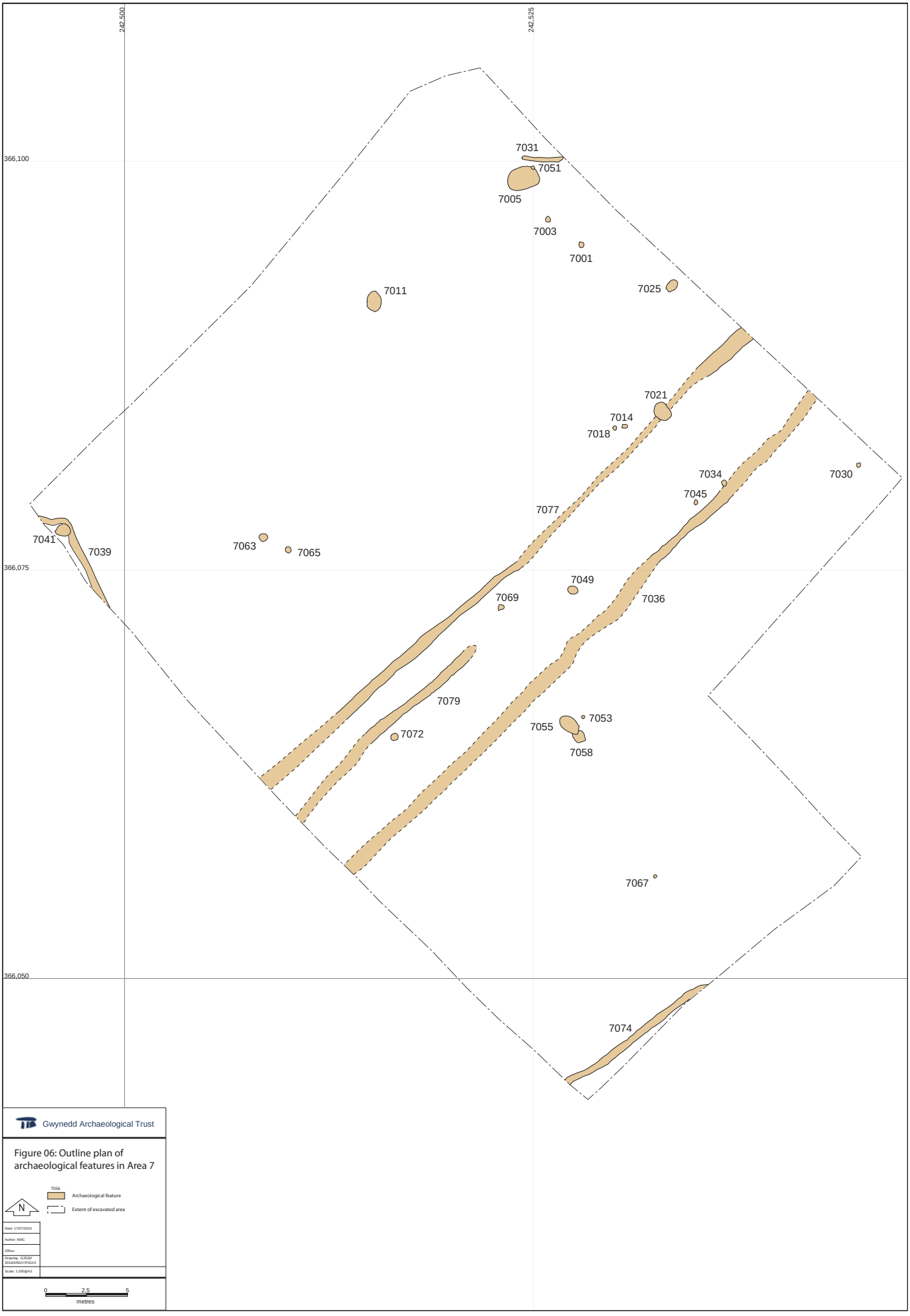
Figure 04: Outline plan of features in Areas 1 and 2. Scale: 1 to 500@A4. © Crown copyright. All rights reserved. License number AL100020895



Outline plan of features in areas 3, 4 , 5 and 6

Figure: 05: Outline plan of features in Areas 3, 4, 5 and 6. Scale: 1 to 500@A4.


242,450
242,500
365,950
365,900
Area 02
Area 01
10001
Gwynedd Archaeological Trust
Figure 04: Outline plan of archaeological feature identified during watching brief phase
N
10001
Archaeological feature
Extent of area monitored during watching brief
Archaeological feature identified during targeted excavation phase
Scheme extent
Date: 18/07/2018
Author: NMC
Office:
Drawing: G2530/2017/WB/FIG/XX
Scale: 1:500@A4
© Crown copyright. All rights reserved. License number AL100020895
0
5
10
metres


242,500
242,525
366,100
366,075
366,050
7031
7051
7005
7003
7001
7011
7025
7021
7014
7018
7034
7030
7045
7077
7041
7039
7063
7065
7049
7069
7036
7079
7053
7055
7072
7058
7067
7074
Gwynedd Archaeological Trust
Figure 06: Outline plan of archaeological features in Area 7
7056
Archaeological feature
Extent of excavated area
N
Date: 17/07/2018
Author: NMC
Office:
Drawing: G2530 2018/MEA73/Fig06
Scale: 1:200@A3
0
2.5
5
metres

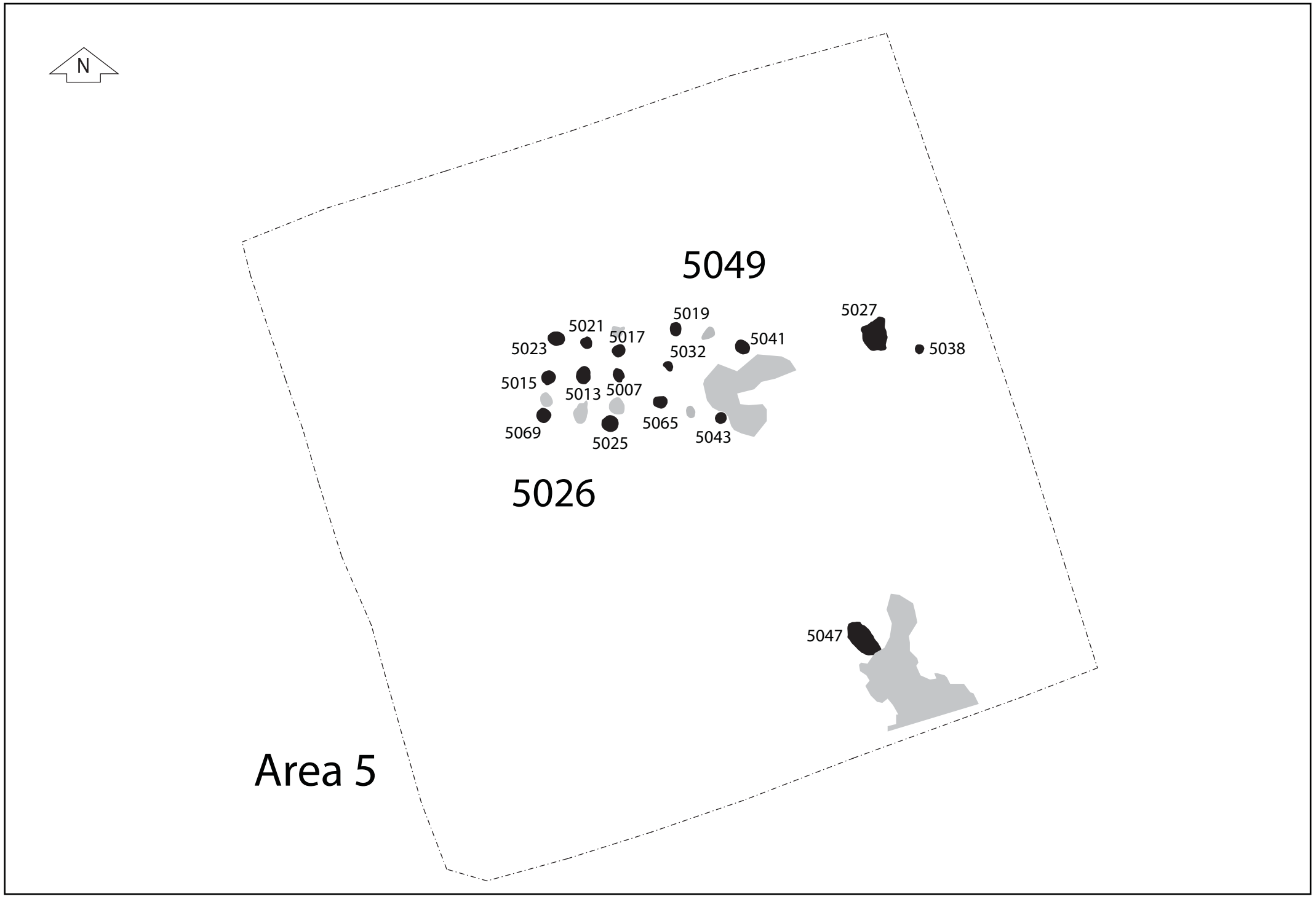


Figure: 07: Outline plan of features in Areas 5. Not to Scale.

APPENDIX I

Reproduction of approved project design prepared by Gwynedd Archaeological Trust, July 2018

NEW YSGOL BRO ABERFFRAW, NEWBOROUGH, YNYS MÔN (G2530)

PROJECT DESIGN FOR AN ASSESSMENT OF POTENTIAL FOR ANALYSIS (MAP2 PHASE 3)

Prepared for

Cyngor Sir Ynys Môn

July 2018

Ymddiriedolaeth Archaeolegol Gwynedd
Gwynedd Archaeological Trust

New Ysgol Bro, Aberffraw, Ynys Môn (G2530)

Project Design for an Assessment of Potential for Analysis (MAP2 Phase 3)

Prepared for Cyngor Sir Ynys Môn

Contents

Approvals Table				
	Role	**Printed Name**	**Signature**	**Date**
Originated by	Document Author			
Reviewed by	Document Reviewer			
Approved by	Principal Archaeologist			

Revision History			
Rev No.	**Summary of Changes**	**Ref Section**	**Purpose of Issue**

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

Name	Signature	Date

1 INTRODUCTION

Gwynedd Archaeological Trust (GAT) has been commissioned by Cyngor Sir Ynys Môn to undertake a post-excavation assessment. This follows a programme of archaeological mitigation during the construction stage of the New Ysgol Bro Aberffraw Primary School, located in Newborough, Ynys Môn (NGR SH4247566010; Figure 01) and the identification of suspected prehistoric and medieval archaeological activity and the recovery of associated ecofacts and artefacts. The post-excavation programme is being completed under the requirements of a Planning Condition, reference number 45LPA1029A/CC/ECON.

The post-excavation will be undertaken as a phased process in accordance with guidelines specified in *Management of Archaeological Projects: MAP2* (English Heritage 1991), and the relevant guidelines from *Management of Research Projects in the Historic Environment: The MoRPHE Project Managers' Guide* (Historic England 2015). Five project phases are specified in MAP2:

- MAP2 Phase 1: Project Planning
- MAP2 Phase 2: Fieldwork
- MAP2 Phase 3: Assessment of Potential for Analysis
- MAP2 Phase 4: Analysis and Report Preparation
- MAP2 Phase 5: Dissemination

MAP2 Phases 1 and 2 have been completed. The current design specifically relates to the assessment of recovered artefacts and ecofacts (MAP2 Phase 3) from the pre-construction archaeological mitigation (GAT Report 1407) as well as the mitigation during the construction works (GAT Report 1436). The proposed methodology and nominated specialists are noted in Sections 3.1 and 3.2. The results will be used to inform the subsequent analysis, dating, report preparation and dissemination strategies that will be undertaken as part of MAP2 Phases 4 and 5. MAP2 Phase 4 will be used to synthesise and contextualise the results from the previous phases.

The post-excavation strategy will be monitored by Gwynedd Archaeological Planning Services (GAPS). GAPS must approve the current project design as well as any subsequent reporting, prior to final issue.

Reference will also been made to the following guidelines:

- *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 Creation, Compilation, Transfer and Deposition of Archaeological Archives* (Chartered Institute for Archaeologists 2014);
- *Standard and Guidance for the Collection, Documentation, Conservation and Research of Archaeological Materials* (Chartered Institute for Archaeologists 2014); and
- Guidelines for digital archives (Royal Commission on the Ancient and Historic Monuments of Wales 2015).

Gwynedd Archaeological Trust is certified to ISO 9001:2015 and ISO 14001:2015 (Cert. No. 74180/A/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).

2 ARCHAEOLOGICAL RESULTS

Prior to the archaeological mitigation, a desk-based assessment, walkover survey, and geophysical survey were carried out by GAT in May 2016 (GAT Report 1318), followed by trial trenching in July 2016 (GAT Report 1329). Evidence for prehistoric, medieval and post-medieval activity was identified during the trial trenching and post-excavation assessment and analysis were subsequently completed for selected ecofacts and artefacts (GAT Reports 1383 and 1412 respectively).

The assessment concluded that the development site was located to the north of the medieval core of Newborough, but within an area that was likely to have formed part of the town fields, with evidence of medieval strip fields having been identified in close proximity to the site. The site was formerly the property of Lord Boston's Lligwy estate from at least the latter part of the 18th century and a Lligwy estate map of 1782 showed a house and associated paddock at the southwestern end of the development area that is not shown on any later mapping, suggesting these were demolished during the nineteenth century. Evidence for the house and paddock were not identified during the geophysical survey, but linear anomalies suggesting former field boundaries were present. The subsequent evaluation trenches targeted these anomalies as well as other portions of the site, including the house and paddock location. Archaeological features were encountered in 13 of the 20 trenches opened. Two Bronze Age prehistoric pits were identified in Trench 13 at the northeastern end of the site, with radiocarbon dates suggesting one pit was in use in the Early Bronze Age and another in the Late Bronze Age; the close proximity of the features suggesting activity in this area over a considerable period of time. A thirteenth century medival ditch was identified in Trench 19 towards the centre of the site, with radiocarbon dates sourced from cereal grains. The ditch measrured 1.17m wide and 0.51m deep with a blunted 'V' shaped profile. Evidence for the former house and paddock were identified, including stone walling, whilst undated linear features were also identified across the site. Based on these results a pre-construction mitigation stage was completed by GAT targeting six specific areas (GAT Report 1407; cf. Figures 03, 04 and 05). In Area 5, which targeted the northeastern edge of the site, postholes for a prehistoric eight or nine post granary and a four post granary were identified, along with pottery of suspected Bronze Age date. In Area 6 to the south, which targeted the two small Bronze Age pits at the eastern end of TR13, two additional pits were identified of similar morphology and suspected origin. Collectively, the pits were interpreted as earth ovens, representing domestic food preparation. Area 1 targeted the house/paddock site and structural remains were encountered, along with drainage channels, boundary ditches and walls, suggesting evidence of a dwelling and

associated enclosures, possibly including a garden boundary. In all areas, linear features on various orientations, as well as pits, were identified that were interpreted as agricultural activity, indicating different patterns of enclosure, drainage and animal husbandry. During the main construction works, the archaeological mitigation was completed through a site wide watching brief and a controlled strip/targeted excavation of a designated area (Area 7), located between and to the west of Areas 5 and 6, aiming to identify any further prehistoric archaeological activity associated with the granaries and earth ovens. The watching brief monitored all significant foundation level groundworks, including existing field boundary breaches, ground reduction for the main car park and water tank excavations. The development was completed as indicated on Kier Construction Drawing No. NEWB-KR-00-XX-DR-C-0003 (Figure 02) and the watching brief covered the western and northern part of the site, incorporating former archaeological mitigation Areas 1 to 4. The watching brief results confirmed the general observations from the previous mitigation in this area, with deep topsoil/subsoil present. The main feature of note was a linear [10001] (Figure 06), which cut into the glacial horizon and measured 22.5m long, 0.5m wide and 0.16m. The feature was to the south of but on the same northeast to southwest alignment as linear feature [2010] from mitigation Area 2 (Figure 04). The features were only 9.3m apart and bore similar morphology, suggesting they were the same linear feature. Context [2010] was cut by a later curvilinear ditch ([2008]) and in turn cut an earlier linear ditch ([2020]), suggesting it was part of a more complex multi-phase activity; contexts [2006], [2012] and [2014] in this area were another example of phased activity. No diagnostic artefacts were recovered from these features; the linear feature represented by [10001]/[2010] may be of medieval origin, as it does not match any known field boundaries evident on historic mapping. A total of thirty three features were identified during the controlled strip/targeted excavation in Area 7 (Figure 07; Appendix I), including a disparate spread of sub-circular pits and postholes, and five linear gullies and ditches. The sub-circular features did not form a cohesive pattern to suggest a concentrated area of activity, as identified in Areas 5 and 6, although multiple features were interpreted as prehistoric, based on morphology and/or artefact content, with one example, context [7014] containing 14 pottery sherds of suspected Early Bronze Age date. The remaining features were either post-medieval in date or of unknown provenance.

2.1 Themes

The archaeological results have identified several key areas of activity and interest:

- Evidence for prehistoric domestic activity, as represented by the granaries, earth ovens and pits/postholes, primarily at the northeastern end of the site and indicative of possibly more extensive prehistoric settlement activity beyond the confines of the development;
- Evidence for medieval boundary activity, as confirmed by a thirteenth century ditch identified towards the centre of the site and suggested by linear feature [10001]/[2010] at the western end of site. The thirteenth century ditch was of pre-Edwardian Conquest date;
- Evidence of phased activity at the western end of the site represented by intercutting linear features;
- Evidence for a house and paddock that likely belonged to the Lligwy estate at the southwestern end of the site; and
- Evidence for post-medieval boundary activity, especially at the northeastern end of the site.

2.2 Post-Excavation Aims and Objectives

Based on the results, the following aims and objectives will form a primary element in the post-excavation assessment and analysis strategy:

- Contextualising the prehistoric activity to understand the chronology, distribution and relationship between the known and suspected features. This will include sourcing radiocarbon dates for the granaries and earth ovens, as well as selected postholes and pits, primarily within Areas 5 to 7. In addition, the pottery and flint fragments will be assessed for provisional dating and typology. One particular area of interest is the date range between the two pits/earth ovens originally identified in trench TR13, with one pit dated to the Early Bronze Age and the other to the Late Bronze Age. Additional dates from the remaining prehistoric features will confirm where they belong within this chronology and what they collectively demonstrate in terms of how long the site was occupied and for what purpose or purposes. To help place the results in context, reference will also be made to *A Research Framework for the Archaeology of Wales*, specifically the *Refresh of the Research Framework for the Archaeology of Wales for the Neolithic and Earlier Bronze Age* (Dr. Amelia Pannett, February 2017). This will be qualified during the MAP2/Phase 4 process and results.
- Contextualising the medieval boundary activity as confirmed by a thirteenth century ditch identified towards the centre of the site and suggested by linear feature [10001]/[2010] at the western end of site. The thirteenth century ditch was of pre-Edwardian Conquest date and it will be important to consider what this represents in terms of the occupation and use of this area at this time, immediately prior to the creation of Newborough and the resettlement it represented. Radiocarbon dating is recommended for linear feature [10001]/[2010], should suitable dateable material be recovered during the ecofact assessment in MAP2/Phase 3. Any dating could confirm where it belongs in the site chronology and more specifically in relation to the existing thirteenth century ditch. Linear feature [10001]/[2010] also forms part of chronological sequence in that [2010] was cut by a later curvilinear ditch ([2008]) and in turn cut an earlier linear ditch ([2020]). If suitable, additional radiocarbon dating from this feature group could confirm the chronology for this portion of the site. To place the results in context, reference shall be made to *A Research Framework for the Archaeology of Wales*, specifically the *Refresh of the Research Framework for the Archaeology of Wales: Medieval* (Andrew Davidson, Will Davies, Madeleine Gray, March 2017). This will be qualified during the MAP2/Phase 4 process and results.

- Contextualising the results of the remaining features on site. This will include the known post-medieval features, including the former boundary lines identified in Area 7 that appear to match a former boundary on the late nineteenth/early twentieth century First to Third Edition 25 inch Anglesey Ordnance Survey Map (sheet XXII.10), as well as any disparate and/or non-diagnostic features currently of uncertain origin.

A report will be prepared for the MAP2/Phase 3 results, which will primarily include the ecofact and artefact assessment results, with further recommendations for analysis. The MAP2/Phase 4 report will contextualise the assessment results and any results from the analysis stage, including the radiocarbon dating. The MAP2/Phase 4 report will also include thematic illustrations that will detail the distribution of period specific features and what that tell us about the site, e.g., the location and distribution of the prehistoric features, the location and orientation of the medieval field systems and the location of post-medieval features, including the eighteenth century house and paddock.

3 METHODOLOGY

3.1 Ecofact Assessment

A total of 67 ecofact samples were recovered during the archaeological mitigation. The primary aim of the ecofact assessment will be to recover charred macroplant remains for radiocarbon dating and to recover additional artefacts. Ten samples will be excluded from further assessment as they have been interpreted as post-medieval in origin. The ecofact assessment will be limited to the following samples:

Sample No.	Context No.	Context Type	provisional interpretation	notes
3	(4007)	Sole fill of pit [4006]	prehistoric	small pit
4	(4009)	Sole fill of pit [4008]	prehistoric/natural	small pit
5	(3007)	Sole fill of linear [3006]	medieval	feature dated as part of Trench 19
7	(3011)	Sole fill of linear [3010]	unknown	ditch fill
9	(2005)	Sole fill of linear [2004]	unknown	boundary ditch
10	(2017)	Sole fill of pit [2016]	unknown	small pit
11	(2019)	Sole fill of pit [2018]	unknown	small pit
13	(2009)	Ditch fill	unknown	part of a group of intercutting features in Area 2
14	(2011)	Sole fill of linear [2010]	unknown	part of a group of intercutting features in Area 2
15	(2021)	Sole fill of linear [2020]	unknown	possible boundary ditch
16	(1038)	Sole fill of posthole	prehistoric	flint recovered (ref. 3); only suspected prehistoric featue in Area 1
17	(1043)	Sole fill of pit	unknown	irregular shaped pit
19	(6009)	Sole fill of pit [6008]	prehistoric?	pit fill
20	(6011)	Basal fill of pit [6010]	prehistoric?	pit fill
21	(6012)	Secondary fill of pit [6010]	prehistoric?	pit fill
22	(5004)	Fill of posthole	prehistoric	posthole fill (artefacts recovered: ref. 1, 2 and 6)
23	(5012)	Fill of posthole	prehistoric	posthole fill , part of granary [5026]
24	(5008)	Fill of posthole	prehistoric	posthole fill , part of granary [5026]
25	(5010)	Fill of posthole	prehistoric	posthole fill , possibly part of granary [5026]
26	(5014)	Fill of posthole	prehistoric	posthole fill , part of granary [5026]
27	(5006)	Fill of posthole	prehistoric	posthole fill
28	(5016)	Fill of posthole	prehistoric	posthole fill , part of granary [5026]
29	(5018)	Fill of posthole	prehistoric	posthole fill , part of granary [5026]

Sample No.	Context No.	Context Type	provisional interpretation	notes
30	(5020)	Fill of posthole	prehistoric	posthole fill , part of granary [5026]
31	(5022)	Fill of posthole	prehistoric	posthole fill , part of granary [5026]
32	(5024)	Fill of posthole	prehistoric	posthole fill , part of granary [5026]
33	(6023)	Upper fill of pit [6004]	prehistoric	pit fill of pit [6005](Bronze Age featured dated in evaluation phase)
34	(6005)	Secondary fill of pit [6004]	prehistoric	pit fill of pit [6005](Bronze Age featured dated in evaluation phase)
35	(6024)	Basal fill of pit [6004]	prehistoric	pit fill of pit [6005](Bronze Age featured dated in evaluation phase)
36	(6025)	Upper fill of pit [6006]	prehistoric	pit fill of [6006]
37	(6007)	Secondary fill of pit [6006]	prehistoric	pit fill of [6006]
38	(6026)	Basal fill of pit [6006]	prehistoric	pit fill of [6006]
39	(5028)	Sole fill of linear [6027]	prehistoric/natural	
40	(5039)	Fill of small pit [5038]	prehistoric?	isolated feature (pit)
41	(5048)	Fill of pit [5048]	prehistoric?	pit
42	(5033)	Fill of pit [5034]	prehistoric	posthole fill , part of granary [5049]
43	(5040)	Fill of posthole [5040]	prehistoric	posthole fill , part of granary [5049]
44	(5042)	Fill of posthole [5043]	prehistoric	posthole fill , part of granary [5049]
45	(5044)	Fill of posthole [5045]	prehistoric	posthole fill , part of granary [5049]
46	7002	fill of small pit [7001]	prehistoric	pit
47	7004	fill of post-hole [7003]	prehistoric	posthole
48	7006	fill of rectangular pit [7005]	prehistoric	pit
49	7012	fill of pit [7011]	unknown	pit
50	7015	fill of post-hole [7014]	prehistoric	posthole
51	7019	fill of possible post-hole	prehistoric	posthole
52	7022	fill of large, shallow pit [7021]	unknown	large shallow pit
53	7033	fill of possible post-hole [7030]	unknown	isolated possible posthole
54	7035	fill of possible post-hole [7034]	unknown	posthole
55	7043	seconary fill of post-hole [7041]	prehistoric	large posthole
57	7026	secondary fill of post-hole [7025]	prehistoric	large posthole
58	7052	fill of post-hole [7051]	prehistoric	posthole
60	7061	primary fill of oval pit [7055]	prehistoric	pit fill
61	7062	fill of small pit [7058]	prehistoric	pit fill
62	7068	fill of possible post-hole [7067]	unknown	isolated possible posthole
63	7073	fill of small pit [7072]	prehistoric	small pit fill

Sample No.	Context No.	Context Type	provisional interpretation	notes
64	7075	fill of linear gully [7074]	prehistoric	gully fill
67	(10002)	Fill of linear (10001)	medieval?	possible medieval boundary fill/ same as (2011)

The ecofact assessment will be completed as a two stage process, based on the following methodology:

1. The bulk sample will be processed in house by GAT. This will consist of flotation and wet sieving using a 500 micron mesh to collect the residue (which collects more than the 1mm = 1000 micron), with the flot collected in a 250 micron mesh. The residues will be sorted to recover artefacts and non-floating ecofacts. Once sorted the residues will be discarded. The flots will be weighed, catalogued and examined for charred macroplant remains.
2. Recovered charred macroplant will be sent for specialist assessment to AOC Archaeology. The charred macroplant will be sieved using a 4mm, 2mm and 1mm system of stack sieves and subsequently examined under magnification (x10 and up to x100). Macroplant identifications will be completed confirmed using modern reference material and seed atlases stored at AOC Edinburgh. Taxonomic and nomenclature for plants will be based on Stace,C. 2010. *New Flora of the British Isles*. 3rd Edition. Cambridge University Press. Charcoal fragments 4mm and larger will be collected for species identification and recommendations will be made for any subsequent analysis and radiocarbon dating.

Any recommendations made for any subsequent analysis and radiocarbon dating will be defined in a MAP2 Phase 4 project design prepared by GAT.

3.2 Artefact Assessment

The artefacts will be assessed for form, function and provenance by GAT nominated specialists. If relevant, recommendations will be made for any further analysis as part of MAP2 Phase 4.

If any artefacts are recovered during the bulk sample processing that require assessment, GAPS will be informed of results and proposals for specialist assessment.

The ecofacts and artefacts from the evaluation stage have already been assessed and analysed as part of a separate post-excavation stage (GAT Reports 1383 and 1412 respectively).

A photographic record will be completed for all diagnostic artefacts that will be used for both archiving and dissemination purposes. The photographs will be incorporated into the existing metadata, starting from archive reference number G2530_583.

3.2.1 Lithic assessment

This will be completed by George Smith and include the following artefacts:

Find No.	Sub-Area	Context No.	Context Description	Material	Weight (g)	Description
3	1	(1039)	Fill of posthole	Flint	<1	Possible blade section of white flint
7	7	7009	subsoil	Flint	6	4 pieces of unworked flint

3.2.2 Pottery assessment

This will be completed by Frances Lynch and include the following artefacts:

Find No.	Sub-Area	Context No.	Context Description	Material	Weight (g)	Description
1	5	(5004)	Fill of posthole	Ceramic	26	Rim sherd of black, prehistoric pot
2	5	(5004)	Fill of posthole	Ceramic	14	Black/orange body sherd of prehistoric pot
6	5	(5004)	Fill of posthole	Ceramic	11	Prehistoric pot sherd
9	7	7015	fill of post-hole [7014]	Ceramic	398	14 prehistoric pottery sherds
10	7	7019	fill of possible post-hole	Ceramic	4	1 prehistoric pottery sherd
11	7	7009	subsoil	Ceramic	5	1 possible prehistoric pottery sherd

3.3 Reporting

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

1. Non-technical summary
2. Introduction
3. Background
4. Methodology (including specialist methodology)
5. Results of Artefact Assessment
6. Results of Ecofact Assessment
7. Conclusions and recommendations for further analysis (MAP2 Phase 4)
8. Sources Consulted
9. Appendix I – Approved Project Design
10. Appendix II – Artefact Assessment Report
11. Appendix III – Ecofact Assessment Report

3.4 Archiving

A full archive will also be prepared. A draft copy of the report will be sent to the regional curatorial archaeologist (GAPS) and to the client for review by the end of **October 2018**. Once approved, a final report will be submitted to all parties as well as the Historic Environment Record; the archive will be sent to the *Royal Commission for Ancient and Historic Monuments Wales (RCAHMW)*.

The following dissemination will apply:

1. A digital report will be provided to GAPS (draft report then final report).

2. A paper report plus a digital report will be provided to the regional Historic Environment Record, Gwynedd Archaeological Trust; this will be submitted within six months of report completion (final report only).

3. A digital report and archive (including photographic and drawn) data will be provided to *RCAHMW* (final report only). Submission of digital information to the Royal Commission on the Ancient and Historical Monuments of Wales shall be undertaken in accordance with the *RCAHMW Guidelines for Digital Archives Version 1*. Digital information will include the photographic archive and associated metadata.

4. A digital report(s) plus paper report(s) (if requested) will be provided to the client (draft report then final report).

5. It is proposed ultimately to publish a summary of the work in *Archaeology in Wales*, the journal for the Council of British Archaeology Wales. This will be undertaken as part of MAP2 Phase 5.

4 SOURCES CONSULTED

Campbell, G. Moffett, L. and Straker, V. 2011, *Environmental Archaeology: A guide to the theory and practise of methods, from sampling and recovery to post-excavation* (2nd 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.*

Davidson, A., Davies, W., and Gray, M., March 2017. *A Research Framework for the Archaeology of Wales Version 03, Final Refresh Document: Medieval*.

English Heritage, 1991, *Management of Archaeological Project: MAP2.*

English Heritage, 2002, *Environmental Archaeology: A guide to the theory and practise of methods, from sampling and recovery to post-excavation.*

Evans, R. Hopewell, D. and McGuinness, N. 2016, *New Ysgol Bro Aberffraw Primary School, Newborough, Ynys Môn Archaeological Assessment and Geophysical Survey: Phase 1 Field Evaluation*, GAT Report 1318.

Evans, R. Davidson, J. and Smith, S. 2017, *New Ysgol Bro Aberffraw Primary School, Newborough, Ynys Môn: Targeted Excavation Interim Report*, GAT Report 1407.

Historic England, 2015, *Management of Research Projects in the Historic Environment: The MoRPHE Project Managers' Guide.*

McGuinness, N. 2016, *New Ysgol Bro Aberffraw Primary School, Newborough, Ynys Môn Archaeological Assessment Phase 2: Trial Trenching*, GAT Report 1329.

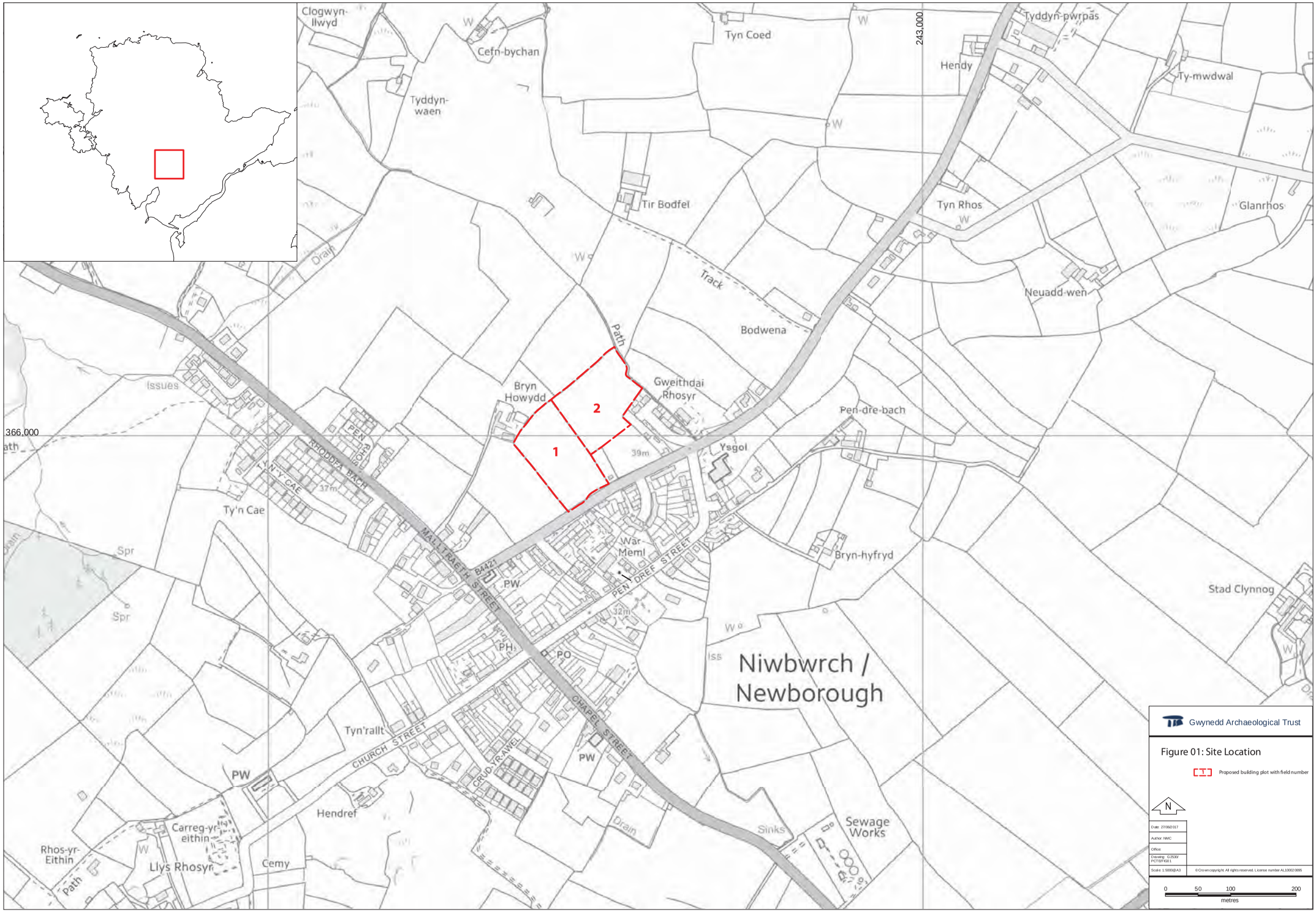
Pannett, Dr. A, February 2017. *A Research Framework for the Archaeology of Wales Version 03, Final Refresh Document, Neolithic and Earlier Bronze Age*.

Roberts, J and Evans, R. 2018. *New Ysgol Bro Aberffraw Primary School, Newborough, Ynys Môn: Archaeological Mitigation Interim Report*, GAT Report 1436.

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

Figure 01

Location Map



Gwynedd Archaeological Trust

Figure 01: Site Location

Proposed building plot with field number

N

Date: 27/06/2017	
Author: NWC	
Office:	
Drawing: G2530 PCTDFIG01	
Scale: 1:5000@A3	© Crown copyright. All rights reserved. License number AL100021095

0 50 100 200
metres

Figure 02

Reproduction of Kier Construction Drawing No. NEWB-KR-00-XX-DR-C-0003

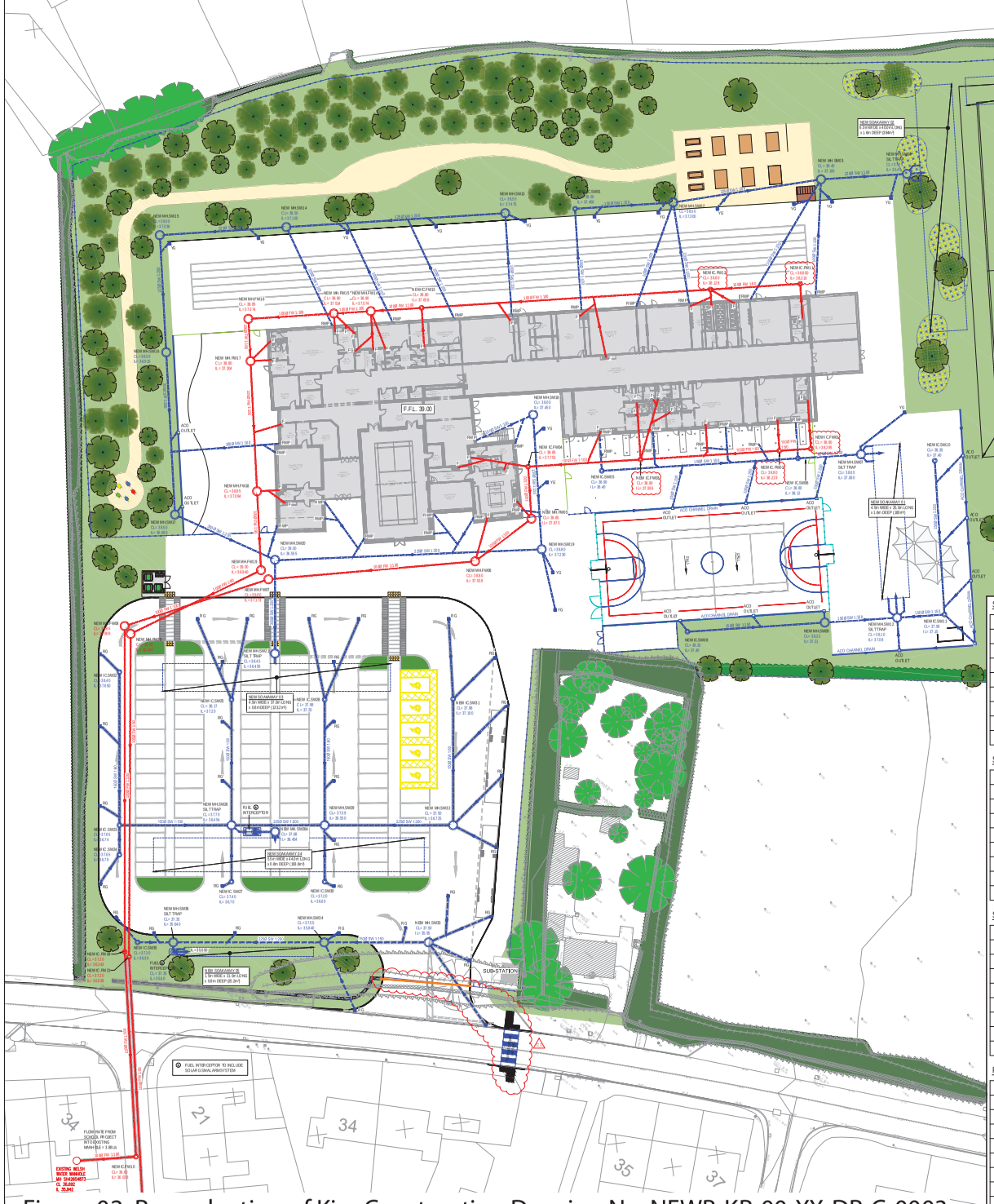


Figure 02: Reproduction of Kier Construction Drawing No. NEWB-KR-00-XX-DR-C-0003

NOTES

GENERAL NOTES:

1. ALL DIMENSIONS IN MILLIMETRES UNLESS STATED OTHERWISE.
2. THIS DRAWING SHALL BE READ IN CONJUNCTION WITH ALL RELEVANT DRAWINGS FOR THE SCHEME.
3. ALL DIMENSIONS SHALL BE CONFIRMED BY THE CONTRACTOR AND ANY DISCREPANCIES BROUGHT TO THE ATTENTION OF THE STRUCTURAL ENGINEER AND CONTRACT ADMINISTRATOR PRIOR TO COMMENCEMENT OF THE WORKS OR AS SOON AS THE DISCREPANCY ARISES.

DRAINAGE NOTES:

1. THIS DRAWING SHALL BE READ IN CONJUNCTION WITH ALL OTHER RELEVANT DRAWINGS AND SPECIFICATION.
2. NO DEVIATION FROM THE DETAILS SHOWN ON THIS DRAWING SHALL BE ALLOWED UNLESS PRIOR WRITTEN CONSENT HAS BEEN OBTAINED.
3. FOR TYPICAL DRAINAGE DETAILS REFER TO KIER DRAWING CSSBSMH-KR-00-XXDRC-0004.
4. ALL WORK TO COMPLY WITH THE RELEVANT CLAUSES OF BS. EN 752-3 AND BUILDING DRAINAGE 'THE SEWERS FOR ADOPTION' CURRENT EDITION & PART H OF THE BUILDING REGULATIONS.
5. PRIOR TO COMMENCEMENT OF THE WORKS THE CONTRACTOR SHALL:
   A) CONFIRM THE LOCATION AND LEVEL OF THE PROPOSED DRAINAGE OUTFALLS AND REPORT ANY DISCREPANCIES TO THE ENGINEER.
   B) CARRY OUT AN INTERNAL SURVEY OF THE OUTFALL CHAMBERS AND PROVIDE DETAILED DIMENSIONED SKETCHES OF EACH FOR THE ENGINEERS CONSIDERATION.
6. ALL PIPES BUILT INTO THE MANHOLE INVERTS SHALL BE INSTALLED WITH SOFFITS LEVEL UNLESS SHOWN OTHERWISE.
7. CONNECTIONS TO FOUL AND SURFACE WATER TERMINAL FITTINGS SHALL BE IN 200mm NOMINAL BORE PIPE U.N.O.
8. ALL MANHOLES AND CONNECTIONS PASSING THROUGH WALLS TO BE FITTED WITH ROCKER PIPES.
9. WHERE PIPES PASS THROUGH WALLS, REINFORCED CONCRETE LINTELS TO BE PROVIDED AND WHERE PIPE TO FULL WIDTH OF WALL PROVIDING MIN. 150mGS CLEARANCE ALL ROUND, MIN. BEARING OF LINTEL TO BE 150mm. SEAL WALL WITH RIGID SHEET EITHER SIDE AND INFILL VOIDS WITH COMPRESSIBLE SEALANT.
10. COVER LEVELS SHOWN ARE APPROXIMATE AND SHALL BE ADJUSTED ON SITE BY THE CONTRACTOR TO SUIT THE FINAL LEVELS. THE CONTRACTOR SHALL PROVIDE WRITTEN CONFIRMATION OF THE FINISHED COVER AND INVERT LEVELS OF ALL MANHOLES
11. THE CONTRACTOR SHALL CONTROL ACCURATE LINE AND LEVEL OF PIPE LAYING BY USE OF FAN OPTICAL LASER.
12. THE CONTRACTOR SHALL PROTECT THE PIPELINE FROM TEMPORARY CONSTRUCTION LOADS WHICH MAY BE IN EXCESS OF THE SERVICE LOADS.
13. PIPEWORK AND PIPE BEDDING SHALL COMPLY WITH THE FOLLOWING REQUIREMENTS EXCEPT WHERE NOTED OTHERWISE:
    CLAY MAINE PIPES AND FITTINGS TO BS EN 295
    150mm DIAMETER HDPE PIPEWORK TO SUPPLIER'S SPECIFICATION BEDDING CLASS AS STATED IN THE SPECIFICATION
14. PIPEWORK WITH LESS THAN 600mm COVER (RAINWATER LEVEL IN AREAS OF OVERFLOW FLOOD RISK) SHALL BE PROTECTED WITH A 200mm C10 CONCRETE SURROUND. FLEXIBLE JOINTS SHALL BE MAINTAINED AT EACH PIPE JOINT BY THE USE OF COMPRESSIVE SHEETCUT TO FIT THE PIPE PROFILE.
15. TRENCHES IN AREAS RECEIVING 'MH COLLAR LOADING' SHALL BE BACKFILLED WITH FREE GRANULAR FILL.
16. TRENCHES WITHIN 1m OF LOAD BEARING WALLS AND BELOW THEIR LEVEL OF FOOTINGS SHOULD BE FILLED WITH CONCRETE AT LEAST TO THE LEVEL OF THE UNDERSIDE OF THE FOUNDATION. WHERE THE DISTANCE IS MORE THAN 1m FROM THE WALL, THE CONCRETE FILL SHOULD BE TO A LEVEL BELOW THE UNDERSIDE OF THE FOUNDATION EQUAL TO THE DISTANCE FROM THE WALL TO THE NEAR SIDE OF THE TRENCH LESS 300mm.
17. SOFT SPOTS IN THE TRENCH FORMATION SHALL BE REMOVED AND REPLACED WITH GRANULAR FILL BEDDING UNLESS INSTRUCTED OTHERWISE.
18. UNLESS NOTED OTHERWISE MANHOLE COVERS, PITCH COVERS, CHANNEL GRATINGS AND ROAD GRATINGS SHALL BE DUCTILE IRON TO BS EN 124 & ACCEPTED AS FOLLOWS:
    H HIGHWAYS — CLASS D400
    H RD SURFACE AREAS — CLASS D400 (ALLOWING FOR FIRE TENDER ACCESS)
    LANDSCAPED AREAS — CLASS B125
19. MAN HOLE COVERS TO BE SCREW DOWN COVERS AND SHALL HAVE A BADGE TO INDICATE FOUL OR STORM WATER.
20. THE CON TRACTOR SHALL REGULAR EXISTING COVERS AND FRAMES TO THE PROPOSED LEVELS INDICATED.
21. TWO SETS OF MANHOLE LIFTING KEYS SHALL BE HANDED OVER TO THE CLIENT ON COMPLETION OF THE WORKS.
22. LATERAL CONNECTIONS IN BETWEEN MANHOLE RUNS SHALL BE FORMED BY USING PURPOSE MADE JUNC TION FITTINGS. BEND FITTINGS SHALL BE PROVIDED WHERE APPROPRIATE TO DIRECT THE FLOW INTO MAIN RUNS.
23. THE CON TRACTOR SHALL SERVE ALL STATUTORY NO TICES AND OBTAIN ALL NECESSARY PERMITS AND APPROVALS FROM THE LOCAL AUTHORITY AND STATUTORY UNDERTAKERS FOR WORKS IN EXISTING PUBLIC HIGHWAYS AND FOR CONNEC TIONS TO PUBLIC SEWERS.
24. IT SHALL BE THE CONTRACTORS RESPONSIBILITY TO LIAISE WITH THE HIGHWAY AND SEWERAGE AUTHORITIES FOR APPROVALS, INTERIM INSPECTION, SWAGGING AND FINAL INSPECTION OF THEIR WORK.
25. THE CON TRACTOR SHALL CONFIRM THE LOCATION OF ALL EXISTING STATU TORY UNDERTAKERS APPARATUS AND SERVICE CONNECTION S ADJACENT TO AND CROSSING THE WORKS BY TRIAL PITS PRIOR TO COMMENCING MACHINE DIG.
26. AT THE CONCLUSION OF THE WORKS THE CON TRACTOR SHALL PROVIDE A MARKED UP DRAWING TO RECORD ANY AS BUILT VARIATIONS NO T SHOWN ON THE DRAWING S.

DRAINAGE KEY:

- EXISTING FOUL DRAINAGE
- EXISTING FOUL MANHOLE
- EXISTING DRAINAGE TO BE GRUBBED UP
- NEW FOUL DRAINAGE
- NEW IC FW — NEW FOUL PIPE WITH 150 CONCRETE SURROUND
- NEW MH FW — NEW FOUL PCC MANHOLE WITH 150 CONCRETE SURROUND
- NEW FOUL POP UP: REFER TO ARCHITECTS/SERVICES CONSULTANT FOR SETTING OUT AND TYPE OF APPLIANCE FITTING. ACCESS FOR RODDING OF THE BELOW GROUND DRAIN IS TO BE PROVIDED AT ALL FOUL POP UP LOCATIONS
- FG — FLOOR GULLY
- RE — RODDING EYE
- NEW FOUL WATER DRAINAGE CHANNEL WITH GULLY OUTLET POINT (ACO OR SIMILAR APPROVED)
- EXISTING SURFACE WATER DRAINAGE
- EXISTING SURFACE WATER MANHOLE
- EXISTING RODDING GULLY
- NEW SURFACE WATER DRAINAGE
- NEW DRAINAGE PIPE WITH CONCRETE ENCASEMENT
- NEW SURFACE WATER PIPE WITH 150 CONCRETE SURROUND
- NEW SW — NEW SURFACE WATER PCC MANHOLE WITH 150 CONCRETE SURROUND
- RG / YG — RG = NEW RODDING GULLY; YG = NEW WASH GULLY
- RWP / RWP — NEW RAIN WATER PIPE / INTERNAL RAIN WATER PIPE. REFER TO ARCHITECTS DET SET OUT. ACCESS FOR RODDING OF THE BELOW GROUND DRAINAGE DRAIN IS TO BE PROVIDED AT ALL RWP LOCATIONS.
- RE — RODDING EYE
- NEW SURFACE WATER DRAIN AGE CHANNELS HERB (ACO, POLYFIN ROC HANNEL OR SIMILAR APPROVED)
- +38.8 — PROPOSED GROUND LEVELS

SURFACE WATER MANHOLE SCHEDULE

REF.	SW01	SW02	SW03	SW04 SILT TRAP	SW05	SW06	SW07 SILT TRAP	SW08	SW09	SW10	SW11	SW12 SILT TRAP	SW13	SW14	SW15
CO VER LEVEL	36.50	36.50	36.40	37.75	36.90	36.80	36.85	36.32	36.32	36.35	37.50	36.30	36.50	36.50	36.60
OUTLET INVERT LEVEL	37.490	37.300	37.300	35.45	36.45	36.32	37.080	37.45	37.21	37.40	37.15	37.08	37.478	37.385	37.036
OUTLET PIPE DIA. (mm)	150	225	225	225	300	150	150	150	150	150	150	150	225	225	225
CHAMBER DEPTH (mm)	1150	1200	1300	2750 (450 SUMP)	1500	1450	1000 (450 SUMP)	920	1110	950	750	1150 (450 SUMP)	1035	1335	1464
CHAMBER DIA. (mm)	475	1200	1200	1200	475	475	1200	475	1200	475	475	1200	1200	1200	1200
MANHOLE TYPE	PPIC	E	E	B	PPIC	PPIC	B	PPIC	E	PPIC	PPIC	E	E	E	B
CO VER TYPE	C150	C250	C250	C250	C250 (RECESSED)	C250 (RECESSED)	C250 (RECESSED)	C250	C150	C250 (RECESSED)	C 250 (RECESSED)	C250 (RECESSED)	C250	C150	C250
SETTING OUT															

SURFACE WATER MANHOLE SCHEDULE

REF.	SW16	SW17	SW18	SW19	SW20	SW21 SILT TRAP	SW22	SW23	SW24	SW25	SW26 SILT TRAP	SW26 A SILT TRAP	SW27	SW28	SW29
CO VER LEVEL	36.50	36.50	36.00	36.40	36.00	36.45	36.40	37.45	37.65	36.17	37.70	37.68	37.40	37.68	37.50
OUTLET INVERT LEVEL	36.815	36.640	37.450	37.230	36.355	36.645	37.050	36.740	36.760	37.20	36.454	36.360	36.70	37.20	36.650
OUTLET PIPE DIA. (mm)	300	300	150	225	300	300	150	150	300	150	225	225	300	300	225
CHAMBER DEPTH (mm)	1385	1620	1150	1570	2445	2445 (450 SUMP)	750	910	860	970	1636 (450 SUMP)	1770 (450 SUMP)	1100	750	1540
CHAMBER DIA. (mm)	1200	1200	1200	1200	1200	1200	475	475	475	475	1200	1200	475	475	1200
MANHOLE TYPE	B	B	B	B	B	B	PPIC	PPIC	PPIC	PPIC	B	B	PPIC	PPIC	E
CO VER TYPE	C250	C250	D400 (RECESSED)	D400 (RECESSED)	C250 (RECESSED)	D400 (RECESSED)	D400	D400	D400	D400	D400	D400	D400	D400	D400
SETTING OUT															

SURFACE WATER MANHOLE SCHEDULE

REF.	SW30	SW31	SW32	SW33	SW34	SW35	SW36 SILT TRAP								
CO VER LEVEL	37.20	37.18	37.50	37.50	37.35	37.20	37.25								
OUTLET INVERT LEVEL	36.850	37.180	36.725	36.85	35.840	36.30	36.840								
OUTLET PIPE DIA. (mm)	300	150	225	150	225	150	225								
CHAMBER DEPTH (mm)	1150	860	775	2050	2150	960	2150 (450 SUMP)								
CHAMBER DIA. (mm)	475	475	1200	1200	1200	475	1200								
MANHOLE TYPE	PPIC	PPIC	E	B	B	PPIC	B								
CO VER TYPE	D400	D400	D400	D400	C250	C250	C250								
SETTING OUT															

FOUL WATER MANHOLE SCHEDULE

REF.	FW01	FW02	FW03	FW04	FW05	FW06	FW07	FW08	FW09	FW10	FW11	FW12	FW13	FW14	FW15	FW16	FW17	FW18	FW19	FW20	FW21	FW22
CO VER LEVEL	36.80	36.80	36.80	36.85	36.85	36.80	36.00	36.65	37.20	36.60	36.80	36.80	36.80	36.80	36.80	36.80	36.80	36.85	36.85	37.20	36.30	
OUTLET INVERT LEVEL	34.215	34.215	34.536	37.703	37.670	34.536	34.536	36.343	36.028	36.120	36.120	37.698	37.574	37.574	37.574	37.364	37.084	34.540	36.884	36.038	35.988	
OUTLET PIPE DIA. (mm)	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	
CHAMBER DEPTH (mm)	535	585	964	1697	1677	1242	1607	1742	857	572	480	672	1342	1236	1236	1476	1496	1756	2060	1886	1362	702
CHAMBER DIA. (mm)	475	475	475	475	475	1200	1200	1200	1200	475	475	475	475	475	1200	1200	1200	1200	1200	1200	475	475
MANHOLE TYPE	PPIC	PPIC	PPIC	PPIC	E	E	B	B	PPIC	PPIC	PPIC	PPIC	PPIC	E	E	E	E	E	B	B	B	PPIC	PPIC
CO VER TYPE	C250 (RECESSED)	C250 (RECESSED)	C250 (RECESSED)	D400	D400	C250 (RECESSED)	C250 (RECESSED)	D400	D400	D400	C250 (RECESSED)	C250 (RECESSED)	C250 (RECESSED)	C250 (RECESSED)	C250 (RECESSED)	C250 (RECESSED)	C250 (RECESSED)	C250 (RECESSED)	C250 (RECESSED)	D400	D400	D400
SETTING OUT																						

FOR TYPICAL CONSTRUCTION DETAILS TO MANHOLES REFER TO DRAWING NO. CSSBSMH-KR-00-XX-DRC-0004.

MANHOLE COVER TYPES, LEVELS AND DEPTHS TO BE CONFIRMED FOLLOWING RECEIPT OF LAND IC AND ARCHITECTS EXTERNAL WORKS GENERAL ARRANGEMENT DRAWING (DETAILED) PRIOR TO ANY SITE LEVELS AT THE MAN HOLE COVER LOCATIONS.

NOTE:
ALL COVER LEVELS INDICATED ON THIS DRAWING ARE APPROXIMATE AND THE CONTRACTOR IS TO LIAISE WITH THE LANDSCAPE ARCHITECT TO CONFIRM THE EXACT LEVELS.

NOTE:
CONTRACTOR TO ALLOW A CONTINGENCY FOR UNDERTAKING ANY REMEDIAL WORKS TO ENSURE THE OUTLET DRAINS ARE FREE FROM DEFECTS

NOTE:
CONTRACTOR TO REFER TO ARCHITECT'S DRAWINGS FOR EXACT SET OUT OF ALL RAINWATER PIPE AND STUB STACK POSITIONS.

ALL SOAKAWAYS TO BE FORMED USING WAVIN 'AQUACELL PLUS' (OR SIMILAR APPROVED) SYSTEM, (INCLUDING VENTS, GEOTEXTILE SURROUND AND BEDDING DETAILS), INSTALLED IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS.

DRAINAGE LAYOUT AND DETAILS TO BE READ IN CONJUNCTION WITH ARCHITECT AND MECHANICAL ENGINEER'S DRAWINGS WITH RESPECT TO ABOVE GROUND DRAINAGE LAYOUT AND POP-UP POSITIONS

C1	ISSUED FOR CONSTRUCTION	MWP	BD	1.08.17
P8	ISSUED FOR PLANNING AMENDMENTS - MINOR REVISIONS FOLLOWING PLANNING	MWP	BD	19.06.17
P7	DRAINAGE LAYOUT UPDATED TO SUIT LATEST LANDSCAPE LAYOUT	MWP	BD	16.06.17
P6	LOCATION OF FOUL WATER PUMPING STATION AMENDED	MWP	BD	09.06.17
P5	DRAINAGE LAYOUT UPDATED TO SUIT LATEST TOPOGRAPHICAL SURVEY	MWP	BD	26.05.17
P4	DRAINAGE LAYOUT AMENDED TO SUIT LATEST LANDSCAPE LAYOUT	MWP	BD	19.05.17
P3	DRAINAGE LAYOUT AMENDED TO SUIT LATEST TOPOGRAPHICAL SURVEY INFORMATION	MWP	BD	09.05.17
P2	DRAINAGE LAYOUT UPDATED TO SUIT INDIVIDUAL BUILDING AREA, ROAD AND CAR PARKING LAYOUT AMENDMENTS. SOAKAWAYS ALSO MORE HEAVILY UTILISED IN ORDER TO REDUCE THE NUMBER OF ATTENUATION TANKS REQUIRED	MWP	BD	05.05.17
P1	TENDER ISSUE	MWP	BD	10.04.17
Revision	Amendment	Drawn	Checked	Approved

KIER

Issuing Office: Liverpool
Telephone #: 0151 600 5500
E-mail:
Kier Project Number: 1079951
Client: Isle of Anglesey County Council
Project Title: Ysgol Bro Aberffraw
Drawing Title: Proposed Drainage Layout Option 2
Scale: 1:250
Original Size: A0
RIBA Stage: Stage 5
Date of First Issue: 02.12.2016
Author: NWP
Checked: SH
Approved: SO
Drawing No.: NEWB-KR-00-XX-DR-C-0003
Revision: C1

Project | Originator | Zone | Level | Type | Role | Number

Figure 03

Location of Mitigation Areas 1 to 7

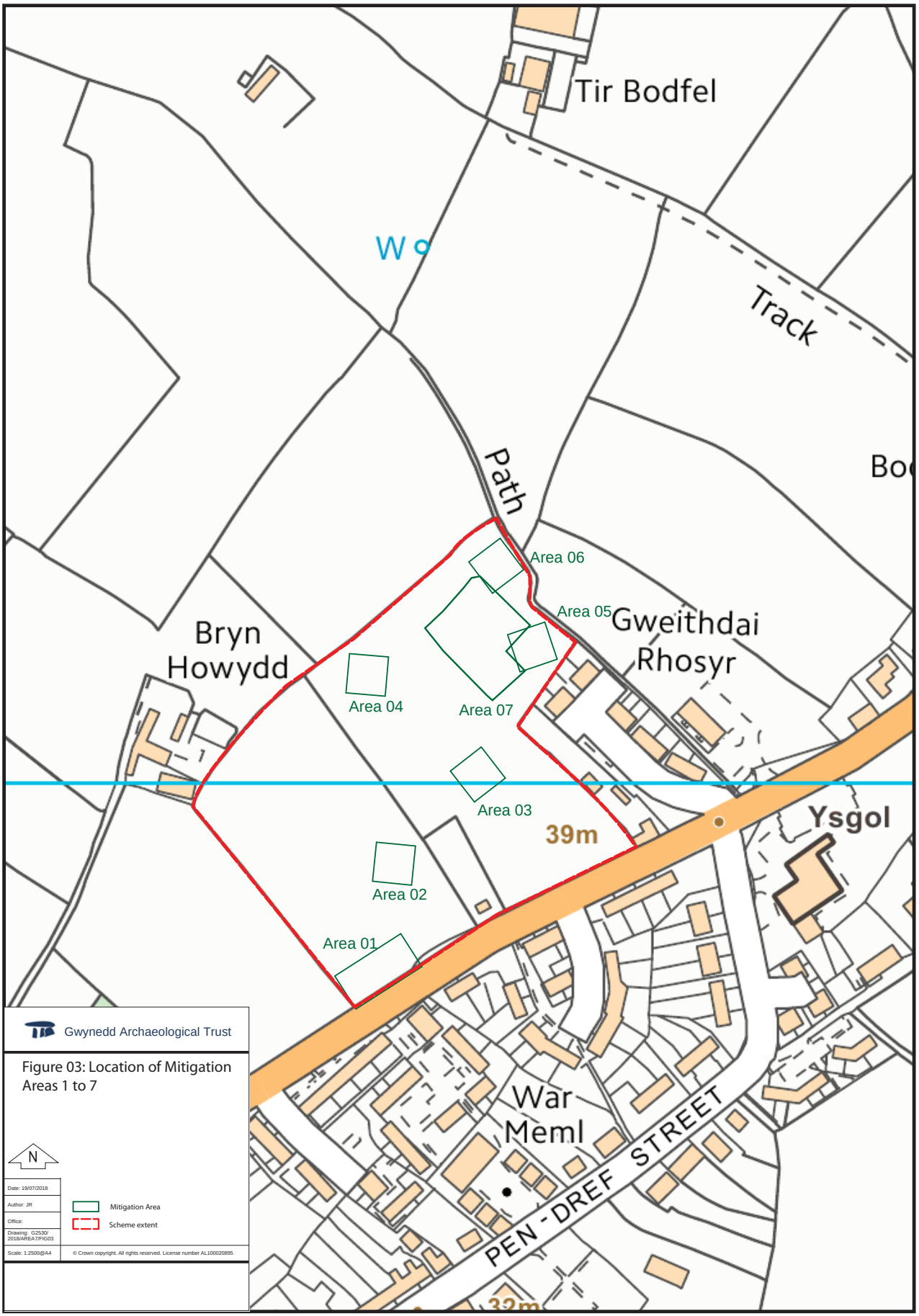

Tir Bodfel
Track
Path
Area 06
Area 05
Gweithdai
Rhosyr
Bryn
Howydd
Area 04
Area 07
Area 03
39m
Ysgol
Area 02
Area 01
War
Meml
PEN - DREF STREET
32m
Gwynedd Archaeological Trust
Figure 03: Location of Mitigation Areas 1 to 7
N
Date: 19/07/2018
Author: JR
Office:
Drawing: G2530/2018/AREA7/FIG03
Scale: 1:2500@A4
Mitigation Area
Scheme extent
© Crown copyright. All rights reserved. License number AL100020895

Figure 04

Outline plan of features in Areas 1 and 2

Figure 04: Outline plan of features in Areas 1 and 2. Scale: 1 to 500@A4. © Crown copyright. All rights reserved. License number AL100020895

Figure 05

Outline plan of features in Areas 3, 4, 5 and 6

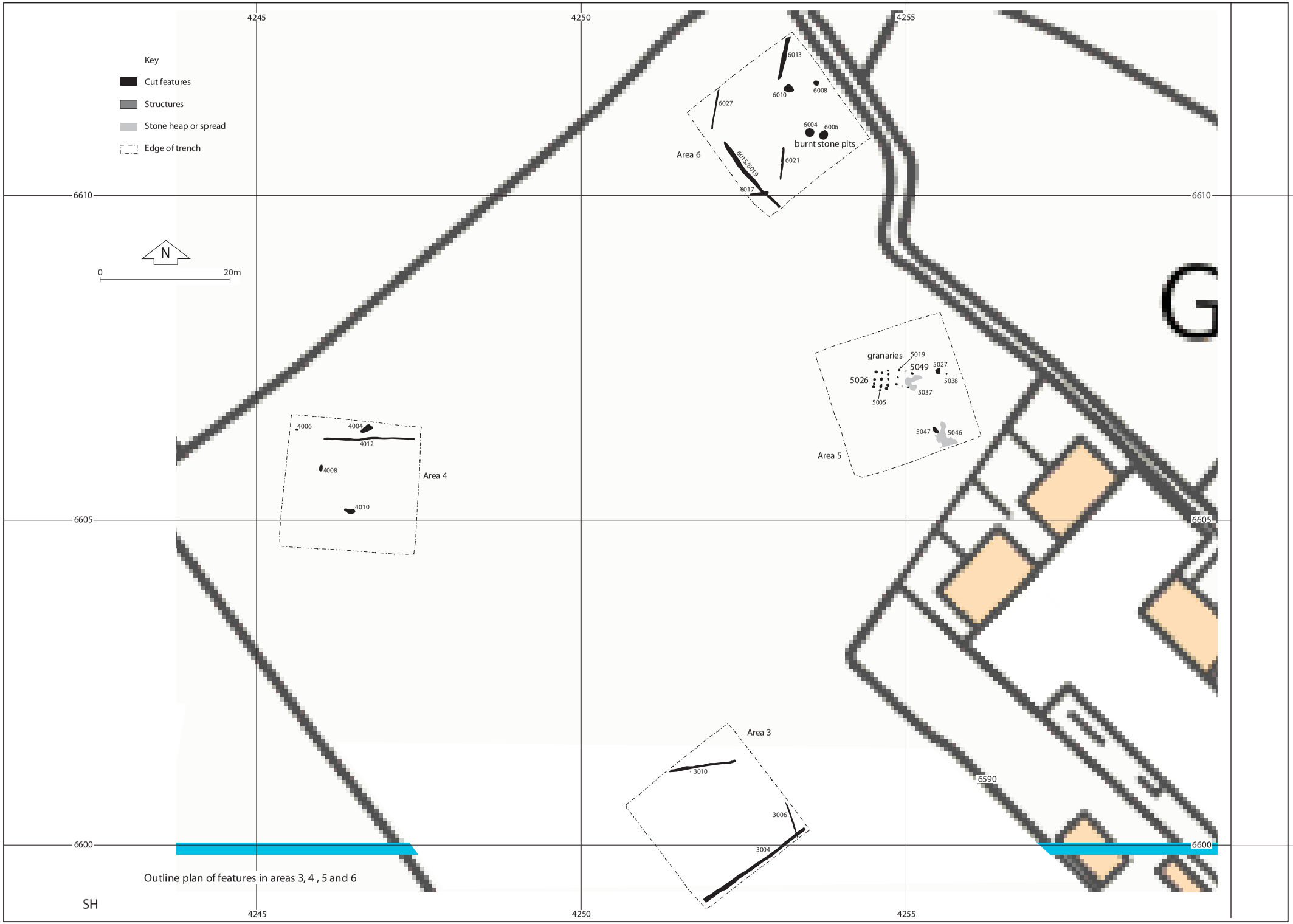


Figure: 05: Outline plan of features in Areas 3, 4, 5 and 6. Scale: 1 to 500@A4.

Figure 06

Outline plan of archaeological feature identified during watching brief phase


242,450
242,500
365,950
365,900
Area 02
Area 01
10001
Gwynedd Archaeological Trust
Figure 04: Outline plan of archaeological feature identified during watching brief phase
N
10001
Archaeological feature
Extent of area monitored during watching brief
Archaeological feature identified during targeted excavation phase
Scheme extent
Date: 18/07/2018
Author: NMC
Office:
Drawing: G2530/2017/WB/FIG/XX
Scale: 1:500@A4
© Crown copyright. All rights reserved. License number AL100020895
0
5
10
metres

Figure 07

Outline plan of archaeological features identified in Area 7 and relationship to features in Areas 5 and 6

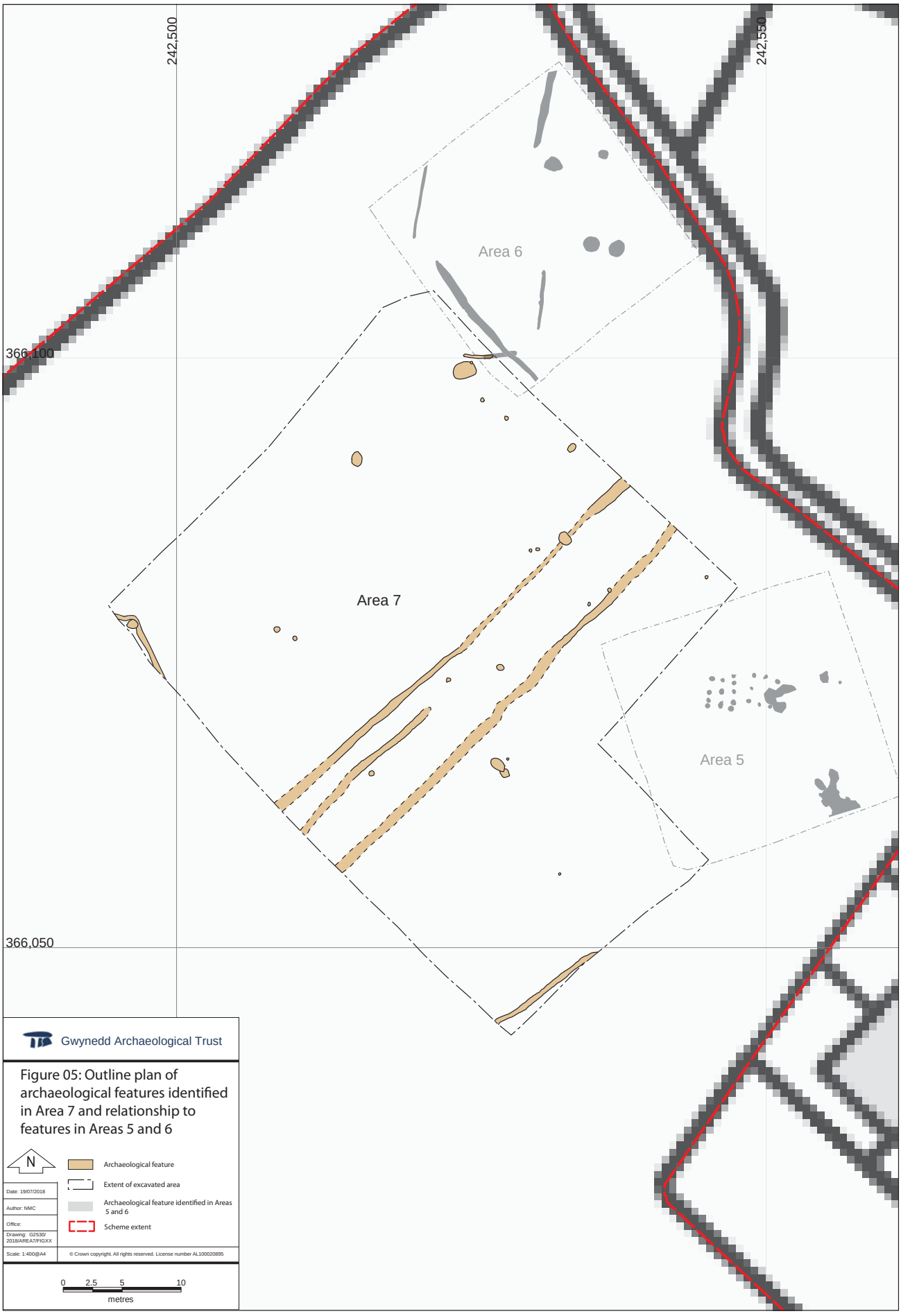
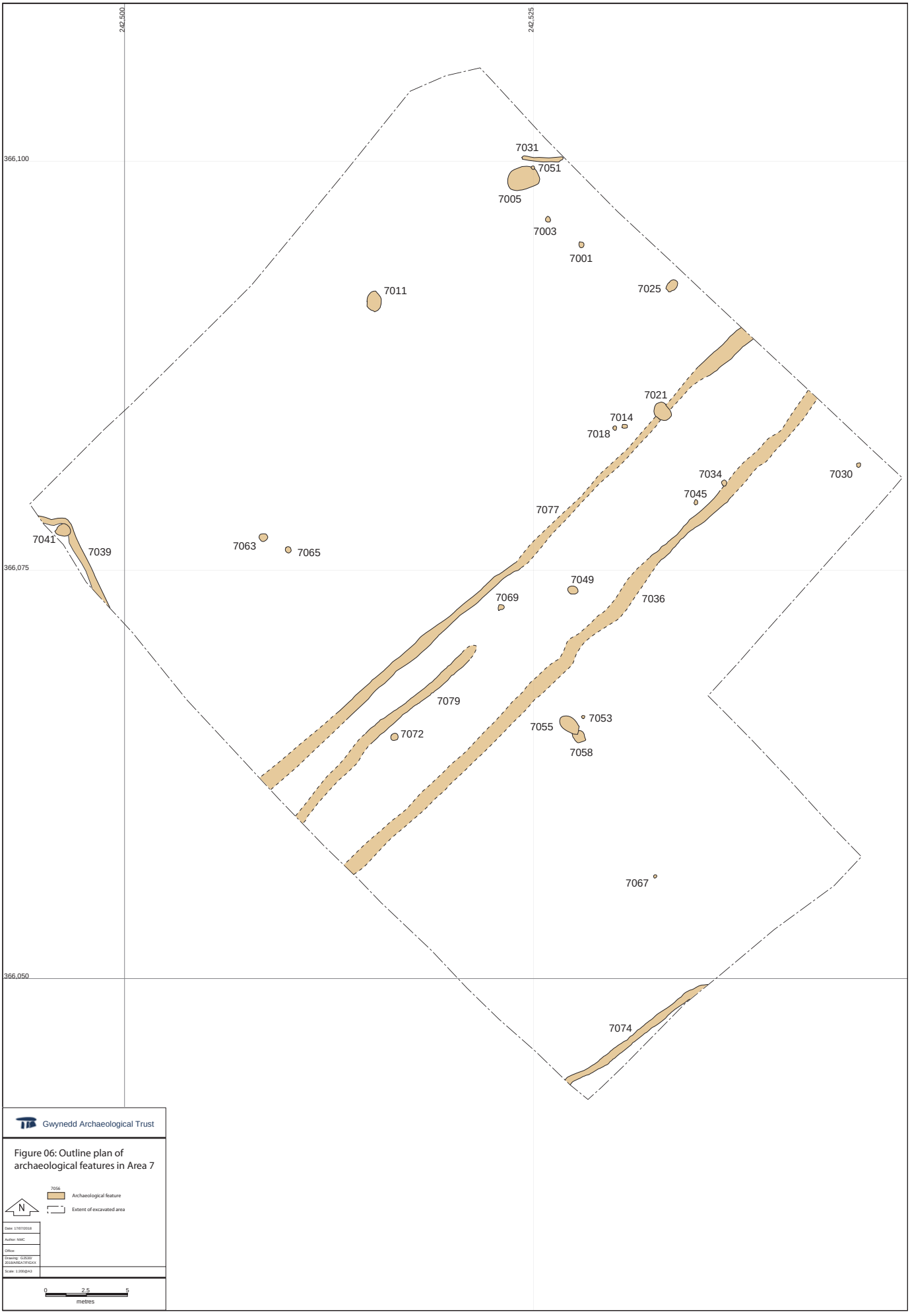

242,500
242,550
366,100
366,050
Area 6
Area 7
Area 5
Gwynedd Archaeological Trust
Figure 05: Outline plan of archaeological features identified in Area 7 and relationship to features in Areas 5 and 6
N
Archaeological feature
Extent of excavated area
Archaeological feature identified in Areas 5 and 6
Scheme extent
Date: 19/07/2018
Author: NMC
Office:
Drawing: G2530/2018/AREA7/FIGXX
Scale: 1:400@A4
© Crown copyright. All rights reserved. License number AL100020895
0 2.5 5 10
metres

Figure 08

Outline plan of archaeological features in Area 7


242,500
242,525
366,100
366,075
366,050
7031
7051
7005
7003
7001
7011
7025
7021
7014
7018
7034
7030
7045
7077
7041
7039
7063
7065
7049
7069
7036
7079
7053
7055
7072
7058
7067
7074
Gwynedd Archaeological Trust
Figure 06: Outline plan of archaeological features in Area 7
7056
Archaeological feature
Extent of excavated area
N
Date: 17/07/2018
Author: NMC
Office:
Drawing: G2530 2018/MEA73/Fig06
Scale: 1:200@A3
0
2.5
5
metres

Appendix I

Gwynedd Archaeological Trust Context Register

Context No.	Site Sub Division	Type	Group	Description
1001	Area 1	Deposit		Topsoil
1002	Area 1	Deposit		Subsoil
1003	Area 1	Deposit		Natural
1004	Area 1	Cut		Cut of NW/SE drain
1005	Area 1	Fill		Fill of drain [1004]
1006	Area 1	Structure		Stones within drain [1004]
1007	Area 1	Cut		Cut of linear
1008	Area 1	Fill		Sole fill of linear [1007]
1009	Area 1	Deposit		Deposit of gravel in the gateway to field 1
1010	Area 1	Cut		Cut of NW/SE orientated linear
1011	Area 1	Fill		Secondary fill of linear [1010]
1012	Area 1	Deposit		Rubble deposit in the gateway to field 1
1013	Area 1	Deposit		Stone deposit
1014	Area 1	Fill		Primary fill of linear [1010]
1015	Area 1	Deposit		Natural deposit of weathered bedrock
1016	Area 1	Structure		Substantial NW/SE orientated wall
1017	Area 1	Structure		NE/SW orientated revetment wall
1018	Area 1	Cut		Cut of large pit
1019	Area 1	Fill		Sole fill of pit [1018]
1020	Area 1	Fill		Sole fill of linear [1021]
1021	Area 1	Cut		Cut of linear feature running below revetment wall [1017]
1022	Area 1	Deposit		Patch of stones and dark silt
1023	Area 1	Deposit		Rubble collapse from wall [1016]
1024	Area 1	Cut		Linear scarp cut for wall [1017]
1025	Area 1	Deposit		Bedrock
1026	Area 1	Fill		Sole fill of ditch [1027]
1027	Area 1	Cut		Cut of NW/SE shallow ditch
1028	Area 1	Fill		Sole fill of gully/wheel rut
1029	Area 1	Cut		Cut of E/W gully/wheel rut
1030	Area 1	Fill		Primary fill of channel [1031]
1031	Area 1	Cut		Cut of channel
1032	Area 1	Cut		Cut of large pit
1033	Area 1	Fill		Sole fill of pit [1032]
1034	Area 1	Deposit		Soil spread between pits [1032] and [1018]
1035	Area 1	Fill		Secondary fill of channel [1031]
1036	Area 1	Fill		Primary fill of ditch [1037]
1037	Area 1	Cut		Cut of deep ditch
1038	Area 1	Cut		Cut of posthole
1039	Area 1	Fill		Sole fill of posthole [1038]
1040	Area 1	Fill		Sole fill of pit/gully terminal
1041	Area 1	Cut		Cut of pit/gully terminal
1042	Area 1	Cut		Cut of small oval pit

Context No.	Site Sub Division	Type	Group	Description
1043	Area 1	Fill		Sole fill of oval pit [1042]
1044	Area 1	Deposit		Secondary stone fill in ditch [1037]
1045	Area 1	Cut		Cut of short frostcrack
1046	Area 1	Fill		Sole fill of frostcrack [1045]
2001	Area 2	Deposit		Topsoil
2002	Area 2	Deposit		Subsoil
2003	Area 2	Deposit		Natural
2004	Area 2	Cut	2004, 2006 2008	Cut of NE/SW linear
2005	Area 2	Fill	2004, 2006 2008	Sole fill of linear [2004]
2006	Area 2	Cut	2004, 2006 2008	Cut of NE/SW linear
2007	Area 2	Fill	2004, 2006 2008	Sole fill of linear [2006]
2008	Area 2	Cut	2004, 2006 2008	Cut of curvilinear
2009	Area 2	Fill	2004, 2006 2008	Sole fill of curvilinear [2008]
2010	Area 2	Cut	10001/2010 & 2010, 2012, 2014	Cut of NW/SE linear
2011	Area 2	Fill	10001/2010 & 2010, 2012, 2014	Sole fill of linear [2010]
2012	Area 2	Cut	2010, 2012, 2014	Cut of NW/SE linear
2013	Area 2	Fill	2010, 2012, 2014	Sole fill of linear [2012]
2014	Area 2	Cut	2010, 2012, 2014	Cut of NW/SE linear
2015	Area 2	Fill	2010, 2012, 2014	Sole fill of linear [2014]
2016	Area 2	Cut		Cut of pit
2017	Area 2	Fill		Sole fill of pit [2016]
2018	Area 2	Cut		Cut of pit
2019	Area 2	Fill		Sole fill of pit [2018]
2020	Area 2	Cut		Cut of NE/SW linear
2021	Area 2	Fill		Sole fill of linear [2020]
3001	Area 3	Deposit		Topsoil
3002	Area 3	Deposit		Subsoil
3003	Area 3	Deposit		Natural
3004	Area 3	Cut		Cut of NE/SW linear
3005	Area 3	Fill		Sole fill of linear [3004]
3006	Area 3	Cut		Cut of N/S linear
3007	Area 3	Fill		Sole fill of linear [3006]

Context No.	Site Sub Division	Type	Group	Description
3008	Area 3	Cut		Void
3009	Area 3	Fill		Variation in the natural
3010	Area 3	Cut		Cut of E/W linear
3011	Area 3	Fill		Sole fill of linear [3010]
4001	Area 4	Deposit		Topsoil
4002	Area 4	Deposit		Subsoil
4003	Area 4	Deposit		Natural
4004	Area 4	Cut		Cut of NE/SW linear
4005	Area 4	Fill		Sole fill of linear [4004]
4006	Area 4	Cut		Cut of pit
4007	Area 4	Fill		Sole fill of pit [4006]
4008	Area 4	Cut		Cut of pit
4009	Area 4	Fill		Sole fill of pit [4008]
4010	Area 4	Cut		Cut of pit
4011	Area 4	Fill		Sole fill of pit [4010]
4012	Area 4	Cut		Cut of E/W field drain
4013	Area 4	Fill		Sole fill of field drain [4012]
5001	Area 5	Deposit		Topsoil
5002	Area 5	Deposit		Subsoil
5003	Area 5	Deposit		Natural
5004	Area 5	Fill	[5026]	Fill of pit [5005]
5005	Area 5	Cut	[5026]	Cut of small pit containing prehistoric pot
5006	Area 5	Fill	[5026]	Fill of pit [5007]
5007	Area 5	Cut	[5026]	Cut of small pit
5008	Area 5	Fill	[5026]	Fill of pit [5009]
5009	Area 5	Cut	[5026]	Cut of small pit
5010	Area 5	Fill	[5026]	Fill of pit [5011]
5011	Area 5	Cut	[5026]	Cut of small pit
5012	Area 5	Fill	[5026]	Fill of pit [5013]
5013	Area 5	Cut	[5026]	Cut of small pit
5014	Area 5	Fill	[5026]	Fill of pit [5015]
5015	Area 5	Cut	[5026]	Cut of small pit
5016	Area 5	Fill	[5026]	Fill of pit [5017]
5017	Area 5	Cut	[5026]	Cut of small pit
5018	Area 5	Fill	[5026]	Fill of pit [5019]
5019	Area 5	Cut	[5026]	Cut of small pit
5020	Area 5	Fill	[5026]	Fill of pit [5021]
5021	Area 5	Cut	[5026]	Cut of small pit
5022	Area 5	Fill	[5026]	Fill of pit [5023]
5023	Area 5	Cut	[5026]	Cut of small pit
5024	Area 5	Fill	[5026]	Fill of pit [5025]
5025	Area 5	Cut	[5026]	Cut of posthole
5026	Area 5	Group		Group no. assigned to group of postholes

Context No.	Site Sub Division	Type	Group	Description
5027	Area 5	Cut		Cut of pit
5028	Area 5	Fill		Sole charcoal rich fill of pit [5027]
5029	Area 5	Fill	[5026]	Fill of pit [5030]
5030	Area 5	Cut	[5026]	Cut of small pit
5031	Area 5	Fill	[5049]	Fill of pit [5032]
5032	Area 5	Cut	[5049]	Cut of possible posthole
5033	Area 5	Fill	[5049]	Fill of pit [5034]
5034	Area 5	Cut	[5049]	Cut of possible posthole
5035	Area 5	Fill		Fill of hollow [5036]
5036	Area 5	Cut		Cut of hollow
5037	Area 5	Deposit		Dump of stones
5038	Area 5	Cut		Cut of small pit
5039	Area 5	Fill		Fill of small pit [5038]
5040	Area 5	Fill	[5049]	Fill of posthole [5040]
5041	Area 5	Cut	[5049]	Cut of posthole
5042	Area 5	Fill	[5049]	Fill of posthole [5043]
5043	Area 5	Cut	[5049]	Cut of posthole
5044	Area 5	Fill	[5049]	Fill of posthole [5045]
5045	Area 5	Cut	[5049]	Cut of posthole
5046	Area 5	Deposit		Stone dump
5047	Area 5	Cut		Cut of pit
5048	Area 5	Fill		Fill of pit [5048]
5049	Area 5	Group		Group no. assigned to group of four postholes
6001	Area 6	Deposit		Topsoil
6002	Area 6	Deposit		Subsoil
6003	Area 6	Deposit		Natural
6004	Area 6	Cut		Cut of pit
6005	Area 6	Fill		Secondary fill of pit [6004]
6006	Area 6	Cut		Cut of pit
6007	Area 6	Fill		Secondary fill of pit [6006]
6008	Area 6	Cut		Cut of pit
6009	Area 6	Fill		Sole fill of pit [6008]
6010	Area 6	Cut		Cut of pit
6011	Area 6	Fill		Basal fill of pit [6010]
6012	Area 6	Fill		Secondary fill of pit [6010]
6013	Area 6	Cut		Cut of N/S linear
6014	Area 6	Fill		Sole fill of linear [6013]
6015	Area 6	Cut		Cut of NW/SE linear
6016	Area 6	Fill		Sole fill of linear [6015]
6017	Area 6	Cut		Cut of W/E linear
6018	Area 6	Fill		Sole fill of linear [6017]
6019	Area 6	Cut		Re-cut of NW/SE linear [6015]

Context No.	Site Sub Division	Type	Group	Description
6020	Area 6	Fill		Sole fill of linear [6017]
6021	Area 6	Cut		Cut of N/S linear
6022	Area 6	Fill		Sole fill of linear [6021]
6023	Area 6	Fill		Upper fill of pit [6004]
6024	Area 6	Fill		Basal fill of pit [6004]
6025	Area 6	Fill		Upper fill of pit [6006]
6026	Area 6	Fill		Basal fill of pit [6006]
6027	Area 6	Cut		Cut of N/S linear
6028	Area 6	Fill		Sole fill of linear [6027]
10001	watching brief	cut	10001/2010	cut of linear feature
10002	watching brief	fill	10001/2010	fill of [10001]
7001	Area 7	Cut		cut for small pit
7002	Area 7	Fill		fill of small pit [7001]
7003	Area 7	Cut		post-hole
7004	Area 7	Fill		fill of post-hole [7003]
7005	Area 7	Cut		rectangular pit
7006	Area 7	Fill		fill of rectangular pit [7005]
7007	Area 7	n/a		disturbed natural
7008	Area 7	Cut		cut for small pit/posthole
7009	Area 7	Deposit		subsoil
7010	Area 7	Deposit		glacial horizon
7011	Area 7	Cut		small pit
7012	Area 7	Fill		fill of pit [7011]
7013	Area 7	Fill		fill of [7005]; clay and charcoal-rich
7014	Area 7	Cut		post-hole
7015	Area 7	Fill		fill of post-hole [7014]
7016	Area 7	n/a		small rectangular pit
7017	Area 7	Deposit		clay lining in [7005]
7018	Area 7	Cut		possible post-hole
7019	Area 7	Fill		fill of possible post-hole
7020	Area 7	n/a		possible pit
7021	Area 7	Cut		large, shallow pit
7022	Area 7	Fill		fill of large, shallow pit [7021]
7023	Area 7	n/a		possible cut feature
7024	Area 7	n/a		possible large post-hole
7025	Area 7	Cut		post-hole
7026	Area 7	Fill		secondary fill of post-hole [7025]
7027	Area 7	Fill		primary fill of post-hole [7025]
7028	Area 7	Cut		possible pit/post-hole
7029	Area 7	Deposit		packing stones [7025]
7030	Area 7	Cut		possible post-hole

Context No.	Site Sub Division	Type	Group	Description
7031	Area 7	Cut		gully at northern end of Area 7
7032	Area 7	Fill		fill of gully [7031]
7033	Area 7	Fill		fill of possible post-hole [7030]
7034	Area 7	Cut		possible post-hole
7035	Area 7	Fill		fill of possible post-hole [7034]
7036	Area 7	Cut		northeast to southwest orientated linear
7037	Area 7	Cut		east to west orientated linear at western end of Area 7
7038	Area 7	Fill		fill of gully [7037]
7039	Area 7	Cut		north to south orientated linear at western end of Area 7
7040	Area 7	Fill		fill of linear [7039]
7041	Area 7	Cut		post-hole; northern corner of Area 7
7042	Area 7	Fill		tertiary fill of post-hole [7041]
7043	Area 7	Fill		seconary fill of post-hole [7041]
7044	Area 7	Fill		primary fill of post-hole [7041]
7045	Area 7	Cut		possible post-hole
7046	Area 7	Fill		fill of post-hole [7045]
7047	Area 7	Fill		fill of linear feature [7036]
7048	Area 7	Fill		fill of pit [7005]
7049	Area 7	Cut		possible post-hole/small pit
7050	Area 7	Fill		fill of pit [7049]
7051	Area 7	Cut		post-hole cut by pit [7005]
7052	Area 7	Fill		fill of post-hole [7051]
7053	Area 7	Cut		possible small post-hole
7054	Area 7	Fill		fill of post-hole [7053]
7055	Area 7	Cut		possible oval pit
7056	Area 7	Cut		small post-hole
7057	Area 7	Fill		fill of post-hole [7056]
7058	Area 7	Cut		small pit
7059	Area 7	n/a		VOID
7060	Area 7	Fill	7055	secondary fill of oval pit [7055]
7061	Area 7	Fill	7055	primary fill of oval pit [7055]
7062	Area 7	Fill		fill of small pit [7058]
7063	Area 7	Cut		possible post-hole or root bole
7064	Area 7	Fill		fill of possible post-hole or root bole
7065	Area 7	n/a		possible pit
7066	Area 7	Cut		possible pit or root bole
7067	Area 7	Cut		possible post-hole
7068	Area 7	Fill		fill of possible post-hole [7067]
7069	Area 7	Cut		small pit
7070	Area 7	Fill		fill of small pit [7070]
7071	Area 7	Cut		cut of possible posthole

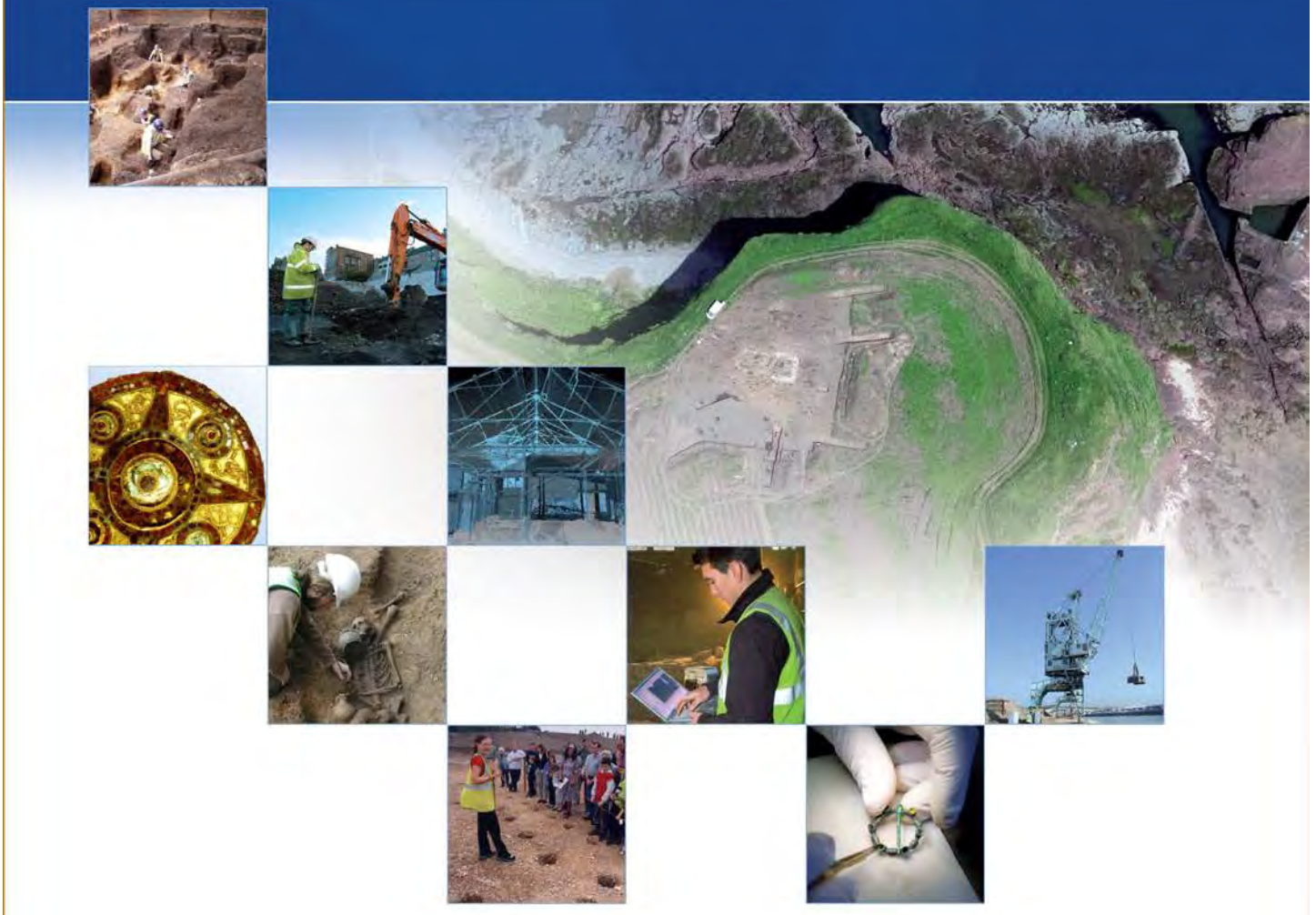
Context No.	Site Sub Division	Type	Group	Description
7072	Area 7	Cut		small pit
7073	Area 7	Fill		fill of small pit [7072]
7074	Area 7	Cut		linear gully at southern end of Area 7
7075	Area 7	Fill		fill of linear gully [7074]
7076	Area 7	Deposit		clay deposit at base of linear gully [7074]
7077	Area 7	Cut		field boundary/ditch
7078	Area 7	Fill		fill of field boundary/ditch [7077]
7079	Area 7	Cut		linear
7080	Area 7	Fill		fill of linear [7080]
7081	Area 9	Deposit		Topsoil

APPENDIX II

Reproduction of AOC Archaeology Group Assessment Report

Ysgol Bro Aberffraw

AOC Project no: 23835
Site Code: G2530
Date: June 2019



AOC Archaeology Group

ARCHAEOLOGY | HERITAGE | CONSERVATION

Ysgol Bro Aberffraw

On Behalf of: Gwynedd Archaeological Trust (GAT)

National Grid Reference (NGR):

AOC Project No: 23835

Prepared by: Jackaline Robertson

Illustration by: N/A

Date of Fieldwork:

Date of Report: 25/06/2019

This document has been prepared in accordance with AOC standard operating procedures.

Author: Jackaline Robertson **Date: 25/06/2019**
Approved by: Ciara Clarke **Date: 26/06/2019**
Final Report Stage

Enquiries to: AOC Archaeology Group
Edgefield Industrial Estate
Edgefield Road
Loanhead
EH20 9SY

Tel. 0131 440 3593
Fax. 0131 440 3422
e-mail. edinburgh@aocarchaeology.com

www.aocarchaeology.com

Introduction

A total of 57 wash over samples were submitted for environmental analysis from Gwynedd Archaeological Trust from the phase 3 archaeological mitigation works undertaken at Ysgol Bro Aberffraw. The samples were collected from a series of pits, postholes, ditches and linear features believed to date to the prehistoric, medieval and post medieval period. The site was described as a multi-phase domestic and agricultural settlement. A small ecofactual assemblage of carbonised macroplant and charcoal fragments were recovered. The aim of this report was to identify material suitable for radiocarbon dating and give recommendations for further work.

Methodology

The flots were composed of large quantities of matted roots that were gently teased apart with tweezers before the samples were sieved using a 4mm, 2mm and 1mm system of stack sieves. The sieved fractions were analysed using a low power microscope at x10 to x40. Macrofossil and charcoal were examined at magnifications of x10 and up to x450 to assist with species identifications. Identifications of plants were confirmed using modern reference material and seed atlases stored at AOC Edinburgh (Cappers *et al* 2006; Jacomet 2006,). Taxonomic and nomenclature for plants follows Stace (2010). Charcoal fragments larger than 4mm were collected for species identification and where possible a maximum of ten fragments per context were identified.

Results

The results are recorded below in table 1 the carbonised macroplant and table 2 the charcoal species

The macroplant assemblage

A total of 384 carbonised macroplants were recovered from 30 contexts. A large number of cereal caryopses were observed within sample 10 context [2017] and these were semi quantified rather than fully counted at this stage of the assessment. The macroplant assemblage was composed of food and weed taxa. The edible remains were cultivated cereals, vegetables and nuts. Preservation of the macroplant ranged from mostly poor to adequate with a smaller number described as good.

There were 324 cereal caryopses and three chaff fragments noted in 28 contexts. The species were hulled barley (*Hordeum vulgare* L), barley (*Hordeum* sp), bread/club wheat (*Triticum aestivum*/*compactum* L), wheat (*Triticum* sp), oat (*Avena* sp) and rye (*Secale* sp). The dominant cereal species was barley (19%) followed by hulled barley (16%), oat (12%), wheat (8%) and bread/club wheat (7%). The remaining cereal (38%) caryopses could not be identified further due to poor preservation. There were also six fragments of garden pea (*Pisum sativum* L) present in two contexts and one fragment of hazelnut shell (*Corylus avellana* L).

The cereal caryopses were concentrated within sample 10 context [2017] from which 168 were recorded. The remainder of the cereal was scattered throughout the site with no evidence of deliberate or selective

disposal of remains within specific features. The presence of a possible pre-historic granary was noted on site, but these remains do not appear to have derived from stored grain. Instead the cereal caryopses are probably evidence for the disposal and re-deposition of domestic cooking and cleaning debris. The presence of chaff suggests that cereal processing may have occurred in this location.

The weed assemblage numbered 50 items dispersed across 14 contexts. The number and species were one sedge (*Carex* sp), one fat hen (*Chenopodium album* L), one black bindweed (*Fallopia convolvulus* L), one grass caryopsis (*Poaceae* sp), 25 wild radish (*Raphanus raphanistrum* L), four dock (Rumex sp), and one elderberry (*Sumbucs nigra* L). The remaining 16 weed taxa could not be identified further due to poor preservation. These plants are typically found growing in agricultural fields and waste ground. Species such as sedge tend to favour damp habitats. The weed species were probably introduced accidently either as an agricultural contaminant of the crops or carried in serendipitously from nearby waste ground.

The charcoal assemblage

Charcoal fragments were present in all 57 contexts, with fragments suitable for species identification present in 28 samples. The charcoal assemblage totalled 361.3g and 130 fragments were selected for species identification. The species were alder (*Alnus glutinosa* L, birch (*Betula* sp), heather (*Calluna vulgaris* L), hazel (*Corylus avellana* L), ash (*Fraxinus* sp), blackthorn (*Prunus spinosa* L) and oak (*Quercus* sp). The dominant species was oak (34%) followed by hazel (29%), blackthorn (12%), alder (11%), ash (8%), birch (5%) and heather (1%). Preservation of the fragments ranged from poor to adequate. Those fragments described as poor were noticeably friable and there was some evidence of oxidisation. The charcoal was concentrated within contexts [4007], [5011], [6005], [6007], [6009], [6012] and [7006]. The rest of the assemblage was scattered throughout the remaining features in small quantities. There were 21 pieces of roundwood identified as hazel (57%), blackthorn (28%), alder (5%), ash (5%) and heather (5%). There was no evidence for the disposal of any wood working debris, wooden artefacts of for the *in situ* burning of structural elements such as timbers, posts and stakes. The charcoal assemblage is typical of mixed fuel debris.

Modern Contamination

Matted roots were present in all samples along with insect remains, earth worm capsules, leaf fragments and seeds. There were also small fragments of green and blue plastic in seven samples. A fragment of bone possibly rodent was noted in context [3007]. There is no evidence that the archaeological security of any of the features has been significantly undermined by the presence of these modern remains.

Recommendations

Given the small size of the macroplant and charcoal assemblage no further species identifications are required. The cereal caryopses, hazelnut shell and charcoal are suitable for radiocarbon dating. Wherever possible the oak charcoal should be avoided for dating, as it is not always reliable due to it being a slow growing wood species. Once fieldwork and the radiocarbon dating are completed, it is recommended that the

ecofact results from phase 3 are combined with the earlier phases and a single environmental analysis report is produced. This will allow the environmental assemblage from Ysgol Bro Aberffraw to be understood both chronologically and used as a comparision with other sties in this locality that are of a similar date. While both the carbonised macroplant and charcoal assemblages are small, summarising the findings chronologically will make it possible to identfy any changes within the diet, agricultural practicies and exploitation of wild resources for both food and fuel.

References

Cappers R.T.J., Bekker R.M. and Jans J.E.A. (2006) *Digital seed atlas of the Netherlands* (Barkhuis Publishing and Groningen University Library, Groningen).

Jacomet. S. 2006. *Identification of cereal remains from archaeological sites*. (2nd ed) Archaeobotany Lab IPAS, Basel University.

Stace,C. 2010. *New Flora of the British Isles*. 3rd Edition. Cambridge University Press

Table 1. The carbonised macroplant

Sample			4	7	9	10	13	14	15	16	17	23	24	27	28	29	30	32
Context			4009	3011	2005	2017	2009	2011	2021	1038	1043	5012	5008	5006	5016	5018	5020	5024
Flot Vol																		
% Analysed			100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Species	**Name**	**Part**																
Crops																		
Hordeum vulgare L.	Hulled barley	Caryopsis/es				>50	1					1						
Hordeum sp.	Barley	Caryopsis/es			1	>50	4		1									
Triticum aestivum/compactum L.	Bread/club wheat	Caryopsis/es					9	3	1		2		1		1			2
Triticum sp.	Wheat	Caryopsis/es		1			7	3	4	1	1							
Triticum sp.	Wheat chaff	Caryopsis/es					1											
Avena sp.	Oat	Caryopsis/es				18	8	1	1	1	2	2			1			2
Secale sp.	Rye	Caryopsis/es																
Cerealia sp.	Cereal	Caryopsis/es		4	6	>50	18	12	6	1	7	2		2		1		
Vegetable																		
Pisum sativum L.	Pea	Seed(s)							1		5							
Wild food																		
Corylus avellana L	Hazel	Shell frg(s)					1											
Weed taxa																		
Carex sp.	Sedge	Fruit(s)																
Chenopodium album L.	Fat hen	Seed(s)															1	
Fallopia convolvulus L.	Black bindweed	Fruit(s)				1												
Poaceae sp.	Grass	Caryopsis/es																
Raphanus raphanistrum L.	Wild radish	Pod frag(s)				25												
Rumex sp.	Rumex	Fruit(s)					2											
Sambucus nigra L.	Elderberry	Stone(s)				1												
Unknown	Indet	Fruits/seeds	1	1	1	2			3								1	1

Table 1 The carbonised macroplant continued

Sample			33	34	41	45	46	48	49	51	52	55	58	61	64	67
Context			6023	6005	5048	5044	7002	7006	7012	7019	7022	7043	7052	7062	7075	10002
Flot Vol																
% Analysed			100	100	100	100	100	100	100	100	100	100	100	100	100	100
Species	**Name**	**Part**														
Crops																
Hordeum vulgare L.	Hulled barley	Caryopsis/es					1				1					
Hordeum sp.	Barley	Caryopsis/es			1				1	1					1	2
Triticum aestivum/compactum L.	Bread/club wheat	Caryopsis/es			3											3
Triticum sp.	Wheat	Caryopsis/es			1			2							3	
Triticum sp.	Wheat chaff	Caryopsis/es									1					
Avena sp.	Oat	Caryopsis/es										1				1
Secale sp.	Rye	Caryopsis/es	1													
Cerealia sp.	Cereal	Caryopsis/es		2	1	1			1				1	1		8
Vegetable																
Pisum sativum L.	Pea	Seed(s)														
Wild food																
Corylus avellana L	Hazel	Shell frg(s)														
Weed taxa																
Carex sp.	Sedge	Fruit(s)						1								
Chenopodium album L.	Fat hen	Seed(s)														
Fallopia convolvulus L.	Black bindweed	Fruit(s)														
Poaceae sp.	Grass	Caryopsis/es									1					
Raphanus raphanistrum L.	Wild radish	Pod frag(s)														
Rumex sp.	Rumex	Fruit(s)								1	1					
Sambucus nigra L.	Elderberry	Stone(s)														
Unknown	Indet	Fruits/seeds			1						1				2	2

Table 2 Charcoal Species

Sample	Context	Species	Name	Frag	RW
3	4007	*Corylus avellana* L.	Hazel	2	5
3	4007	*Prunus spinosa* L.	Blackthorn		2
3	4007	*Quercus* sp.	Oak	1	
4	4009	*Alnus glutinosa* L.	Alder	2	
4	4009	*Quercus* sp.	Oak	8	
7	3011	*Corylus avellana* L.	Hazel	1	
10	2017	*Betula* sp.	Birch	1	
10	2017	*Corylus avellana* L.	Hazel	5	4
11	2019	*Corylus avellana* L.	Hazel	1	
11	2019	*Quercus* sp.	Oak	3	
13	2009	*Prunus spinosa* L.	Blackthorn	5	
14	2011	*Prunus spinosa* L.	Blackthorn	1	
15	2021	*Fraxinus* sp.	Ash	1	
17	1043	*Betula* sp.	Birch	3	
17	1043	*Prunus spinosa* L.	Blackthorn	1	
17	1043	*Quercus* sp.	Oak	1	
19	6009	*Alnus glutinosa* L.	Alder		1
19	6009	*Calluna vulgaris* L.	Heather		1
19	6009	*Corylus avellana* L.	Hazel	4	2
19	6009	Prunus spinosa L..	Blackthorn	1	1
20	5011	*Corylus avellana* L.	Hazel	5	
20	5011	*Fraxinus* sp.	Ash	5	
21	6012	*Corylus avellana* L.	Hazel	6	
21	6012	*Quercus* sp.	Oak	4	
22	5004	*Quercus* sp.	Oak	1	
23	5012	*Alnus glutinosa* L.	Alder	1	
24	5008	*Quercus* sp.	Oak	1	
26	5014	*Quercus* sp.	Oak	2	
31	5022	*Quercus* sp.	Oak	2	
33	6023	*Quercus* sp.	Oak	3	
34	6005	*Corylus avellana* L.	Hazel	1	
34	6005	*Fraxinus* sp.	Ash	1	
34	6005	*Prunus spinosa* L.	Blackthorn	2	
34	6005	*Quercus* sp.	Oak	1	
35	6024	*Fraxinus* sp.	Ash		1
35	6024	*Prunus spinosa* L.	Blackthorn		3
35	6024	*Quercus* sp.	Oak	1	
36	6025	*Quercus* sp.	Oak	1	
37	6007	*Corylus avellana* L.	Hazel		1
37	6007	*Quercus* sp.	Oak	4	
38	6026	*Betula* sp.	Birch	1	
38	6026	*Corylus avellana* L.	Hazel	1	
38	6026	*Fraxinus* sp.	Ash	1	

38	6026	*Quercus* sp.	Oak	1
43	5040	*Quercus* sp.	Oak	1
47	7004	*Quercus* sp.	Oak	1
48	7006	*Alnus glutinosa* L.	Alder	2
48	7006	*Quercus* sp.	Oak	8
51	7019	*Betula* sp.	Birch	1
53	7033	*Alnus glutinosa* L.	Alder	8
53	7033	*Fraxinus* sp.	Ash	2

AOC Archaeology Group

AOC Archaeology Group, Edgefield Industrial Estate, Edgefield Road, Loanhead EH20 9SY

tel: 0131 440 3593 | **fax:** 0131 440 3422 | **e-mail:** edinburgh@aocarchaeology.com

www.aocarchaeology.com

APPENDIX III

Reproduction of Lithic Assessment Report

YSGOL BRO ABERFFRAW GAT G2530 Knapped Lithics report

List of objects from site records

1. Objects from hand excavation

Find No.	Sub-Area	Context No.	Context Description	Material	Weight (g)	Description
3	1	(1039)	Fill of posthole	Flint	<1	Possible blade section of white flint
7	7	(7009)	Subsoil	Flint	6	4 pieces of unworked flint
8	7	(7017)	clay lining in [7005]	Flint		1 piece of flint (flake)

2. Objects from flotation sieving

Sample No.	Context No.	Flint		Description
5	(3007)	X	Y	Gravel frag
8	(3005)	X	Y	Flint chips
11	(2019)	X	Y	Flint fragments
13	(2009)	X	Y	Six flint fragments
15	(2021)	X	Y	Flake fragment
19	(6009)	X	Y	Irregular flint fragments
30	(5020)	X	Y	Chert Fragment
40	(5039)	X	Y	Gravel fragment
67	(10002)	X	Y	Flint fragment

Context descriptions

Context No.	Site Sub Division	Type	Group	Description	Interpretation
1033	Area 1	Fill		Sole fill of pit [1032]	
2009	Area 2	Fill	2004, 2006 2008	Sole fill of curvilinear [2008]	
2019	Area 2	Fill		Sole fill of pit [2018]	
2021	Area 2	Fill		Sole fill of linear [2020]	
3005	Area 3	Fill		Sole fill of linear [3004]	
3007	Area 3	Fill		Sole fill of linear [3006]	
5020	Area 5	Fill	[5026]	Fill of pit [5021]	prehistoric granary
5039	Area 5	Fill		Fill of small pit [5038]	
6009	Area 6	Fill		Sole fill of pit [6008]	
6026	Area 6	Fill		Basal fill of pit [6006]	
10002	watching brief	fill	10001/2010	fill of [10001]	Medieval?

Description and Identification

1. Objects from hand excavation

Find no.	*Material*	*Colour*	*General type*	*Identification*	*LengthxBreadthxDepth Mm (-) Incomplete/broken*
3	Flint	Buff	Natural piece	Frost shattered gravel fragment	-
7	Flint	Grey-brown	Casually retouched piece	Random flake partially retouched to produce a convex edge, heavily used as a scraper	21x29x5

2. Objects from flotation sieving

Sample	*Context*	*Find sub-*	*Material*	*Colour*	*General type*	*Identification*	*Lengthxbreadthxdepth Mm (-)*
6	1019		Chert	Black	Chip	Probably natural gravel	5L
13	2009	1	Flint		Gravel frag	Natural	
	2009	2	Flint		Gravel frag	Natural	
	2009	3	Chert y flint	Light grey	Irregular frag		10L
	2009	4	Chert y flint	Light grey	Irregular frag		11L
	2009	5	Chert y flint	Light grey	Flake frag	Narrow blade frag	(17)x4x2.5
	2009	6	Flint	Light grey/yellow-brown	Flake frag	Tip of a small, narrow blade	(7)x4x1
11	2019	1	Chert y flint	Light grey	Irregular frag		25x14x6
	2019	2	Flint	Light grey	Flake frag	Butt of a thin flake, probably punch-struck	(10)x (13)x2.5
	2019	3	Flint	Light grey	Microlithic point	Narrow blade, isosceles triangle retouched 3 sides	14.5x4x1
	2019	4	Flint	Light grey	Flake fragment	Mid-part of a small, narrow blade	(13)x5x1
	2019	5	Flint	Yellow-brown	Flake fragment	Tip of a small, narrow blade	(7)x4x1
15	2021		Flint	Red-brown	Flake frag	Butt fragment from a narrow-blade	(7.5)x4x1.5
8	3005	1	Flint	Mid grey	Chip	Tertiary	7L
	3005	2	Flint	Mid-grey	Chip	Tertiary	4.5L
5	3007	1	Chert y flint	Light grey	Gravel frag	Natural	

	3007	2	Flint	Grey-brown	Chip	From knapping a pebble	<10L
	3007	3	Flint	Grey-brown	Chip	From knapping a pebble	<10L
3	4007		Flint		Small chip	Probably natural	
30	5020		Chert y flint	Light grey	Core trimming flake		41.5x39x15
40	5039		Chert y flint	Light grey	Gravel frag	Natural	
19	6009		Flint	Red-brown	Irregular frag	Struck from a pebble	18L
67	10003	1	Flint	Cream	Heat pot-lid	From a pebble	29.5x23x10
	10003	2	Flint	Mid-grey	Utilised piece?	Narrow blade of fine, translucent flint. Punch-struck, Possibly utilised wear on tip	10x5x3

Comments

Material: This is all flint apart from one probably natural gravel piece of black chert. There is flint of at least four different types showing the sourcing of glacial material deriving from a wide geographic area.

Technology: Although using glacial pebbles all pieces are struck normally, not anvil-struck. Several pieces are neatly struck, probably by punch, producing mainly small, narrow blades.

Dating and interpretation: There is one complete retouched piece, a geometric, isosceles triangle narrow-blade microlithic point, from pit 2018. This is of Later Mesolithic date, *c.* 7,500 to 4,000 Cal BC (David 2007) and probably in the later part of that period. The same pit also produced two narrow blade fragments. Curvilinear 2008, Linear 2020 and Pit 2010 also produced narrow blade fragments. A narrow blade, possible utilised, was also found during the watching brief, from the fill of 10001. There are other, non-blade, waste pieces but no cores although there is one core trimming flake, from the fill of Pit 5021. There is one non-blade retouched piece, a small flake with casual steep edge retouch, heavily utilised as

a scraper. This came from the subsoil 7009. It was made on an irregular scalar flake, which differs from all the other pieces and so probably does not belong with rest of the assemblage. The scalar working suggests it is more likely to be of Early Neolithic date, when compared to the assemblage from the earliest phase at the Trefignath chambered tomb (Healey 1987).

Altogether this small assemblage shows the presence of Later Mesolithic activity in Area 2, probably involving the production of points for composite hunting or fishing projectiles. The amount of lithic working represented is very small, suggesting a very brief presence. However, such material is usually found as surface scatters, where radiocarbon dating is not possible, so there is a great lack of proper dating evidence for objects from this period. The identification of objects in association with cut features is therefore important and hopefully might produce useful dating and perhaps other evidence. It is of added interest because this location is inland, and so may represent a different type of settlement activity to that of locations of other recorded activity for this period from Anglesey, which are mainly coastal, for instance from Newborough Warren, south-west Anglesey (Pape 1928) and Porth Ruffydd, north-west Anglesey (Smith and Kenney 2014).

References

David, A., 2007. *Palaeolithic and Mesolithic Settlement in Wales with Special Reference to Dyfed*, British Archaeological Report British Series 448 (Oxford: Archaeopress).

Healey, E. 1987. 'Lithic technology', In Smith, C. and Lynch, F. *Trefignath and Din Dryfol: the excavation of two megalithic tombs in Anglesey*, Aberystwyth: Cambrian Archaeological Association, 50-9.

Pape, T. 1928. 'Prehistoric discoveries in Newborough Warren', *Transactions of the Anglesey Antiquarian Society*, 21-7.

Smith, G. and Kenney, J. 2014. 'Mesolithic flint scatters at Penrhosfeilw Common, Holy Island'. *Transactions of the Anglesey Antiquarian Society*, 76-106.

George Smith

29/05/19

YSGOL BRO ABERFFRAW G2530 BURNT STONE ASSESSMENT REPORT

LIST OF MATERIAL

Sample No.	Site sub-division	Context No.	Fill of pit	Burnt Stone
11	2	(2019)	2018	935g
32	5	(5024)	5025	1811g
33	6	(6023)	6004 upper	7617g
34	6	(6005)	6004 lower	13139g
36	6	(6025)	6006 upper	1178g
37	6	(6007)	6006 middle	1458g
38	6	(6026)	6006 basal	4443g
21	6	(6012)	6010 lower	7012g
48	7	(7006)	7005	2128g

Context No.	Site Sub Division	Type	Group	Description	Interpretation
2019	Area 2	Fill		Sole fill of pit [2018]	
5024	Area 5	Fill	[5026]	Fill of pit/post-hole [5025]	prehistoric granary
6005	Area 6	Fill		Secondary fill of pit [6004]	
6007	Area 6	Fill		Secondary fill of pit [6006]	
6012	Area 6	Fill		Secondary fill of pit [6010]	
6023	Area 6	Fill		Upper fill of pit [6004]	
6025	Area 6	Fill		Upper fill of pit [6006]	
6026	Area 6	Fill		Basal fill of pit [6006]	
7006	Area 7	Fill		Fill of rectangular pit [7005]	prehistoric

METHODS

The requirements of the assessment were for ‘an identification, form and prominence assessment report’.

Burnt stones, as the waste from a cooking or water heating process occur sometimes in very large quantities in the form of mounds. Here the objects are part of the fill of pits and so lesser in quantity but still too numerous to justify petrological identification of every piece. The normal method in these cases is to identify a random sample from each context and here a random sample of 12 pieces from each of the 9 contexts was studied.

Full petrological identification, by use of microscope and possibly thin sectioning would not be justified for the information required for this, essentially industrial process. What is required is a general identification of the type of rock, its character, form and likely origins. For this purpose each piece was studied by 10x hand lens. At this level identification cannot be conclusive. Fresh breaks were made on each piece as weathering and burning alters the surface of the rock. It is not always possible to identify burning of a rock from its surface. Reddening, for instance, may be a natural rock colour or be a result of oxidation of iron content. However, shattering by heat is more recognisable and nearly all the pieces here appeared to have been heavily burnt. Where a piece shows no sign of burning this is mentioned, but some rock types may not be affected by burning.

The identifications are presented by area and feature in Tables 1-4.

Table 1 Area 2

Feature no.	*Fill no.*	*Identification*	*Form*	*Comment*
2018	2019	Coarse sandstone	Cobble frag	
		Coarse sandstone	Cobble frag	
		Dolerite?	Angular frag	
		Fine sandstone	Rolled pebble	
		Fine sandstone	Rolled pebble	
		Fine sandstone	Angular frag	
		Fine sandstone	Angular frag	
		Fine sandstone	Sub-rounded pebble frag	No evidence of burning
		Fine sandstone	Angular frag	
		Siltstone	Rolled pebble frag	
		Siltstone	Angular frag	
		Siltstone	Sub-rounded pebble frag	

Table 2 Area 5

Feature no.	*Fill no.*	*Identification*	*Form*	*Comment*
5025	5024	Blue schist	Angular frag	
		Blue schist	Angular frag	
		Blue schist	Angular frag	
		Blue schist	Angular frag	
		Coarse sandstone	Sub-angular frag	
		Coarse sandstone	Angular frag	
		Medium sandstone	Angular frag	
		Quartzite	Small sub-rounded pebble	
		Quartzite	Angular frag from sub-rounded cobble	
		Quartzite	Sub-angular pebble	
		Siltstone	Angular frag	
		Siltstone	Sub-angular frag	

Table 3 Area 6

Feature no.	*Fill no.*	*Identification*	*Form*	*Comment*
6004	6023	Blue schist	Angular frag	
		Dolerite?	Angular frag	
		Fine sandstone	Angular frag from a large rolled cobble	
		Fine sandstone	Angular frag from a large rolled cobble	
		Fine sandstone	Frag from sub-rounded cobble	
		Fine sandstone	Frag from a rolled pebble	
		Igneous melange?	Frag from a rolled pebble	
		Medium sandstone	Angular frag	
		Medium sandstone	Angular frag	
		Siltstone	Angular frag	
		Silty sandstone	Angular frag	
		silty sandstone	Angular frag	

Feature no.	*Fill no.*	*Identification*	*Form*	*Comment*
6004	6005	Blue schist	Angular frag	
		Fine sandstone	Cobble frag	
		Fine sandstone	Small rolled pebble	
		Medium sandstone	Angular cobble frag	
		Siltstone	Angular frag	
		Siltstone	Angular frag	
		Silty sandstone	Angular frag	
		Silty sandstone	Angular frag	
		Silty sandstone	Angular frag	
		Silty sandstone	Angular frag	
		Very coarse sandstone	Rolled cobble frag	
		Very coarse schist	Angular frag	

Feature no.	*Fill no.*	*Identification*	*Form*	*Comment*
6006	6025	Blue schist	Angular frag	
		Fine sandstone	Angular frag	
		Fine sandstone	Sub-rounded pebble frag	
		Fine sandstone	Angular frag	
		Fine sandstone	Sub-rounded pebble frag	
		Fine sandstone	Angular frag	
		Fine sandstone	Angular frag	
		Medium sandstone	Rolled cobble frag	
		Siltstone	Angular frag	
		Siltstone	Angular frag	
		Siltstone	Sub-rounded cobble frag	
		Silty sandstone	Angular frag	

Feature no.	*Fill no.*	*Identification*	*Form*	*Comment*
6006	6007	Coarse sandstone	Sub-rounded cobble frag	
		Dolerite?	Angular frag	
		Dolerite?	Angular frag	
		Dolerite?	Angular frag	
		Dolerite?	Rolled cobble frag	
		Fine sandstone	Angular frag	
		Fine sandstone	Angular frag	
		Fine sandstone	Angular frag	
		Fine sandstone	Angular frag	
		Quartz-rich breccia	Sub-rounded cobble frag	Siltstone frags in a quartz mass
		Silty sandstone	Angular frag	
		Silty sandstone	Angular frag	

Feature no.	*Fill no.*	*Identification*	*Form*	*Comment*
6006	6026	Dolerite?	Angular frag	
		Fine sandstone	Angular frag from a rolled cobble	
		Fine sandstone	Angular frag	
		Fine sandstone	Sub-rounded frag	
		Fine sandstone	Angular frag	
		Silty sandstone	Angular frag from a rolled cobble	
		Silty sandstone	Angular frag from a rolled cobble	
		Silty sandstone	Angular frag	

Feature no.	*Fill no.*	*Identification*	*Form*	*Comment*
		Silty sandstone	Angular frag	
		Silty sandstone	Angular frag	
		Silty sandstone	Angular frag	
		Silty sandstone	Angular frag	

Feature no.	*Fill no.*	*Identification*	*Form*	*Comment*
6010	6012	Coarse quartzose sandstone	Angular frag	
		Dolerite?	Angular frag	
		Fine micaceous sandstone	Angular frag	
		Fine quartzose sandstone	Probably from a pebble	
		Quartzite	Angular frag	
		Siltstone	From split pebble	
		Siltstone	Angular frag	
		Siltstone	Angular frag	
		Siltstone	Probably from a cobble	
		Siltstone	Probably from a cobble	
		Siltstone	Angular frag	
		Siltstone	Angular frag	

Table 4 Area 7

Feature no.	*Fill no.*	*Identification*	*Form*	*Comment*
7005	7006	Blue schist	Angular frag	
		Coarse sandstone	Angular frag from rolled cobble	
		Coarse sandstone	Angular frag	
		Conglomerate	Angular frag	
		Dolerite?	Angular frag	
		Dolerite?	Angular frag	
		Dolerite?	Angular frag	
		Dolerite?	Angular frag	
		Fine sandstone	Angular frag	
		Fine sandstone	Frag from a rolled cobble	
		Medium sandstone	Angular frag	
		Medium sandstone	Angular frag	

SUMMARY INTERPRETATION

Pit 2018, Area 2: All but one show clear evidence of burning. All but one of the pieces are of siltstone or sandstone, the exception being a piece of probable dolerite. The pieces with remaining natural exterior surfaces are all from pebbles or cobbles. The pieces are notably smaller on average than those of other pits and several of the pieces are unbroken or only slightly broken rolled pieces but not rounded pebbles, suggesting that these pieces may have been sourced from the local glacial till. Together, these differences suggest that this pit might be of a different date to the other pits. This material came from the fill of a shallow, bowl-shaped pit. The type of pit and the association with the burnt stone suggests that this was the base of a pit oven.

Pit 5025, Area 5: Most of these stones show no signs of being burnt or of have being broken by heating. This corresponds with the fact that seven of the sample were of schist or quartzite and unsuitable for heating. Probably these were just a natural part of the glacial till subsoil. They came from a small pit, a probable post-hole.

Pit 6004 (Evaluation Pit 1309), Area 6: The two soil layers in this pit produced a similar range of rock types, predominantly siltstone or sandstone. All burnt except for two pieces of schist. The pieces with remaining natural exterior surfaces are all from pebbles or cobbles. The pit was shallow and bowl-shaped.

Pit 6006 (Evaluation Pit 1308), Area 6: The three soil layers in this pit produced a similar range of rock types, predominantly siltstone or sandstone but with a number of probable dolerite pieces in the middle layer, 6007. The pieces with remaining natural exterior surfaces are all from pebbles or cobbles. The pit was shallow and bowl-shaped.

Pit 6010, Area 6: A single layer, the rock types mainly siltstone or sandstone. Four of the twelve sample pieces were from pebbles or cobbles. The pit was shallow and bowl-shaped.

Pit 7005, Area 7: Area 7 consisted of a larger area adjoining and between areas 5 and 6. At its northern end, close to Area 6 was Pit 7005. This was isolated and some 25m away from the pits in Area 6 that contained burnt stone. The pit was oval in plan and somewhat larger and deeper than the pits in Area 6 and steep-sided, rather than bowl-shaped. Its main fill contained numerous stones, scattered through the fill. The sample of these consisted mainly of siltstone or sandstone but with several pieces of probable dolerite.

DISCUSSION

The subsoil of the immediate area of the investigation consists of glacial till, a stony clay-silt, underlain by bedrock of schists, of both micaceous and hornblende types (BGS 2013). The local bedrock is laminar and would shatter quickly if repeatedly heated. Thus, most of the rock present in the pits does not reflect the local bedrock and so was chosen for its particular qualities. The rocks present are mainly of siltstones or sandstones, with smaller amounts of probable dolerite, homogeneous rocks which would withstand amounts of heating. Where recognisable these rocks had consisted of pebbles or cobbles. These could have been obtained either from the local glacial till, as incorporated in topsoil if areas were being exposed by ploughing, or from beach deposits. The latter seems most likely as a large area of suitable sedimentary rocks of siltstone and sandstone exists about 2km to the west along the former Malltraeth estuary (BGS 2013). Suitable cobbles could have been easily selected and collected along the shore-line there, whereas the rock types in the local subsoil would have been more varied and probably less likely to contain sedimentary rocks.

The evidence so far shows that the pits with burnt stone in Areas 5 and 6, suggested to be pit ovens or at least dry cooking pits, are probably associated with Bronze Age settlement close by, but further dating is needed. Macrobotanical evidence may yet be produced to help understand what the pits were being used for. Similar pits containing burnt stone were found at Parc Bryn Cegin, Bangor, some dated to the Early Neolithic and others to the Early and Later Bronze Age. They were scattered over a large area and apparently not associated with burnt stone mounds, several of which were present in the area, suggesting that they may belong with short-lived activity, rather than substantial settlement. The function of those was not ascertained but it was considered on lack of cereal grain macrobotanical evidence that they were probably not associated with grain processing (Kenney 2008, 67-70) and so more likely to be for cooking.

REFERENCES

BGS 2013. *I-geology*, British Geological Survey, Geology App, Version 4.2.

Kenney, J. 2008. Recent excavations at Parc Bryn Cegin, Llandygai, near Bangor, North Wales, *Archaeologia Cambrensis* 157, 9-142.

George Smith

11/06/2019

APPENDIX IV

Reproduction of Pottery Assessment Report

Prehistoric Pottery from New Ysgol Bro, Newborough, Anglesey.

List of finds

5004 Find 1 A single rimsherd (to be drawn) flat-topped, slightly expanded rim from a jar or bowl 200mm in diameter. The fabric is very hard, black throughout with a lots of medium-small angular stone grits which create a slightly roughened surface, especially on the exterior. This fabric is not very close to any of the others since the 'black and white granite' is not obvious in it.

5004 Find 2 4 pieces weighing 14g: 1 small sherd , 1 fragment and 2 crumbs, all same fabric: red/grey heavily gritted with angular stone which includes 'b&w granite' and other stone.

5004 Find 6 11g, originally a single rimsherd, now in 4 pieces (to be drawn). Dark brown throughout with good smooth surfaces but fragile (poorly fired). The stone grits are small and include 'b&w granite'.

5004 Sample 22 1 small sherd as Find 2: very hard, red/grey, 10mm thick.

5006 Sample 27 1 crumb similar to Find 6

5010 Sample 25 1 brown crumb as Find 6

5012 Sample 23 1 sherd (60 x 55 x 10mm) as Find 2

5020 Sample 30 1 sherd (25 x 25 x 9mm) as Find 2

5040 Sample 43 1 crumb, red/grey, hard with 'b&w granite' as Find 2

5042 Sample 44 1 scrap (20 x 15 x 10mm) red/brown with 'b&w granite'

6005 Sample 34 1 crumb bright red throughout, very smooth and silky to touch. Thickness 7mm ?? **Roman** Possibly Samian

7009 Find 11 1 small sherd (25 x 25 x 9+mm) only one surface survives. Hard brown fabric with small angular stone grits, including 'b&w granite'. Generally similar to 7015 Find 9.

7015 Find 9 4 sherds join to form the lower body of a robust jar 160-140mm in diameter (to be drawn). There is an indication of the inner curve of the base, but it does not join the surviving piece of base. There are 3 more sherds of this lower body, which do not join, 6 freshly broken scraps and 30+ crumbs. They are all in the small hard pink/black fabric with good smooth surfaces in and out. It contains a good deal of angular stone grit of variable size and origin, including the 'b&w granite'. Section of flat base (80 x 55 x 16mm) with a curve at the bottom of the wall; 1 sherd (25 x 20 x 15mm) which shows the corner of the foot and another base sherd (30 x 20 x 19mm). These are in the same fabric as the wall sherds though they do not join.

7015 Sample 50 1 scrap of the same fabric

7019 Find 10 1 scrap (thickness 9mm) pale surface/black core and interior. Grits, angular stone with 'b&w granite', but this is probably not the same pot as Find 9.

7033 Sample 53 1 sherd (25 x 25 x11mm) (+ more than 14 crumbs/grits.) Fabric : brown surface with black core and larger than average angular stone grits (including 1 piece 'b&w granite'. This is not the same as Find 9.

7061 Sample 60 Stone. Possibly the same igneous material as stone in bag labelled 2019.

1036 Sample 18 1 fragment of burnt stone and 6 crumbs of glazed pottery

Commentary on the pottery from New School Site, Newborough

This assemblage is very small, only some 27 sherds + 50 crumbs in all, and with only three individual pots distinguishable. However the fabrics, shapes and methods of working are internally consistent and can be compared in general terms to the Later Bronze Age traditions found, in similarly small quantities, in other parts of Anglesey and North Wales.

In Anglesey there is Middle to Late Bronze Age material at Capel Eithin (Smith and White 1999), at Parc Cybi, (Kenney *forthcoming*), and Wylfa Estate 'Bronze Age site'

(*unpublished*). More widely in North Wales there is material from Llandegai (Lynch and Musson 2001), Bush Farm (Longley *et al* 1998), Rhuddlan (Quinnell and Blockley 1994) and Castell Odo (Alcock 1960); and in Mid Wales there are important dated and stratified assemblages from the Breiddin Hillfort (Musson 1991) and a house site at Glanfeinion (Britnell *et al* 1997).

All are characterised by minimal decoration and simple shapes (mostly tall jars), the use of heavily stone- gritted fabric, often with rough surfaces and quite frequently with perforations below the undistinctive rims.

The simple flattened rim on the probable bowl, Find 01, can be paralleled at The Breiddin (Pots 73, 85, 87) and at Parc Cybi. The internally bevelled rim, Find 06, is found on pots from Glanfeinion (Pots 2, 3 and 8) but is less common elsewhere. The absence of any perforations below the rim is slightly surprising since they are a major feature of the jars from Rhuddlan, Llandegai and Capel Eithin. This might be due to the small size of the sherds. The thick pink, smooth-surfaced fabric of the larger jar, Find 09, is very similar to that from the Wylfa site though the shape is much more straight and upright. That shape appears at Capel Eithin in urns C14 and C15, which have a notably rough surface, which is not the case here. The very small collection from Parc Cybi confirms that not all Later Bronze Age pottery is coarse and rough-surfaced, but it is all very utilitarian and gives the impression that social hierarchies and identities were no longer expressed through pottery. This is the period when metal vessels first appear in richer households, alongside some finely made wooden containers.

Bibliography

Alcock, L 1960: Castell Odo, an Embanked Settlement on Mynydd Ystum near Aberdaron, Caernarfonshire, *Arch. Camb*. 109, 78-135.

Britnell, W.J, Silvester, R.J, Gibson, A.M, Caseldine, A.E, Hunter, K.L, Johnson, S, Hamilton-Dyer, S and Vince, A. 1997: A Middle Bronze Age Round-house, at Glanfeinion, near Llandinam, Powys. *Proc Prehistoric Soc*. 63, 79-97.

Longley, D, Johnstone, N and Evans, J. 1998: Excavations on two farms of the Romano-British Period at Bryn Eryr and Bush Farm, Gwynedd, *Britannia*, 29, 185-246.

Lynch F.M. and Musson, C.R, 2001: A Prehistoric and Early Mediaeval complex at Llandegai, near Bangor, North Wales, *Arch. Camb*. 150, 2001, 17-142.

Musson, C.R. 1991: *The Breiddin Hillfort: A later prehistoric settlement in the Welsh Marches*. CBA Research Report no.76.

Quinnell, H and Blockley, M 1994: *Excavations at Rhuddlan, Clwyd 1969-73, Mesolithic to Medieval,* CBA Res. Report 95.

White, S.I and Smith G. 1999: A funerary and Ceremonial centre at Capel Eithin, Gaerwen, Anglesey, *Trans Anglesey Antiq. Soc*. 17-166.

Frances Lynch 22nd July 2019

Gwynedd Archaeological Trust
Ymddiriedolaeth Archaeolegol Gwynedd

Craig Beuno, Ffordd y Garth, Bangor, Gwynedd. LL57 2RT
Ffon: 01248 352535. Ffacs: 01248 370925. email:gat@heneb.co.uk