

Cynllun Terfynu Cronfa Ddŵr Llyn Bran,
Sir Ddinbych.

LLINIARU ARCHAEOLEGOL:
Cofnod Adeiladu Lefel 3

Llyn Bran Reservoir Discontinuance Scheme,
Denbighshire

ARCHAEOLOGICAL MITIGATION:
Level 3 Building Record



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CRYNHODEB ANHECHNEGOL

Gofynnodd Dŵr Cymru/Welsh Water i Ymddiriedolaeth Archeolegol Gwynedd wneud gwaith lliniaru archeolegol yn ystod cynllun i gau cronfa ddŵr yn Llyn Brân, Bylchau, Sir Ddinbych. Roedd hyn yn cynnwys cofnodi strwythur yr argae yn Llyn Brân, gyda'i arllwysfa a'r llifddor. Hefyd cofnodwyd cwt cychod adfeiliedig ym mhen gogledd-ddwyreiniol y gronfa ddwr cyn ei ddymchwel. Roedd hyn yn cynnwys cofnod ysgrifenedig, darluniadol a ffotograffig o'r ddau strwythur.

Lleolir yr argae ym mhen deheuol y gronfa ddŵr ac roedd yn cynnwys wal argae disgyrchiant a chored ganolog. Roedd wal yr argae i'w gweld ar uchder o 1.8m ac fe'i hadeiladwyd o goncrit wedi'i rendro, gyda chored ganolog lle'r oedd y dŵr yn llifo i mewn i nant, a oedd yn cael ei sianelu ac yn parhau tua'r de trwy ardal goediog i ymuno ag Afon Brenig. Nid oedd y cwt cwch yn bresennol ar y mapiau hanesyddol ac mae wedi'i adeiladu yn yr ugeinfed ganrif, ar ôl 1913. Ymddengys iddo fod yn gysylltiedig â gweithgarwch cymdeithasol ar y gronfa ddŵr yn gynnar i ganol yr 20fed ganrif, ac mae'n bosibl ei fod yn gysylltiedig â gweithgareddau'n gysylltiedig â'r Gwylfa Gwerthwyd stad Hiraethog, neu ychydig wedi hynny, ym 1925.

NON-TECHNICAL SUMMARY

Gwynedd Archaeological Trust was asked by Dŵr Cymru/Welsh Water to carry out archaeological mitigation during a reservoir discontinuance scheme at Llyn Brân, Bylchau, Denbighshire. This involved the recording of the dam structure at Llyn Brân, with its outfall and sluice. A dilapidated boathouse located at the north eastern end of the reservoir was also recorded in advance of demolition. This involved a written, drawn and photographic record of both structures.

The dam is located at the southern end of the reservoir and comprised a gravity dam wall and central weir. The dam, constructed in 1899, was visible to a height of 1.8m and was constructed from rendered concrete and rubble, with a central weir over which the water debouched into a stream, which was channelled and continued southwards through a forested area to join the Afon Brenig. The boathouse was not present on the historic mapping and is a twentieth century construction, post 1913. It appears to have been associated with social activity on the reservoir in the earlier to mid-20th century, and was possibly related to activities associated with the Gwylfa Hiraethog estate, or after this was sold off in 1925.

1 INTRODUCTION

Gwynedd Archaeological Trust (GAT) was asked by DCWW to undertake building recording during a reservoir discontinuance scheme at Llyn Brân, Bylchau, Denbighshire (NGR SH96205930; Figure 01). The reservoir measures c.630m long north–south by up to 330m wide east–west and comprises a raised natural lake impounded by a small gravity dam at the southern end of the reservoir; the dam incorporates an overflow weir, from which water passes along the original watercourse downstream of the lake. The reservoir was built c.1896-7 and taken out of service in 1994, with the aim of the discontinuance scheme to return the water body to a natural lake. The scheme includes a reservoir draw down (water removal), reservoir basin work and dam demolition; in addition, an existing boathouse will be demolished. The archaeological mitigation comprises:

- An archaeological watching brief during the installation of the access track/compound set-up and the excavation of an embankment surrounding an existing culvert; and
- A Level 3 Building Record of an existing boathouse and the dam structure.

The current report is for the Level 3 Building Record only; a separate report will be prepared for the watching brief.

The archaeological mitigation has been monitored by the Development Control Archaeologist Clwyd Powys Archaeological Trust (CPAT) and undertaken in accordance with an approved written scheme of investigation ([Appendix I](#)). In line with the CPAT Environment Record (HER) requirements, the HER was contacted at the onset of the project to ensure that any data arising was formatted in a manner suitable for accession to the HER and follows the guidance set out in *Guidance for the Submission of Data to the Welsh Historic Environment Records (HERs)* (The Welsh Archaeological Trusts, 2018). The CPAT HER Event Primary Reference Number for this project is 213751.

All work has been planned, managed and undertaken by GAT in accordance with the following standards and guidance:

- *Guidance for the Submission of Data to the Welsh Historic Environment Records (HERs) Version 1.1* (The Welsh Archaeological Trusts, 2018);
- *Guidelines for digital archives* (Royal Commission on Ancient and Historic Monuments of Wales, 2015).
- *Management of Archaeological Projects* (English Heritage, 1991);

- Management of Research Projects in the Historic Environment: The MoRPHE Project Managers' Guide (Historic England, 2015);
- Standard and Guidance for the Archaeological Investigation and Recording of Standing Buildings or Structures (Chartered Institute for Archaeologists, 2014);
- Standard and guidance for the creation, compilation, transfer and deposition of archaeological archives (Chartered Institute for Archaeologists, 2020); and
- Understanding Historic Buildings: A Guide to Good Recording Practice (Historic England, 2016).

Gwynedd Archaeological Trust is certified to ISO 9001:2008 and ISO 14001:2004 (Cert. No. 74180/A/0001/UK/En), a Registered Organisation with the Chartered Institute for Archaeologists (CIfA), and a member of the Federation of Archaeological Managers and Employers (FAME).

1.1 Acknowledgements

The assistance of Gwenno Evans at *Dŵr Cymru/Welsh Water* is gratefully acknowledged, particularly for the provision of historic and current map and plan information.

2 ARCHAEOLOGICAL & HISTORICAL BACKGROUND

Llyn Brân is listed in the regional Historic Environment Record (Clwyd Powys Archaeological Trust, Coed y Dinas, Y Trallwng, SY21 8RP) as being within the Mynydd Hiraethog Landscape Characterisation area, specifically, the Bryn-y-gors-goch character area (HLCA 1110). The Mynydd Hiraethog Landscape Characterisation area includes uninterrupted areas of heather moorland that were deliberately managed and maintained as a grouse moor and a shooting estate in the early part of the 20th century. Llyn Brân is located at the northern end of the Bryn-y-gors-goch character area, which is characterised by modern coniferous forest plantation overlying relict medieval and later enclosed landscape of scattered farmsteads with associated field systems and stone quarrying (source:

<http://www.cpat.org.uk/projects/longer/histland/hiraeth/1110.htm>).

There are no known archaeological assets or Listed Buildings within the reservoir or the immediate environs. The closest Scheduled Monument is a prehistoric cairn (De168; PRN 100618), located 660m to the northeast at NGR SH97386025, with two additional cairns (De168; PRN 100618), located 1.4km to the northeast at NGR SH97386025 (cf. Figure 01). Former roadside quarries are located in the vicinity of the reservoir along the former turnpike road, now the A543, whilst a former hunting lodge, Gwylfa Hiraethog, is located 1.34km to the west at NGR SH94725906.

Gwynedd Archaeological Trust completed a desk-based assessment for the discontinuance scheme in 2018 (GAT Report 1446). The report concluded that there was evidence for prehistoric activity within the local area, particularly the Bronze Age, in the form of burial barrows and cairns, whilst there was little evidence of the use of the area in Roman and medieval times. During the post-medieval period, the area was common land, as shown on the Nantglyn tithe map of 1841, and sat within a landscape of upland heath. In the latter years of the 19th century the local area was secured by Lord Davenport as a shooting estate, which was developed during the early years of the 20th century, becoming afforested in the mid-20th century after the shooting estate was sold. The Llyn Brân reservoir was constructed c.1896-9 following an Act of Parliament to supply water to the North Wales Counties Lunatic Asylum in Denbigh, and involved the damming of the natural lake. A technical drawing providing the plan and longitudinal and cross sectional details was produced by the architect *J.T. Wood* of Liverpool in 1899 (Figure 04); this appears to be the specification that was followed. Much of the reservoir infrastructure dated to this time, although there is evidence of some mid-20th century activity, in the form of a boathouse on the lake and also reservoir related infrastructure. The local area is now largely covered by the modern coniferous

forestry, dating mainly from the 1930s, subdivided into different parcels by roads and rides, obscuring much of the earlier landscape elements.

3 METHODOLOGY

3.1 Introduction

The archaeological mitigation was undertaken as a Level 3 Record, as defined by *Understanding Historic Buildings: A Good to Good Recording Practice* (Historic England, 2016). A Level 3 record is characterised as a descriptive record (Historic England, 2016: 26), for which a photographic record, written record and drawn record was completed.

3.2 Photographic Record

The photographic record included *Understanding Historic Buildings* photographic elements 1, 2 and 4 (Historic England, 2016: 26), viz., general views of the boathouse and buildings within the local landscape, along with exterior and interior elevations and a record of the overall appearance of the building and areas within the interior. A total of thirty-one photographic images were taken using a digital SLR (Nikon D3000); the camera was set to maximum resolution (4928 × 3264; 16.2 effective megapixels) in RAW format and archived in TIFF format using Adobe Photoshop. The archive reference numbers for the images were G2580_030 to G2580_060 (cf. [Appendix II](#) for the photographic metadata); the location and orientation of all images were recorded on a plan (Figures 08 and 09).

3.3 Written Record

The written record was based on *Understanding Historic Buildings* report elements 1-3 and 6 (Historic England, 2016: 26) and included a record of the following:

- the precise location of the building (NGR format) and an address;
- a note of any statutory or non-statutory designations;
- the date of when the record was made as well as the name of the recorder and location of the project archive; and
- a description of the structural form, function, date and sequence of development.

The written record was completed using a GAT building record pro-forma. These forms were scanned and archived in accordance with the project data management plan and the information used to prepare the report.

3.4 Drawn Record

Measured drawings were undertaken in accordance with *Understanding Historic Buildings* (Historic England, 2016: 26) and included:

- Measured plans to scale, as existing, utilising existing engineering plans for the dam (cf. Figures 02 and 03) and on-site recording for the boat house (cf. Figure 05).
- Plans identifying the location and direction of accompanying photographs (cf. Figures 08 and 09).
- Copies of earlier drawings (if applicable) throwing light on the structures' history: in this instance, a technical drawing providing the plan and longitudinal and cross sectional details was produced by the architect *J.T. Wood* of Liverpool in 1899 (cf. Figure 04).

3.5 Data Management Plan

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

1. Pro-formas: all cross referenced and scanned for digital archiving;
2. Photographic Metadata: cross-referenced with all pro-formas and completed in *Microsoft Excel*; and
3. Project register (*Microsoft Excel* format): cross-referenced with all pro-formas and completed in *Microsoft Excel*.

The data has been used as the basis for the physical and digital dataset archives and used to compile the project report. The physical archive has been stored in a designated project folder and the location confirmed in the Trust project database. There is no de-selected digital data. A digital report will be provided to the client and CPAT. External datasets for the CPAT HER and RCAHMW are as defined in the dissemination strategy below:

- A digital report will be provided to the regional Historic Environment Record within six months of project completion, along with a digital dataset comprising an Event PRN summary. The report and dataset will be submitted in accordance with the required standards set out in *Guidance for the Submission of Data to the Welsh Historic Environment Records (HERs)* (Version 1.1); and
- A digital report and digital archive dataset will be provided to Royal Commission on Ancient and Historic Monuments, Wales (final report only), in accordance with the *RCAHMW Guidelines for Digital Archives Version 1*. The dataset will be prepared in the format required by RCAHMW and includes:
 - Photographic metadata (Microsoft Access);
 - Photographic archive (TIFF format);
 - Project Information form (Excel);
 - File Information form (Excel) – Microsoft Word report text final;
 - File Information form (Excel) – Photographic metadata (general);
 - File Information form (Excel) – Adobe PDF report final; and
 - File Information form (Excel) - Photographic metadata (detail).

3.6 Selection Strategy

As defined in *Standard and Guidance for The Creation, Compilation, Transfer and Deposition of Archaeological Archives* (Chartered Institute for Archaeologists, 2020) section 3.3.1, a project specific selection strategy and data management plan should be prepared. In support of this, the Chartered Institute for Archaeologist (CIfA), have stated that it is “widely accepted that not all the records and materials collected or created during the course of an Archaeological Project require preservation in perpetuity. These records and materials constitute the Working Project Archive which will be subject to Selection, in order to establish what will be retained for long-term curation”. The aim of selection is to ensure that all the elements retained from the Working Project Archive for inclusion in the Archaeological Archive are appropriate to establish the significance of the project and support “future research, outreach, engagement, display and learning activities”. Selection should be “focused on selecting what is to be retained to support these future needs, rather than deciding what can be dispersed” and can be qualified by a selection strategy, which details the project-specific selection process, agreed by all parties (including CPAT, client and/or landowner), which will be applied to a Working Project Archive prior to its transfer into curatorial care as the Archaeological Archive.

The selection strategy is summarised in [Appendix III](#) and takes into account:

- The aims and objectives of the project.
- The brief and/or Written Scheme of Investigation (WSI).
- The Collecting Institution’s collection policy and/or deposition guidelines.
- Local and regional research frameworks.
- Relevant thematic or period specific research frameworks.
- The project’s Data Management Plan (DMP).
- Internal recording and reporting policies.
- Material-specific guidance documents.

4 RESULTS

4.1 Introduction

Archaeological building recording was carried out on the gravity dam at Llyn Brân and the former boathouse on the north-east side of Llyn Brân. The dam was a simple concrete structure with a central outfall and sluice, located at the southern end of the lake, centred on NGR SH96205889 (PRN 36831; Section 4.2 below). The boathouse was a brick and corrugated tin building on the north-east side of the lake at the water's edge at NGR SH96235944 (PRN 152059; Section 4.3 below). Both structures were relatively simple and utilitarian examples of their kind with a lack of significant embellishment. The dam remained functional and in good condition, with the weir over the sluice functioning effectively. The boathouse was in a somewhat more dilapidated condition, with the front gates absent, but the corrugated tin roof remained *in situ* and the building remained structurally sound.

The recording work was carried out by Robert Evans, Senior Archaeologist at Gwynedd Archaeological Trust, on the 12th May and 16th June 2022, in cold but dry weather conditions. It was generally possible to carry out the recording, but access to the interior of the boathouse was difficult due to the water levels within the reservoir and the risk of sinking into the ground. The location and direction of the photographs taken of the structures are shown on Figures 08 and 09.

Historic research into both the dam and the boathouse was carried out, and despite extensive searches little new information about the boathouse was uncovered that had not been previously addressed in the assessment report (Evans and Roberts 2018; GAT Report No. 1446). An historic architect's drawing of the dam and a technical plan of the reservoir bank, drawn by *J.T. Wood* of Liverpool is held by *Dŵr Cymru/ Welsh Water* (reproduced as Figure 04), and *Wood* can be considered to have been the architect of the dam. The plan also suggests that rubble was used for strength with the concrete within the dam structure. Little is known about the architect or builders of the boathouse structure. The cartographic element relating to the structures, where the boathouse and dam could be seen in post-war mapping and aerial photography (RAF 3G/TUD/UK/35 frame 5211; Figure 07), is significant. There are also mid- 20th century safety reports on the dam structure, held in the National Archives, that have not been consulted, but these are noted in the bibliography.

4.2 Llyn Brân Dam

The reservoir is located south of the A543 road within an area of moorland that was surrounded by early twentieth century forestry plantations. The reservoir was originally a lake on a smaller footprint within open moorland, as visible on the First and Second Edition 25-inch to 1 mile Ordnance Survey maps of the area (Sheets XVII.4, XVII. 8, XVIII.3 and XVIII). The construction of the dam in 1897-9 increased the surface area of the lake, and is shown in its larger form on the 3rd edition 25 inch Ordnance Survey maps of 1913 (Figure 06). The dam is located at the southern end of the reservoir and comprised a gravity dam wall and central weir (Plate 1), the technical specifications of which are shown on the drawing of 1899 (Figure 04). The dam wall was visible to a height of 1.8m and was constructed from rendered concrete (Plates 2-4), with a central weir over which the water debouched into a stream (Plates 2-3), which was channelled and continued southwards through a forested area to join Afon Brenig (Plate 1). The weir had two stub walls either side, extending 1.2m in a curve from the top, which protruded 0.4m out from the return, and a central sluice (Plates 2-3). The dam wall measured 1.3m wide and was surmounted by a slabbed gantry, with a tubular steel pipe safety barrier on the southern side (Plate 5). Due to the render it was not possible to identify any structural phasing, alterations or modifications and it was assumed the main dam structure was original. The sides of the reservoir included shale slabs that measured up to 0.6m x 0.5m each (l x w). The slabs were not used continuously around the reservoir and appear to have been used where reinforcement was required. The drop from the reservoir edge to the water level was up to 1.5m (Plates 7-8). Two wooden water level gauge levels were noted, one within the weir and sluice structure (Plate 3), and the other behind the dam wall.

4.3 Former Boathouse

A dilapidated boathouse was located at the north eastern end of the reservoir (Plates 11-19). The boathouse was not present on the earlier historic mapping and is a twentieth century construction, post 1913. It is shown on the RAF vertical aerial photograph 3G/TUD/UK/35 frame 5211 of January 1946 (Figure 07) and on the National Grid Ordnance Survey 1:10 560 (6 inches to the mile) map of 1959, so must be presumed to be inter-war in date. It appears to have been associated with social activity on the reservoir in the earlier to mid-20th century, and was possibly related to activities associated with the Gwylfa Hiraethog estate, or just after this was sold off in 1925. The boathouse was connected to the reservoir via a jetty and accessed from the A543 via an 84m long track. The boathouse was set into the reservoir bank (Plates 13-16) and measured 4.7m in length, 3.1m in width and 2m in height to eaves level and a further 0.7m to the apex of the roof (cf. Figure 05). It was constructed mainly from stretcher bond brick, although there was some irregularity. The building was painted white and partially rendered, surmounted by a double-pitched corrugated iron roof, gable end on to the water. The walls were of a double brick thickness.

The building had a single chamber with three sides, set into the lakeside slope, with only the upper 0.7m of the northeast gable end visible (Plates 14-15). The bricks are rendered externally to the three sides, internally above the eighth course (Plate 19), at which height there is a ledge running along the two long sides of the boathouse, and fully rendered along the rear gable end. There are two brick constructed piers fronting onto the water, 0.47m thick and 0.52m wide, 1.53m tall, and below a rendered gable (Plates 12, 17-18). Metal hinge remnants for an entrance gate were noted (Plate 17). The corrugated iron roof was pinned to simple softwood rafters, with a ridge pole (Plates 19-20), and there was no evidence of the former presence of any rainwater goods. The entrance to the boathouse at the water's edge was revetted with brickwork seven courses high, somewhat obscured by concrete works associated with the jetty on the north side (Plate 18). Pinned to the rear internal gable wall with metal ties hung from the side purlins was a wooden board about 2m long and 0.3m wide (Plates 19-20), located 1.6m above the floor surface. This appears to have been a board around which the rope from a boat could have been tied to secure it.

The floor of the boathouse was very wet and inaccessible as lake water flowed into the boathouse to some extent. There was no clear floor surface noted, with wet lake sediment on to which the boats were probably pulled up (Plates 18, 19).

5 CONCLUSION

The reservoir at Llyn Brân was noted to have been constructed in 1896-7 following an Act of Parliament to supply water to the North Wales Counties Lunatic Asylum in Denbigh, and involved the damming of the natural lake, with the water flowing northwards to the hospital in Denbigh. Much of the reservoir infrastructure dates to this time, although there is evidence of some mid-20th century activity, in the form of a boathouse on the lake and also reservoir related infrastructure. In the inter-war years the area became significantly afforested, obscuring much of the earlier landscape elements.

The dam was a concrete rendered structure, built in 1897-9 (and taken out of service in 1994 and the aim of the discontinuance scheme will be to return the water body to a natural lake. The structure was of a basic dam type, with a central sluice and outfall, with a walkway across the dam parapet. It remains in a good condition, so very little new information about the construction of the dam itself was noted, although the 1899 architects plan suggests that the core of the dam is concrete and rubble.

The boathouse was of brick construction, 4.7m by 3.1m set into the slopes on the north-east side of the lake, with a corrugated tin roof and brick pilasters with formerly supported gates onto the lake frontage. There was evidence of a horizontal wooden post along the back wall to which a boat could have been tied up, and a ledge at a height of eight brick courses that could have been used by the boaters as a walkway. The approaches to the entrance to the boathouse were revetted in brick, and the base of the boathouse was natural lake silt.

The boathouse was a brick walled and corrugated tin roofed structure of a simple construction, with little architectural embellishment. It is of 20th century date; it was not shown on the 1913 3rd edition Ordnance Survey map, but is shown on a 1946 RAF aerial photograph and the 1959 6 inch Ordnance Survey map. It is also a very utilitarian structure, probably associated with the use of the lake for sporting purposes in the middle of the 20th century. No information has however been uncovered as to the direct circumstances surrounding its construction.

6 SOURCES CONSULTED

1. Chartered Institute for Archaeologists, 2014, Standard and Guidance for the Archaeological Investigation and Recording of Standing Buildings or Structures
2. Chartered Institute for Archaeologists, 2014, Standard and guidance for the collection, documentation, conservation and research of archaeological materials
3. Dŵr Cymru/Welsh Water Plan of *North Wales Counties Lunatic Asylum Water Supply: Dam at Llyn Bran*, by J.T. Wood, 1899
4. English Heritage, 1991, Management of Archaeological Projects (MAP2)
5. Evans, R. and Roberts, J. 2018 *Llyn Brân. Archaeological Assessment* GAT unpublished Report No. 1446
6. Historic England, 2015, Management of Research Projects in the Historic Environment (MoRPHE)
7. Historic England, 2016. *Understanding Historic Buildings: A Good to Good Recording Practice*
8. National Archives BD 18/997 *Report of Inspection of Llyn Brân Reservoir 1950-1972*
9. RAF aerial photograph 3G/TUD/UK/35 frame 5211 taken January 1946.
10. Royal Commission on Ancient and Historic Monuments of Wales, 2015, Guidelines for digital archives
11. The Welsh Archaeological Trusts, 2018. *Guidance for the Submission of Data to the Welsh Historic Environment Records (HERs) Version 1.1.*

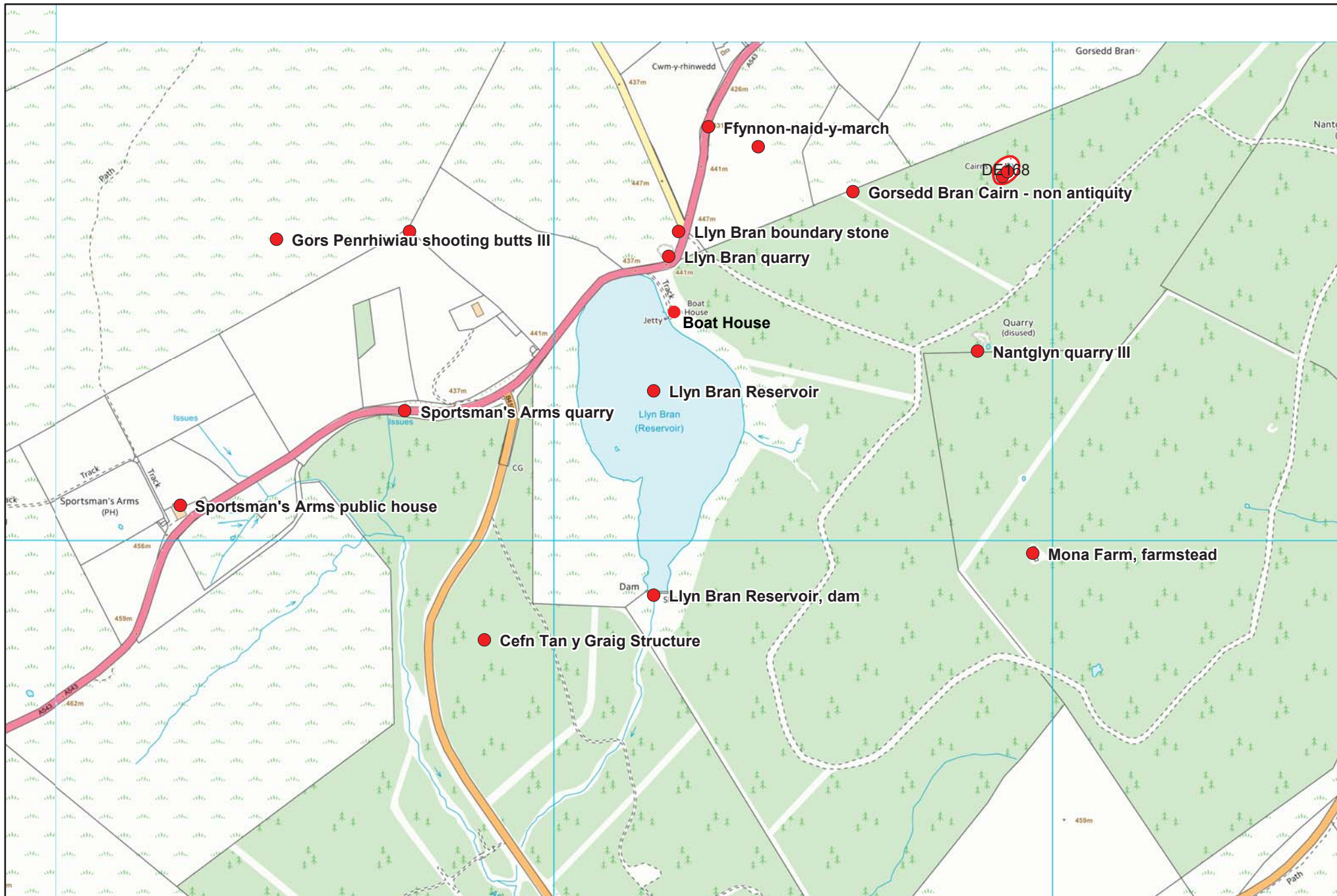
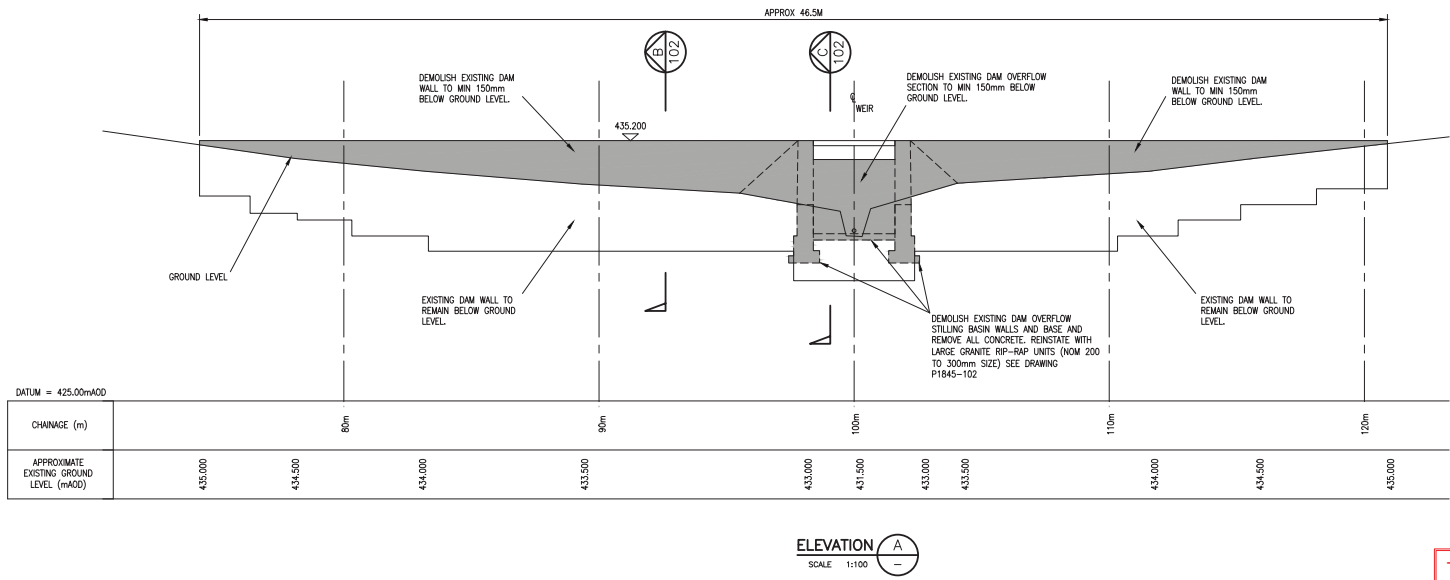
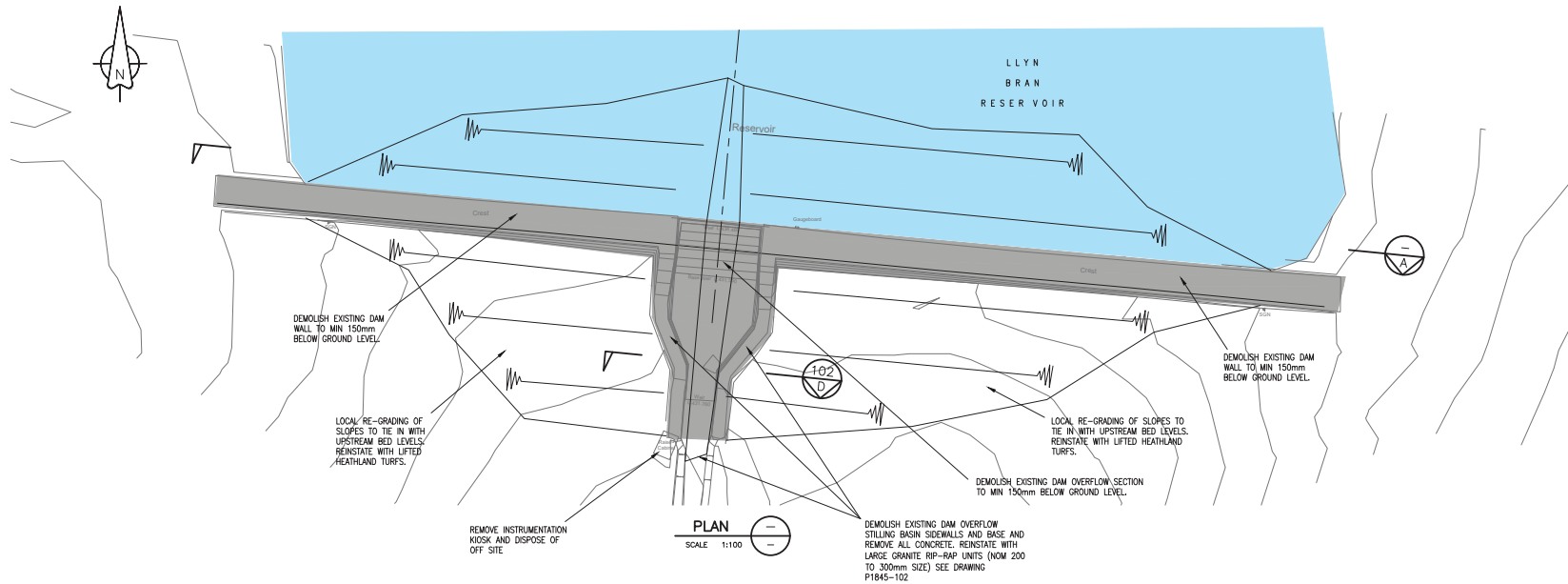


Figure 01: Site Location Plan and known Archaeological Assets.

Base map taken from Ordnance Survey Vectormap Local © Crown Copyright Licence AL10002089. Scale: 1:10000@A4.



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B	FOR TENDER	MT	18/10/21	JH	DSL
A	DRAFT FOR CLIENT REVIEW	MT	29/09/21	JH	DSL

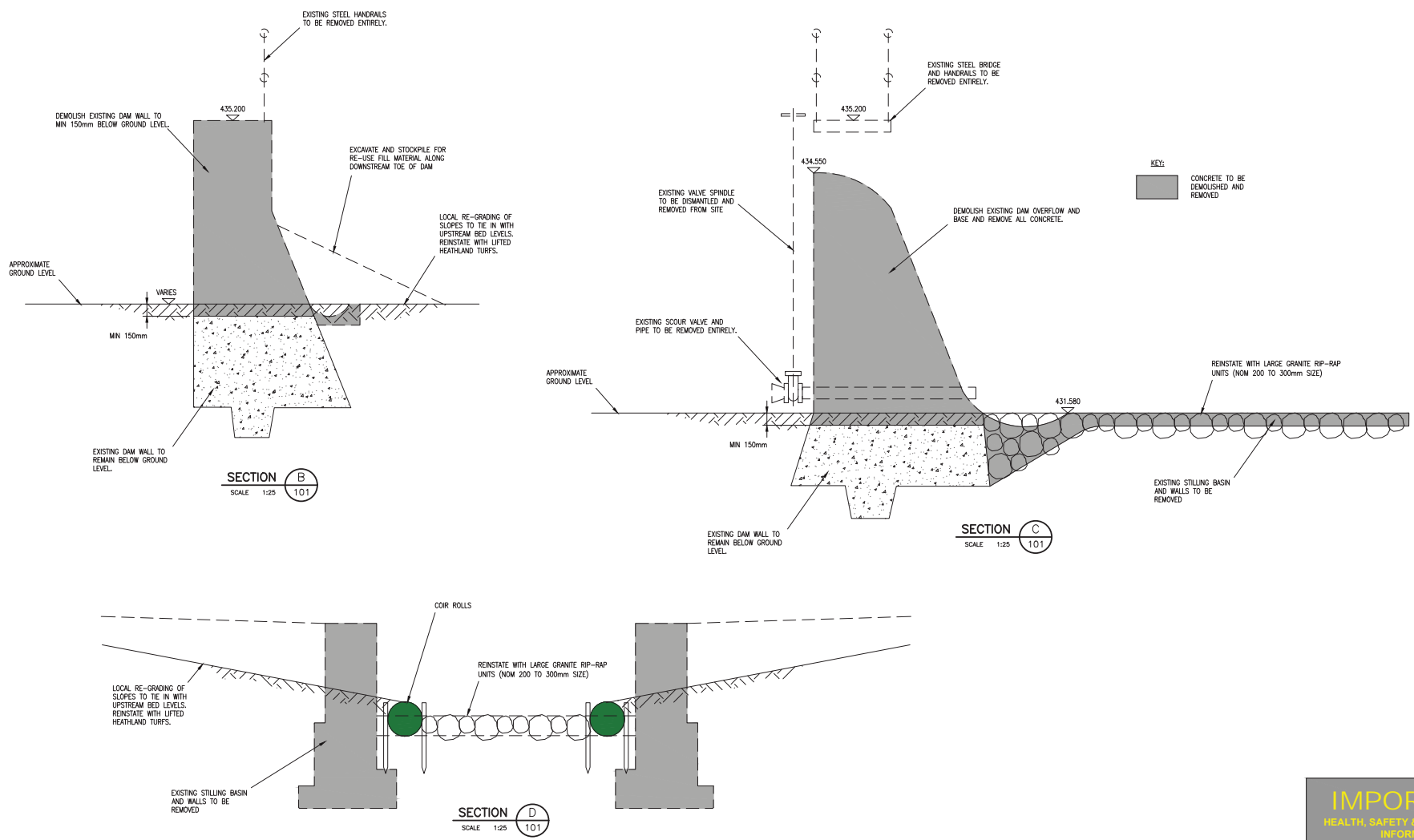
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client			title		Dam Discontinuance Plan and Elevation	
project	Llyn Bran Reservoir Discontinuance		size	original scale	designed/drawn	checked
	A1	1:100	JH/MT	JH	DSL	authorised
status	drawing number	date	date	date	date	rev
T	P1845-101	29/09/21	29/09/21	29/09/21	29/09/21	B

Figure 02: Reproduction of Stillwater Associates Drawing Number P1845-101 detailing reservoir dam plan and elevation. Scale 1:100@A1



- NOTES**
1. ALL LEVELS IN METRES AT ORDNANCE DATUM UNLESS NOTED OTHERWISE.
 2. ALL DIMENSIONS ARE IN MILLIMETRES UNLESS OTHERWISE NOTED.
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client **Dŵr Cymru Welsh Water**

project **Llyn Bran Reservoir Discontinuance**

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Dam Discontinuance Sections and Details

size	A1	original scale	1:25	designed/drawn	JH/MT	checked	JH	authored	DSL
status	T	date	29/09/21	date	29/09/21	date	29/09/21	date	29/09/21
drawing number	P1845-102								
rev	B								

TENDER ISSUE

Figure 03: Reproduction of Dam Discontinuance Sections and Details Drawing P1845-102; Scale 1:25@A1

RS347

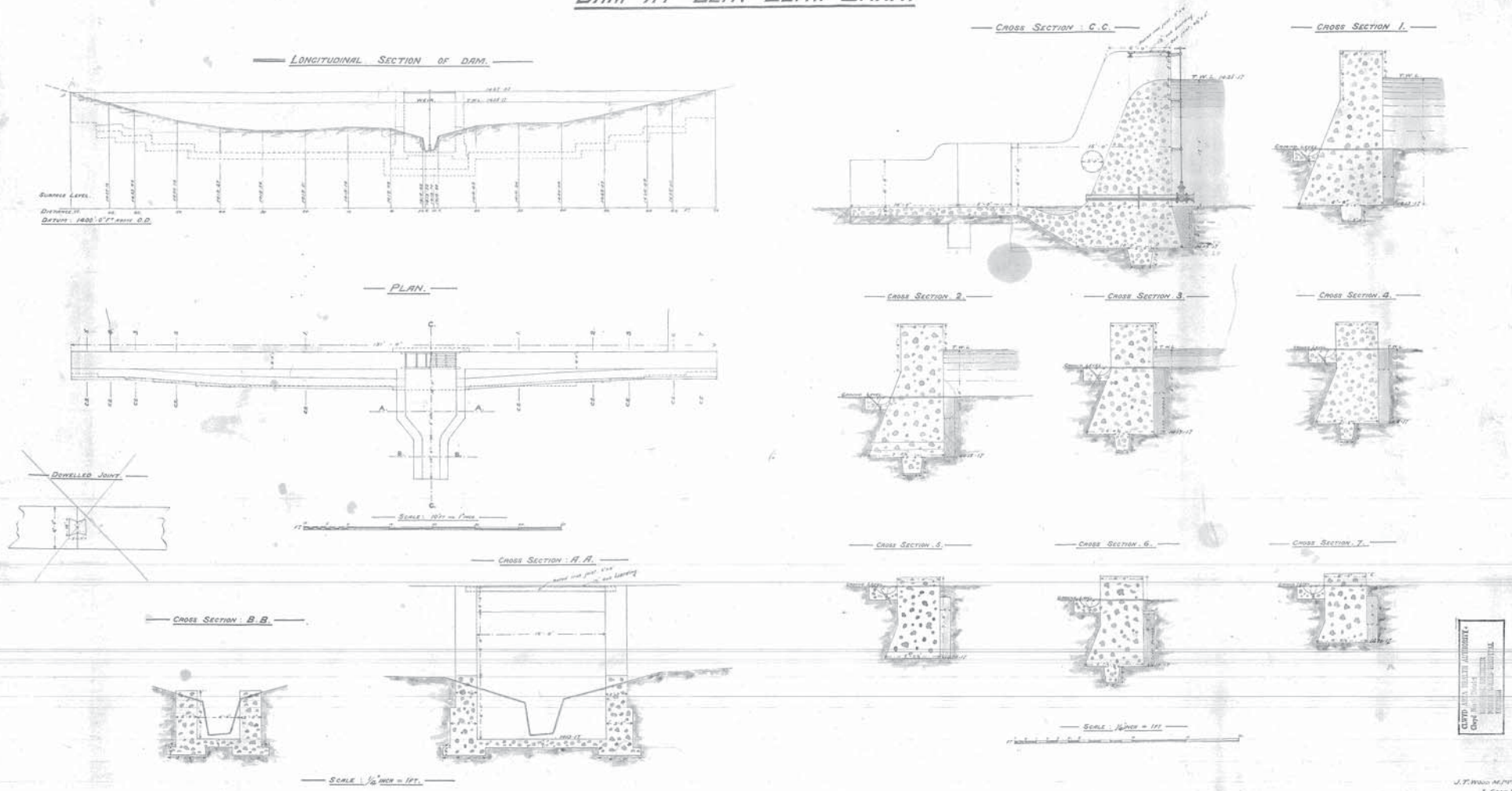
NORTH WALES COUNTIES LUNATIC ASYLUM.

WATER SUPPLY.

DAM AT LLYN LLYM BRAN.

CONTRACT NO. 1.

DRAWING NO. 9.



CLWYD AREA HEALTH AUTHORITY
 Chief Engineer
 J. T. WOOD M.P.E. C.E.
 3, COVA ST.
 LIVERPOOL

Figure 04: Reproduction of detailed sections of Llyn Bran Dam; Legacy Drawing No. 9 (Source: Clwyd Area Health Authority)

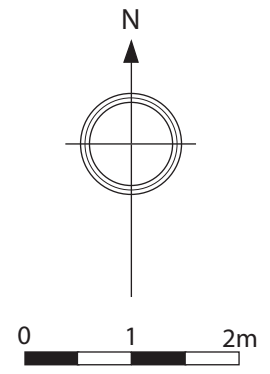
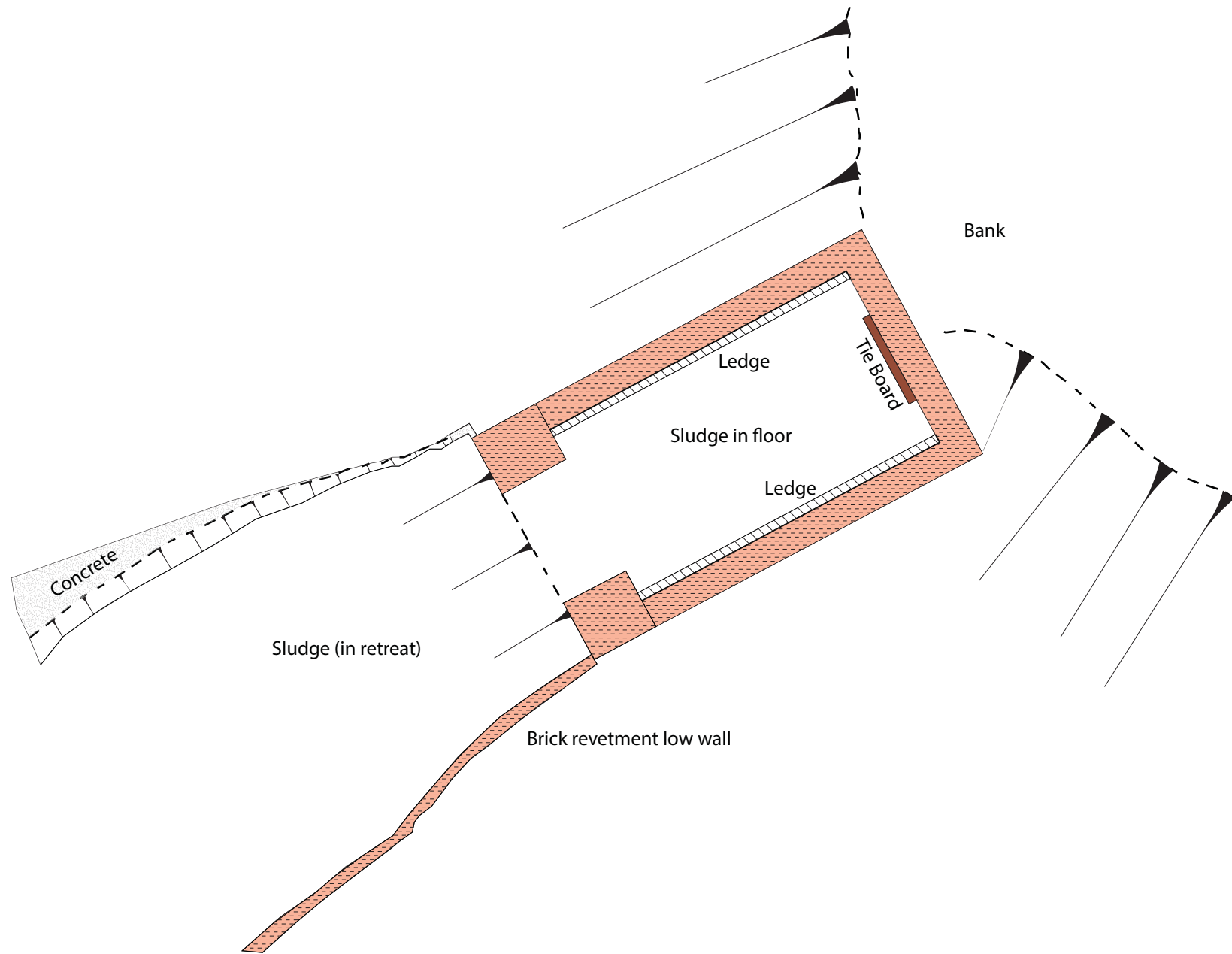


Figure 05: Plan of Boat House at Llyn Bran Reservoir. Scale 1:50 @ A4

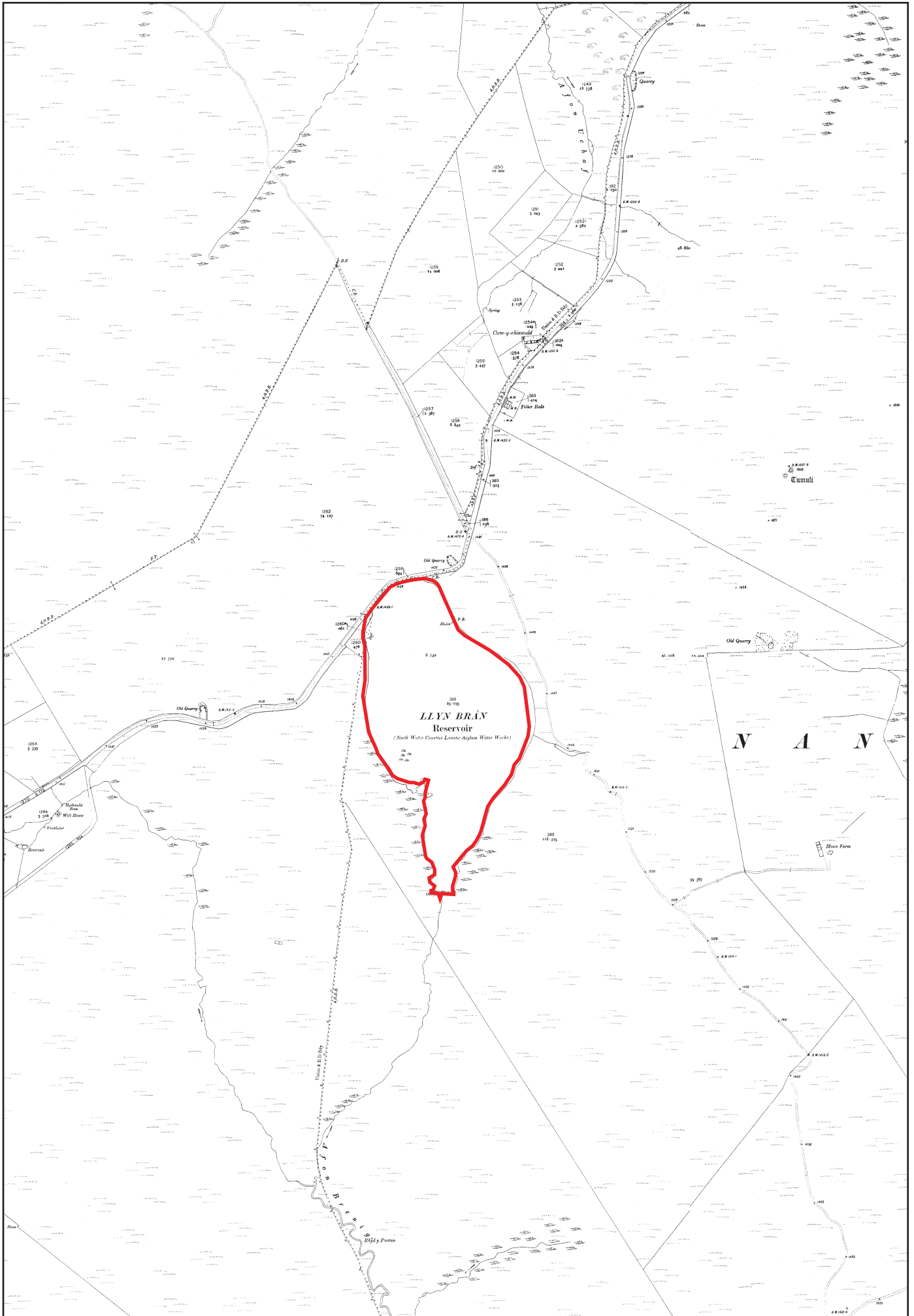


Figure 06: Reproduction of Third Edition 25-inch to 1 mile Ordnance Survey Sheets XVII.4, XVII. 8, XVIII.3 and XVIII.5, published 1913. Modern reservoir outlined in red. Scale: 1:10000@A4.



Figure 07: Detail from RAF Aerial Photograph 4614 3GTUD/UK/35 frame 5211 taken on 16th January 1946, showing the presence of the boathouse by this date, outlined in red (Crown Copyright).

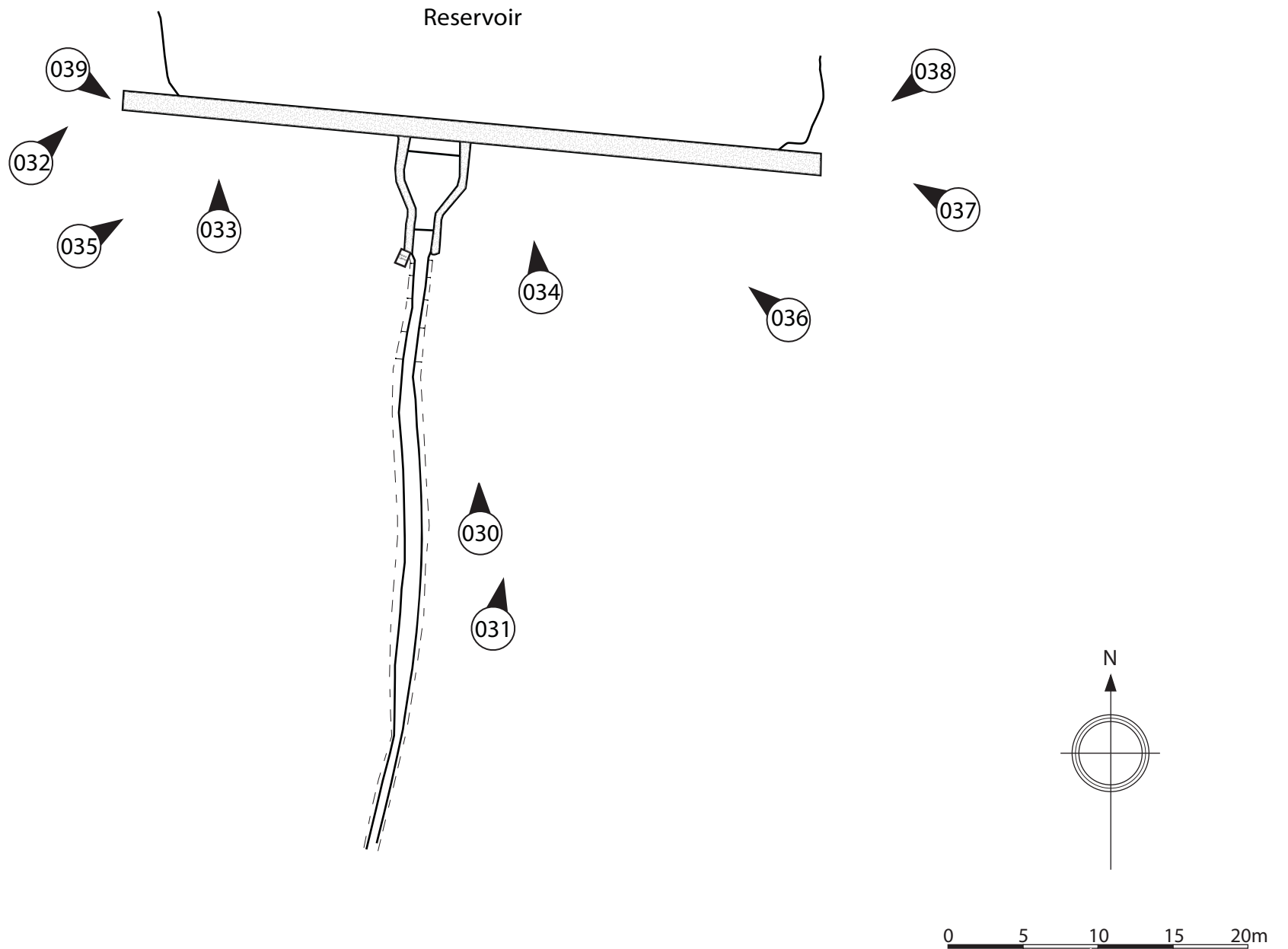


Figure 08: Location and direction of photographic record of the reservoir dam.
Note: the numbers relate to the photographic archive numbering system. Scale 1:100 @ A3

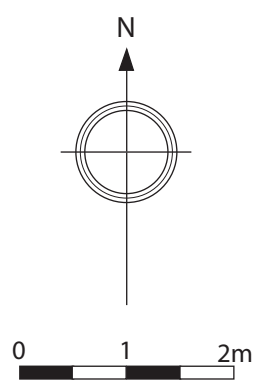
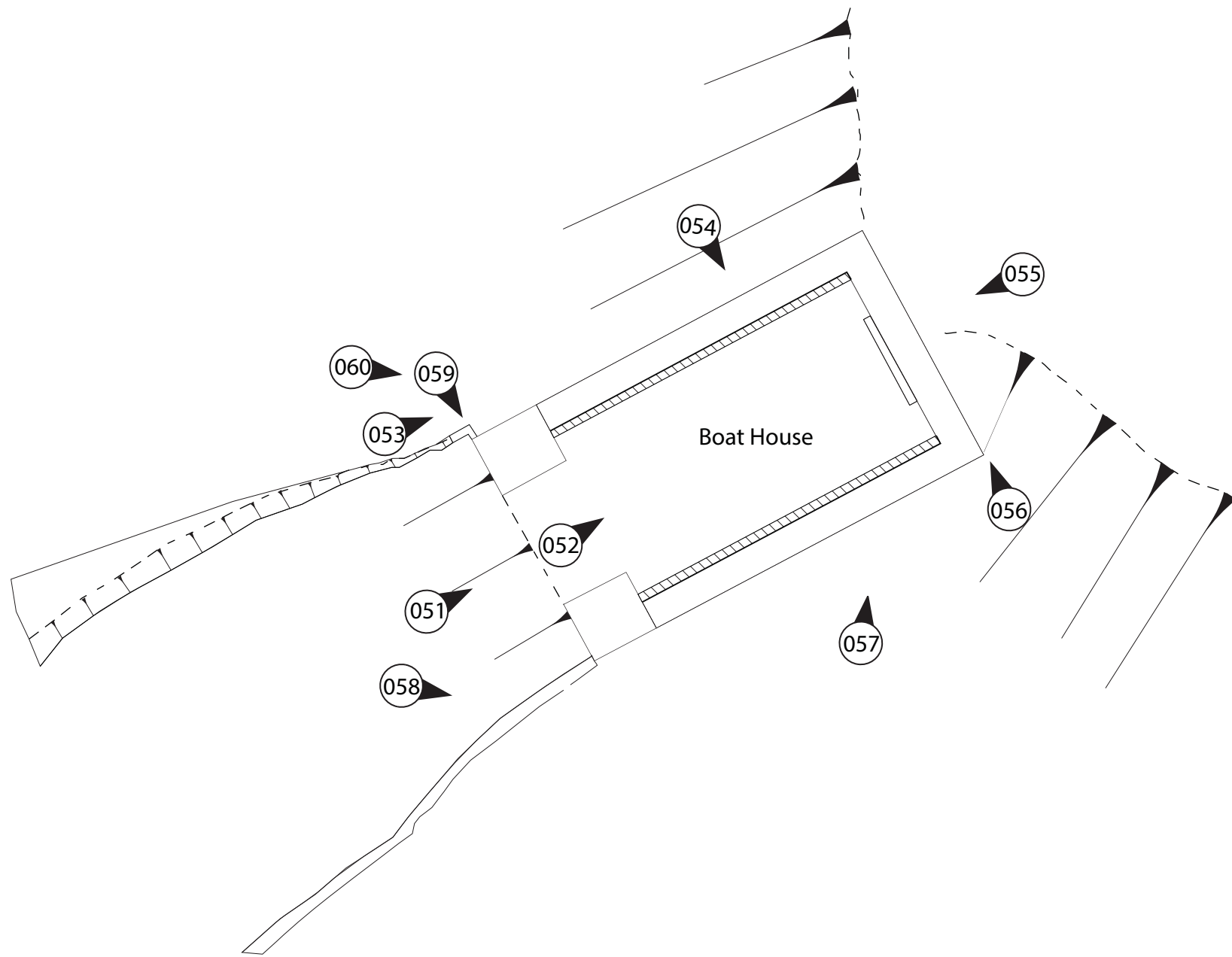


Figure 09 : Location and direction of photographic record of the boat house. Note: the numbers relate to the photographic archive numbering system.
Scale 1:100 @ A3



Plate 01: General view of the dam wall face from downstream; scale: 1x1m
(archive reference: G2580_030).



Plate 02: Detail of dam wall face showing the sluice debouching into the Afon Bran; scale: 1x1m
(archive reference: G2580_034).



Plate 03: Angled view showing the sluice ; (archive reference: G2580_035).



Plate 04: Detail showing the concrete render on the dam, with the protective barriers; scale: 1x1 m (archive reference: G2580_033).



**Plate 05: General view of the dam wall from the south-east ; scale: 1x1m
(archive reference: G2580_036).**



**Plate 06: General view showing the parapet walkway
from the west ; scale: 1x1m
(archive reference: G2580_032).**



Plate 07: View along the dam from the east; scale: 1x1m (archive reference: G2580_038).



Plate 08: General view of the dam from the north west; scale: 1x1m (archive reference: G2580_039).



Plate 09: General view of the dam from the north west (archive reference: G2580_040).



Plate 10: General view of the dammed lake behind Llyn Bran (archive reference: G2580_041).



Plate 11: General view of the boathouse from the west; scale: 1x1m (archive reference: G2580_060).



Plate 12: View of the entrance to the boathouse from the north northwest; scale: 1x1m (archive reference: G2580_053).



Plate 13: View of the boathouse from the north showing how it is set into the lakeside slope; scale: 1x1 m (archive reference: G2580_054).



Plate 14: View from the east showing the rear gable elevation of the boathouse, and the extent to which it is cut into the bank; scale: 1x1 m (archive reference: G2580_055).



Plate 15: General view of the boathouse from the south east; scale: 1x1m (archive reference: G2580_056).



Plate 16: view of the boathouse from the south; scale: 1x1m (archive reference: G2580_057).



Plate 17: View of the entrance pier brickwork and pin for a former gate; (archive reference: G2580_058).



Plate 18: View of the entrance to the boathouse from the north, showing the revetment brickwork in the entrance (archive reference: G2580_059).



Plate 19: View of the interior of the boat house showing the ledge and tie-post for the boat; scale: 1x1m (archive reference: G2580_051).

APPENDIX I

Gwynedd Archaeological Trust Written Scheme of Investigation

**LLYN BRAN RESERVOIR DISCONTINUANCE
SCHEME
(G2580)**

WRITTEN SCHEME OF INVESTIGATION FOR
ARCHAEOLOGICAL MITIGATION:
Watching Brief and Level 3 Building Record

Prepared for

DCWW

April 2022



Ymddiriedolaeth Archaeolegol Gwynedd
Gwynedd Archaeological Trust

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

Name

Signature

Date

LLYN BRAN RESERVOIR DISCONTINUANCE SCHEME (G2580)

WRITTEN SCHEME OF INVESTIGATION FOR ARCHAEOLOGICAL MITIGATION:

Watching Brief & Level 3 Building Record Prepared for DCWW, April 2022

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1 INTRODUCTION

Gwynedd Archaeological Trust (GAT) has been asked by DCWW to prepare a written scheme of investigation for archaeological mitigation during a reservoir discontinuance scheme at Llyn Bran, Bylchau, Denbighshire (NGR SH96205930; postcode: LL16 5SW; [Figure 01](#)). The reservoir measures c.630m long north–south by up to 330m wide east–west and comprises a raised natural lake impounded by a small gravity dam at the southern end of the reservoir; the dam incorporates an overflow weir, from which water passes along the original watercourse downstream of the lake. The reservoir was built c.1896-7 and taken out of service in 1994 and the aim of the discontinuance scheme will be to return the water body to a natural lake. The scheme will include a reservoir draw down (water removal), reservoir basin work and dam demolition; in addition, an existing boathouse will be demolished. To accommodate the scheme works, a temporary access track and site compound will be built, as detailed in *Stillwater Associates* Drawing No. 1845-001 Rev C (cf. [Figure 02](#)). The works are scheduled between May and November 2022.

The archaeological mitigation will comprise:

- An archaeological watching brief during the installation of the access track/compound set-up; and
- A Level 3 Building Record of an existing boathouse and the dam structure.

The mitigation will be planned, managed and undertaken by GAT in accordance with the following standards and guidance:

- Guidance for the Submission of Data to the Welsh Historic Environment Records (HERs) Version 1.1 (The Welsh Archaeological Trusts, 2018);
- Guidelines for digital archives (Royal Commission on Ancient and Historic Monuments of Wales, 2015).
- Management of Archaeological Projects (English Heritage, 1991);
- Management of Research Projects in the Historic Environment: The MoRPHE Project Managers' Guide (Historic England, 2015);
- Standard and guidance for an archaeological watching brief (Chartered Institute for Archaeologists, 2020);
- Standard and Guidance for the Archaeological Investigation and Recording of Standing Buildings or Structures (Chartered Institute for Archaeologists, 2020);
- Standard and guidance for the collection, documentation, conservation and research of archaeological materials (Chartered Institute for Archaeologists, 2020);

- Standard and guidance for the creation, compilation, transfer and deposition of archaeological archives (Chartered Institute for Archaeologists, 2020); and
- Understanding Historic Buildings: A Guide to Good Recording Practice (Historic England, 2016).

-

Gwynedd Archaeological Trust is certified to ISO 9001:2008 and ISO 14001:2004 (Cert. No. 74180/A/0001/UK/En) and is a Registered Organisation with the Chartered Institute for Archaeologists (CIfA).

1.1 Monitoring Arrangements

The archaeological mitigation will be monitored by the Development Control Archaeologist Clwyd Powys Archaeological Trust (CPAT). Both the written scheme of investigation and all subsequent reporting must be approved by CPAT before final issue. CPAT must also be kept informed of the project timetable. The CPAT contact details are:

- Mark Walters, Development Control Archaeologist | tel: 01938553670 | email: mark.walters@cpat.org.uk

1.2 Historic Environment Record

In line with the CPAT Environment Record (HER) requirements, the HER will be contacted at the onset of the project to ensure that any data arising is formatted in a manner suitable for accession to the HER and follows the guidance set out in *Guidance for the Submission of Data to the Welsh Historic Environment Records (HERs)* (The Welsh Archaeological Trusts, 2018). In line with this guidance, all submitted reporting will need to include the equivalent of a non-technical summary in Welsh and English at the front of the report combined with short bilingual summaries of the principal Historic Assets recorded during the event. These requirements are mandatory.

2 ARCHAEOLOGICAL & HISTORICAL BACKGROUND

Llyn Bran is listed in the regional Historic Environment Record (Clwyd Powys Archaeological Trust, Coed y Dinas, Y Trallwng, SY21 8RP) as being within the Mynydd Hiraethog Landscape Characterisation area, specifically, the Bryn-y-gors-goch character area (HLCA 1110). The Mynydd Hiraethog Landscape Characterisation area includes uninterrupted areas of heather moorland that were deliberately managed and maintained as a grouse moor and a shooting estate in the early part of the 20th century. Llyn Bran is located at the northern end of the Bryn-y-gors-goch character area, which is characterised by modern coniferous forest plantation overlying relict medieval and later enclosed landscape of scattered farmsteads with associated field systems and stone quarrying (source: <http://www.cpat.org.uk/projects/longer/histland/hiraeth/1110.htm>).

There are no known archaeological assets or Listed Buildings within the reservoir or the immediate environs. The closest Scheduled Monument is a prehistoric cairn (De168; PRN 100618), located 660m to the northeast at NGR SH97386025, with two additional cairns (De168; PRN 100618), located 1.4km to the northeast at NGR SH97386025 ([Figure 01](#)). Former roadside quarries are located in the vicinity of the reservoir along the former turnpike road, now the A543, whilst a former hunting lodge, Gwylfa Hiraethog, is located 1.34km to the west at NGR SH94725906.

Gwynedd Archaeological Trust completed a desk-based assessment for the discontinuance scheme in 2018 (GAT Report 1446). The report concluded that there was evidence for prehistoric activity within the local area, particularly the Bronze Age, in the form of burial barrows and cairns, whilst there was little evidence of the use of the area in Roman and medieval times,. During the post-medieval period, the area was common land, as shown on the Nantglyn tithe map of 1841, and sat within a landscape of upland heath. In the latter years of the 19th century the local area was secured by Lord Davenport as a shooting estate, which was developed during the early years of the 20th century, becoming afforested in the mid-20th century after the shooting estate was sold. The Llyn Bran reservoir was constructed c.1896-7 following an Act of Parliament to supply water to the North Wales Counties Lunatic Asylum in Denbigh, and involved the damming of the natural lake. Much of the reservoir infrastructure dated to this time, although there is evidence of some mid-20th century activity, in the form of a boathouse on the lake and also reservoir related infrastructure. The local area is now largely covered by the modern coniferous forestry, dating mainly from the 1930s, subdivided into different parcels by roads and rides, obscuring much of the earlier landscape elements.

The assessment report identified three assets within the assessment area and the following descriptions (amended) are from the report:

Feature Number	01
Site name	Llyn Bran Reservoir Dam/Reservoir
PRN number	36831 & 81837
Grid reference	NGR SH96205889
Period	Post-Medieval (late nineteenth century)
Description	<p>The reservoir is located south of the A543 road within an area of moorland that was surrounded by early twentieth century forestry plantations. The reservoir was originally a lake on a smaller footprint within open moorland, as visible on the Ordnance Survey First and Second Edition 25-inch to 1 mile Map Sheets XVII.4, XVII. 8, XVIII.3 and XVIII.5; cf. Figure 03). The construction of the dam in 1897 increased the surface area of the lake (cf. Figure 04). The dam is located at the southern end of the reservoir and comprised a gravity dam wall and central weir (GAT Report 1446 Plate 1). The dam wall was visible to a height of 1.8m and was constructed from rendered concrete (GAT Report 1446 Plate 2), with a central weir over which the water debouched into a stream (GAT Report 1446 Plates 3 and 4), which was channelled and continued southwards through a forested area to join Afon Brenig. The weir had two stub walls either side, extending 1.2m in a curve from the top, which protruded 0.4m out from the return. The dam wall measured 1.3m wide and was surmounted by a metal gantry, with a tubular steel pipe safety barrier on the southern side (GAT Report 1446 Plate 5). Due to the render it was not possible to identify any structural phasing, alterations or modifications and it was assumed the main dam structure was original. The sides of the reservoir included shale slabs that measured up to 0.6m x 0.5m each in size (l x w) (GAT Report 1446 Plate 9). The slabs were not used continuously around the reservoir and appear to have been used where reinforcement was required. The drop from the reservoir edge to the water level was up to 1.5m (GAT Report 1446 Plate 8).</p>

Feature Number	02
Site name	Boathouse
PRN number	PRN 152059
Grid reference	NGR SH96235944
Period	Post-Medieval (twentieth century)
Description	<p>A dilapidated boathouse was located at the northeastern end of the reservoir (GAT Report 1446 Plate 15), connected to the reservoir via a jetty and accessed from the A543 via an 84m long track. The boathouse was set into the reservoir bank (GAT Report 1446 Plate 10) and measured 5m in length, 3m in width and 2m in height and was constructed from stretcher bond brick, painted white and partially rendered, surmounted by a double-pitched corrugated iron roof, gable end on to the water (GAT Report 1446 Plate 11). The boathouse was not present on the historic mapping and is a twentieth century construction, post 1913. The jetty (GAT Report 1446 Plate 12) was located 11m to the west and was positioned in the same general location as a sluice visible on the Third Edition 25-inch to 1 mile Ordnance Survey maps of the area (Sheets XVII.4, XVII. 8, XVIII.3 and XVIII.5; cf. Figure 04).</p>

Feature Number	03
Site name	Reinforced concrete and brick structure
PRN number	PRN 152060
Grid reference	NGR SH96235946
Period	Post-Medieval (twentieth century)
Description	A reinforced concrete and brick structure was located 11m north of the boathouse (GAT Report 1446 Plate 15). The structure was set further away from the reservoir bank and measured 8m in length, 5m in width and over 2m in height (GAT Report 1446 Plate 13). The exterior was roughcast rendered, with a rusted steel frame visible beneath a flat roof. Two single door openings were present on the rear, northeastern side, with a 1.5m high lean-to on the southeastern side and blocked windows with concrete sills on the southwestern and northwestern sides (GAT Report 1446 Plate 14). Patches of exposed brickwork were visible on the corners of structure where the render had failed; not enough was visible to confirm bonding style. The exact function of the building was unclear, but it was utilitarian in appearance suggesting it had a former function associated with the reservoir and was possibly mid-twentieth century in date based on general appearance and materials used. The use of steel reinforcements suggested it was designed to withstand more than just the elements and has the appearance of a blast proof structure.

The report subsequently made recommendations for a record of the boathouse and dam, as well as a watching brief during the discontinuance works.

3 METHOD STATEMENT

3.1 Watching Brief

3.1.1 Introduction

An archaeological watching brief is defined by the Chartered Institute for Archaeologists as a formal programme of observation and investigation conducted during any operation carried out for non-archaeological reasons where there is a possibility that archaeological deposits may be disturbed or destroyed. The programme will result in the preparation of a report and ordered archive (CIfA, 2020).

The archaeological watching brief will include the following:

- Access Track & Site Compound: as detailed on *Stillwater Associates* Drawing No. 1845-001 Rev C, the access track and site compound are located at the southwestern end of the site. The access track will incorporate part of an existing track that leads from the B4501 road; a temporary track will then be constructed from SH95955887, running due east from this existing track to the southern end of the reservoir. The temporary track will measure 4m in width and will be constructed from bog matting, for which some shallow excavation is required. The compound will be located where the temporary track separates from the existing track (NGR SH95955887) and excavation will be required to accommodate geotextile membrane and hardstanding. The access track and compound set-up works are currently scheduled between 20/05/22 and 06/06/22.

It is recommended that a toothless bucket is used, where practical, and that the archaeologist must be allowed to halt investigation works to investigate any archaeological deposits or features exposed.

3.1.2 Fieldwork Methodology

- During the watching brief all attendances and any identified features will be recorded using GAT watching brief pro-formas ([Appendix II](#));
- Photographic images will be taken using a digital SLR (camera set to maximum resolution in RAW format; a photographic record will be maintained on site using GAT pro-formas ([Appendix III](#)) and digitised in *Microsoft Access* as part of the fieldwork archive and dissemination process. Photographic images will be archived in TIFF format using Adobe Photoshop; the archive numbering will be prefixed with G2580_. When practical, a photographic ID board will be used during the watching brief inspection to record site code, image orientation and any relevant context numbers.
- Any subsurface features will be recorded photographically, with detailed notations and a measured survey;
- Any archaeological features/deposits/structures encountered will be manually cleaned and examined to determine extent, function, date and relationship to adjacent activity. *Additional time, resourcing, specialist input and costs may be required for GAT to complete an appropriate programme of works.*
- Any required plans or sections to be drawn at a minimum 1:10 scale using GAT A4, A3 or A2 pro-forma permatrace.

3.1.3 Artefacts

Diagnostic artefacts will be retained for further examination and identification. Pottery sherds of 19th and 20th century date will be examined on site and the context from which they were retrieved noted but the sherds will not be retained. The artefacts will be treated according to guidelines issued by the UK Institute of Conservation (Watkinson and Neal 2001) in particular the advice provided within *First Aid for Finds* (Rescue 1999) and Historic England.

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

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

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

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

GAT will contact the landowner (via client) for agreement regarding the transfer of artefacts, initially to GAT and subsequently to the relevant museum (North East Wales Archive service). A GAT produced pro-forma will be issued to the landowner where they are given the option to donate the finds or to record that they want them returning to them once analysis and assessment has been completed. Artefacts will be transferred to the North East Wales Archive service in accordance with their guidelines.

3.1.4 Ecofacts

Should any archaeological features and/or sealed deposits be identified that are deemed suitable for assessment and analysis, bulk ecofact samples will be taken by the GAT Project Archaeologist team using 10 litre sampling buckets. The deposits will be assessed and analysed for plant species and charcoal, with the results used to inform agrarian practices and wood fuel use, as well as possibly dating. Initial assessment would be completed by the GAT Project Archaeologist team using wet sieving, with the subsequent species identification assessment completed by an ecofact specialist (Jackaline Robertson | AOC Archaeology | telephone: 0208 843 7380). Any deposits deemed suitable for dating will be submitted to a laboratory specialising in radiocarbon dating (e.g., SUERC).

Any ecofact assessment/analysis proposals will require additional resourcing and cost and will only be undertaken further to agreement with GAPS and the client.

3.2 Level 3 Record

A Level 3 Record, as defined by *Understanding Historic Buildings: A Guide to Good Recording Practice*, is required for the twentieth century boathouse and the reservoir dam. A Level 3 record is characterised in *Understanding Historic Buildings* (Historic England, 2016) as an analytical record and comprises an introductory description followed by a systematic account of the designated structures' origins, development and use. The record will include an account of the evidence on which the analysis has been based, allowing the validity of the record to be re-examined in detail. It will also include all drawn and photographic records that may be required to illustrate the structures' appearance and to support an historical analysis. (Historic England, 2016: 26).

The boathouse (Primary Reference Number 152059) is located at NGR SH96235944 is set into the northeastern bank of the reservoir (cf. [Figure 01](#)). The building measures 5m in length, 3m in width and 2m in height and is constructed from stretcher bond brick, painted white and partially rendered, surmounted by a double-pitched corrugated iron roof, gable end on to the water. The boathouse is not present on any pre-twentieth century historic mapping.

The reservoir dam (Primary Reference Number 36831 & 81837) is located at NGR SH96205889 (cf. [Figure 01](#)). The dam is located at the southern end of the reservoir and comprises a gravity dam wall and central weir. The dam wall is visible to a height of 1.8m and is constructed from rendered concrete, with a central weir over which the water debouches into a stream; the weir had two stub walls either side, extending 1.2m in a curve from the top, which protruded 0.4m out from the return. The dam wall measures 1.3m wide and is surmounted by a metal gantry, with a tubular steel pipe safety barrier on the southern side. The sides of the reservoir included shale slabs that measure up to 0.6m x 0.5m each in size; the slabs are not used continuously around the reservoir and appear to be where reinforcement has been required.

NB. The Level 3 record for both structures will be limited to accessible areas and in accordance with a suitable risk assessment and health & safety parameters. The client will be responsible for access arrangements.

3.2.1 *Photographic Record*

The photographic record will include *Understanding Historic Buildings* photographic elements 1 to 9 (Historic England, 2016: 26) and include:

- a general view or views of the recorded structures in their wider setting or landscape;
- their external appearance; typically a series of oblique views that show all external elevations, and give an overall impression of its size and shape. If relevant during recording, where individual elevations include complex historical information it may also be appropriate to take views at right-angles to the plane of the elevation;
- further views (if relevant during the recording visit) to reflect the original design intentions, where these are known from documentary sources or can be inferred from the building or its setting;
- the overall appearance of the principal rooms and circulation areas (boathouse only);
- any external or internal detail, structural or decorative, which is relevant to the structures' design, development and use, with scale where appropriate;
- any machinery or other plant, or evidence for its former existence;
- any dates or other inscriptions; any signage, makers' plates or graffiti which contribute to an understanding of the structures. A transcription should be made wherever characters are difficult to interpret; and
- any building contents which have a significant bearing on the structures' history.
- Copies of maps, drawings, views and photographs, present in the building and illustrating development or that of its site. This will include the Ordnance Survey Denbighshire County Map series of the area and any other historic mapping/information deemed useful.
- Suitable scales will be used and artificial lighting where necessary.

3.2.2 *Written Record*

The written record will include *Understanding Historic Buildings* report elements 1-3, 6-9, 11-13, 23 (Historic England, 2016: 26). This will include:

- The precise location of the structures (NGR format) and an address;
- A note of any statutory or non-statutory designations (in this instance, Primary Reference Numbers);
- The date of when the record was made as well as the name of the recorder and location of the project archive;
- A description of the structures' form, function, date and sequence of development. The names of architects, builder, patrons and owners should be included if known;
- An introduction briefly setting out the circumstances in which the record was made, its objectives, methods, scope and limitations, and any constraints. Where appropriate the brief for the work or the project design should be stated or appended;
- Acknowledgements to all those who have made a significant contribution to the making of the record, or who have given permission for copyright items to be reproduced;
- A discussion of the published sources relating to the structures' location and setting, an account of their history as given in published sources, an analysis of historic map evidence (map regression) and a critical evaluation of previous records of the structures. For this, GAT report 1446 (Evans and Roberts, 2018), will primarily be consulted;
- An account of the structures' overall form (structure, materials, layout) and of successive phases of development, together with the evidence supporting this analysis (if applicable);
- An account of the structures' past and present use. An account of any fixtures, fittings, plant or machinery present, and their purpose; and
- Full bibliographic and other references, or a list of the sources consulted.

3.2.3 Drawn Record

Measured drawings will be prepared in accordance with *Understanding Historic Buildings* drawing elements 2 and sometimes one or more of items 3 to 12 (Historic England, 2016: 26). This will include:

- Measured plans (to scale or fully dimensioned) as existing.
- Measured drawings recording the form or location of other significant structural detail.
- Measured cross-sections or long-sections to illustrate the vertical relationships.
- Measured drawings to show the form of any architectural decoration (for example the moulding profiles of door surrounds, beams, mullions and cornices) or small-scale functional detail not easily captured by photography. A measured detail drawing is particularly valuable when the feature in question is an aid to dating.
- Measured elevations, where these are necessary to an understanding of the structures' design, development or function.
- A site plan relating the structures and to any related topographical and landscape features.
- A plan or plans identifying the location and direction of accompanying photographs.
- Copies of earlier drawings (if applicable) throwing light on the structures' history.

In support of this, engineering drawings supplied by client will be used for reference and possible inclusion in the final report; this will include any drawings illustrating the appearance once the dam has been removed.

3.2.4 *Fieldwork Methodology*

The Level 3 written record will be completed using a building record pro-forma ([Appendix II](#)), which will be used to record key structural details and phasing. Key dimensions and detailed measurements will be completed using hand tapes. Photographic images will be taken using a digital SLR (Nikon D3100) camera set to maximum resolution (4,608 × 3,072; 14.2 effective megapixels) in RAW format. Camera tripods and poles will be used for the elevations and where practical elsewhere. A photographic record will be maintained on site using GAT pro-formas ([Appendix III](#)) and digitised in Microsoft Excel and Access as part of the fieldwork archive and dissemination process; archive numbering will start from the next available photographic metadata number sequence and including the G2580_ prefix. The location and orientation of photographs taken will be recorded on a scaled plan and digitised for final reporting. The photographic images will then be converted to TIFF for final archiving using Adobe Photoshop.

3.3 Working Project Archive & Data Management Plan

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

1. Pro-formas: all cross referenced and complete;
2. Photographic Metadata: completed in *Microsoft Access* and cross-referenced with all pro-formas;

This data will then be used as the basis for the physical and digital dataset archives. Information from these will be used to compile the project report. The physical archive will be stored in a designated project folder and the location confirmed in the Trust project database; the digital dataset will be stored on a dedicated Trust server, with the location confirmed in the Trust project database via a specific hyperlink. External datasets for the HER and RCAHMW are as defined in the dissemination strategy below. De-selected digital data will be confirmed in an updated digital management plan appended to the final report.

A draft report will be submitted within one month of fieldwork completion and a final report will be submitted to the regional Historic Environment Record within six months of project completion. The report will include the following:

1. Non-technical summary (Welsh and English)
2. Introduction
3. Background
4. Methodology
5. Results
6. Conclusion
7. List of sources consulted.
8. Appendix I – approved GAT project specification
9. Appendix II – photographic metadata

On final approval, the following dissemination and archiving of the report and digital dataset will apply:

- A digital report(s) will be provided to the client and GAPS (draft report then final report);
- A digital report will be provided to the regional Historic Environment Record using the Historic Environment Record Data Deposit Online System

<https://cpat.org.uk/heddos.html>); this will be submitted within six months of project completion (final report only), along with a digital dataset comprising an Event PRN summary. The report and dataset will be submitted in accordance with the required standards set out in *Guidance for the Submission of Data to the Welsh Historic Environment Records (HERs)* (Version 1.1); and

- A digital report and digital archive dataset will be provided to Royal Commission on Ancient and Historic Monuments, Wales (final report only), in accordance with the *RCAHMW Guidelines for Digital Archives Version 1*. The dataset will be prepared in the format required by RCAHMW and will include:
 - Photographic metadata (Microsoft Access);
 - Photographic archive (TIFF format);
 - Project Information form (Excel);
 - File Information form (Excel) – Microsoft Word report text final;
 - File Information form (Excel) – Photographic metadata (general);
 - File Information form (Excel) – Adobe PDF report final; and
 - File Information form (Excel) - Photographic metadata (detail).

3.4 Selection Strategy

As defined in *Standard and Guidance for The Creation, Compilation, Transfer and Deposition Of Archaeological Archives* (Chartered Institute for Archaeologists, 2020) section 3.3.1, a project specific selection strategy and data management plan should be prepared. In support of this, the Chartered Institute for Archaeologist (CIfA), have stated that it is “widely accepted that not all the records and materials collected or created during the course of an Archaeological Project require preservation in perpetuity. These records and materials constitute the Working Project Archive which will be subject to Selection, in order to establish what will be retained for long-term curation”. The aim of selection is to ensure that all the elements retained from the Working Project Archive for inclusion in the Archaeological Archive are appropriate to establish the significance of the project and support “future research, outreach, engagement, display and learning activities”. Selection should be “focused on selecting what is to be retained to support these future needs, rather than deciding what can be dispersed” and can be qualified by a selection strategy, which details the project-specific selection process, agreed by all parties (including CPAT, client and/or landowner), which will be applied to a Working Project Archive prior to its transfer into curatorial care as the Archaeological Archive.

The selection strategy is summarised in [Appendix IV](#) will be confirmed in the mitigation report and will take into account:

- The aims and objectives of the project.
- The brief and/or Written Scheme of Investigation (WSI).
- The Collecting Institution’s collection policy and/or deposition guidelines.
- Local and regional research frameworks.
- Relevant thematic or period specific research frameworks.
- The project’s Data Management Plan (DMP).
- Internal recording and reporting policies.
- Material-specific guidance documents.

4 PERSONNEL

The project will be managed by John Roberts, Principal Archaeologist GAT Contracts Section and undertaken by a Project Archaeologist. The Project Archaeologist will be responsible for all field management duties, including CPAT liaison, client liaison, coordination and delegation of tasks. The Project Archaeologist will also be responsible for the completion of all on site pro-formas and the fieldwork archive itemised in [para. 3.6](#), as well as for submitting a draft final report (or interim report) for project manager review and approval. The report will then be submitted as per the arrangements defined in [para. 3.7](#).

5 HEALTH AND SAFETY

A site specific risk assessment will be prepared by the GAT Project Archaeologist in advance of works, with any additional risks identified on site highlighted in the dynamic risks section and appropriate mitigation undertaken. The GAT Project Archaeologist will be issued with required personal safety equipment, including high visibility jacket, steel toe-capped boots and safety helmet. All site work will be managed and undertaken in accordance with the GAT Health & Safety Policy and Covid-19 guidelines.

6 SOCIAL MEDIA

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

7 INSURANCE

7.1 Public/Products Liability

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

INSURER Aviva Insurance Limited

POLICY TYPE Public Liability

POLICY NUMBER 24765101CHC/UN/000375

EXPIRY DATE 21/06/2022

7.2 Employers Liability

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

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

INSURER Aviva Insurance Limited

POLICY TYPE Employers Liability

POLICY NUMBER 24765101 CHC / UN/000375

EXPIRY DATE 21/06/2022

7.3 Professional Indemnity

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

INSURER Hiscox Insurance Company Limited

POLICY TYPE Professional Indemnity

POLICY NUMBER PL-PSC10002389775/00

EXPIRY DATE 22/07/2022

8 SOURCES CONSULTED

1. Chartered Institute for Archaeologists, 2020, Standard and Guidance for the Archaeological Investigation and Recording of Standing Buildings or Structures
2. Chartered Institute for Archaeologists, 2020, Standard and guidance for the collection, documentation, conservation and research of archaeological materials
3. Chartered Institute for Archaeologists, 2020, Standard and guidance for the creation, compilation, transfer and deposition of archaeological archives
4. Chartered Institute for Archaeologists, 2020, Standard and Guidance for an Archaeological Watching Brief
5. English Heritage, 1991, Management of Archaeological Projects (MAP2)
6. Evans R & Roberts J. 2018. Llyn Bran, Gwynedd Archaeological Assessment. Gwynedd Archaeological Trust Report 1446.
7. Historic England, 2015, Management of Research Projects in the Historic Environment (MoRPHE)
8. Historic England, 2016. *Understanding Historic Buildings: A Guide to Good Recording Practice*
9. Royal Commission on Ancient and Historic Monuments of Wales, 2015, Guidelines for digital archives
10. *Stillwater Associates* Drawing No. 1845-001 Rev C
11. *Stillwater Associates* Drawing No. P1845-401 Rev B
12. The Welsh Archaeological Trusts, 2018. *Guidance for the Submission of Data to the Welsh Historic Environment Records (HERs) Version 1.1.*

FIGURE 01

Location Map. Based on Ordnance Survey 1:10000 County Series Map Sheets SH95. Scale 1:7500 @ A4. © Crown Copyright. All Rights Reserved. License Number AI100020895.

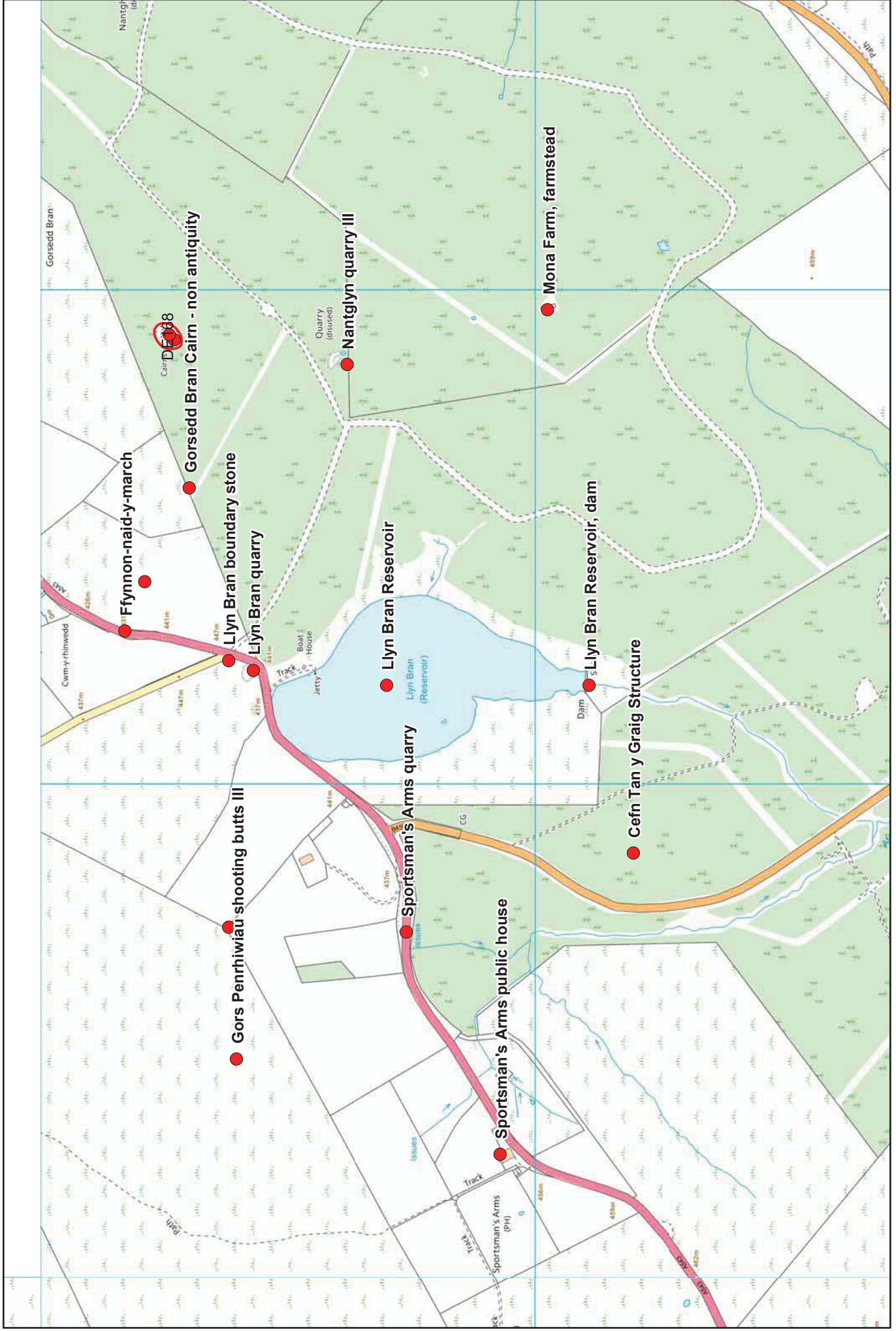
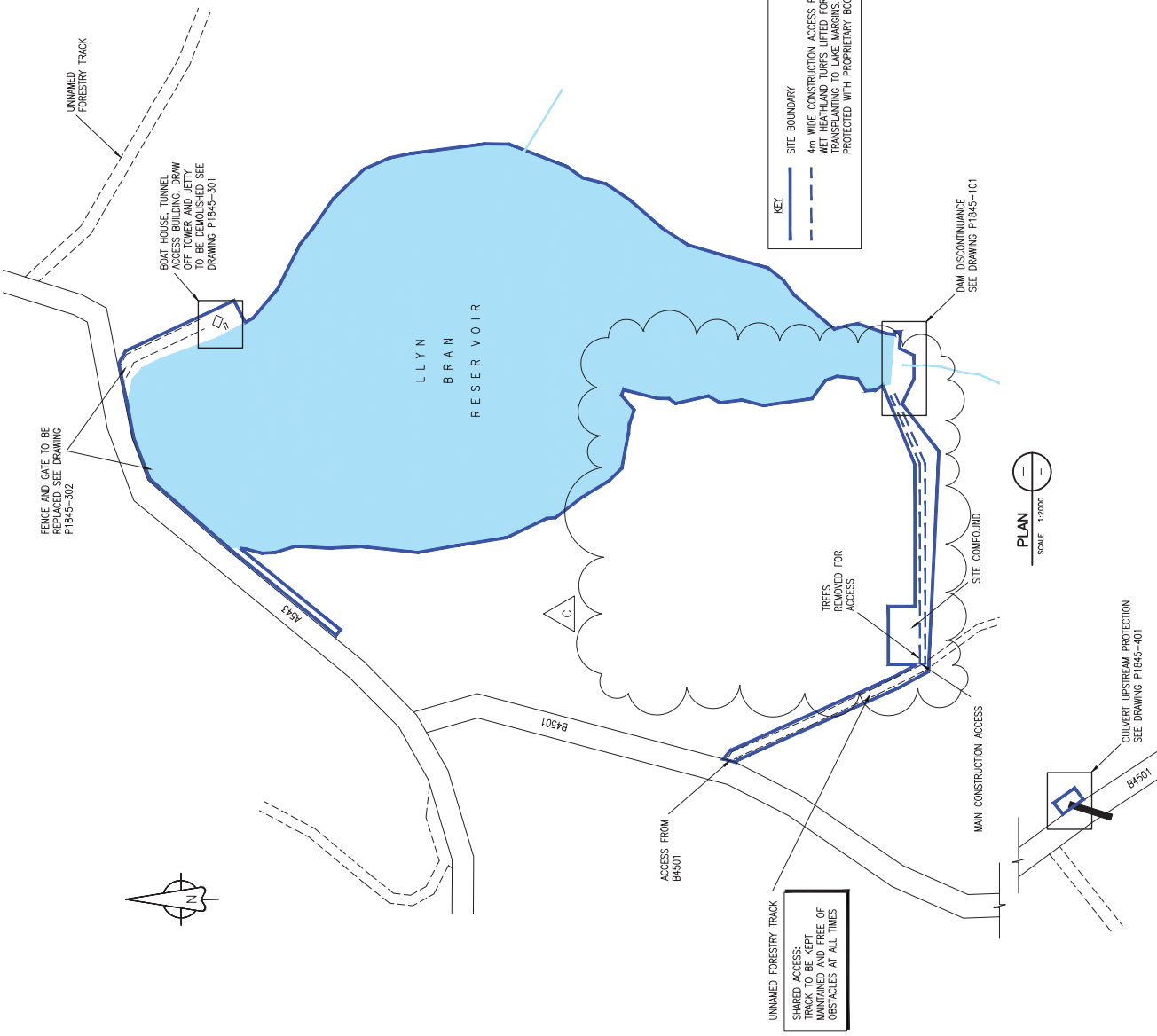


FIGURE 01: Location Map. Based on Ordnance Survey 1:10000 County Series Map Sheets SH95. Scale 1:7500 @ A4.
 © Crown Copyright. All Rights Reserved. License Number AI100020895.

FIGURE 02

Reproduction of *Stillwater Associates* Drawing No. 1845-001 Rev C



KEY

SITE BOUNDARY
 4m WIDE CONSTRUCTION ACCESS ROUTES: WET HEATHLAND TURFS LIFTED FOR TRANSPORTING TO LAKE MARGINS. ROUTES PROTECTED WITH PROPRIETARY BOG MAT SYSTEM.

PLAN
SCALE 1:2000



LOCATION PLAN
SCALE 1:2000

SEE PLAN OPPOSITE

- NOTES:**
- ALL LEVELS IN METRES AT ORDNANCE DATUM UNLESS NOTED OTHERWISE.
 - ALL DIMENSIONS ARE IN MILLIMETRES UNLESS OTHERWISE NOTED.
 - NO DIMENSIONS ARE TO BE OBTAINED BY SCALING DRAWINGS.
 - REFER TO DRAWING P1845-002 FOR NOTES RELATING TO THE DRAWINGS.
 - CONTRACTOR TO CARRY OUT THEIR OWN ON SITE ASSESSMENT OF DIMENSIONS WHERE POSSIBLE.

no.	description	by	date	check'd	auth.
C	FOR TENDER - SETTLING PONDS REMOVED	MT	18/10/21	JH	DSL
B	FOR TENDER	MT	18/10/21	JH	DSL
A	DRAFT FOR CLIENT REVIEW	MT	20/09/21	JH	DSL

Stillwater Associates
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www.stillwater-associates.co.uk

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Dŵr Cymru
Weish Water

Llyn Bran Reservoir
Discontinuance

General Site Layout

size	original scale	revised/drawn	checked	authorised
A1	1:2000	JH/MT	JH	DSL
status	drawing number	date	date	date
T	P1845-001	20/09/21	20/09/21	20/09/21

IMPORTANT
HEALTH, SAFETY & ENVIRONMENTAL INFORMATION

THE DESIGN PRESENTED ON THIS DRAWING HAS BEEN DEVELOPED IN ACCORDANCE WITH THE CONSTRUCTION (DESIGN & MANAGEMENT) REGULATIONS 2015. ANY CONSTRUCTION LIMITATIONS ARISING FROM THE DESIGN ASSOCIATED WITH THE PROPOSED TYPE OF WORK ARE IDENTIFIED ON THE DRAWING OR WITHIN THE NOTES. IT IS ASSUMED THAT ALL WORKS WILL BE CARRIED OUT BY A COMPETENT CONTRACTOR WORKING, WHERE APPROPRIATE, TO AN APPROVED METHOD STATEMENT.

TENDER ISSUE

FIGURE 03

Reproduction of Second Edition 25-inch to 1 mile Ordnance Survey Sheets XVII.4, XVII. 8, XVIII.3 and XVIII.5, published 1889. Modern reservoir outlined in red. Scale: 1 to 10000@A4.

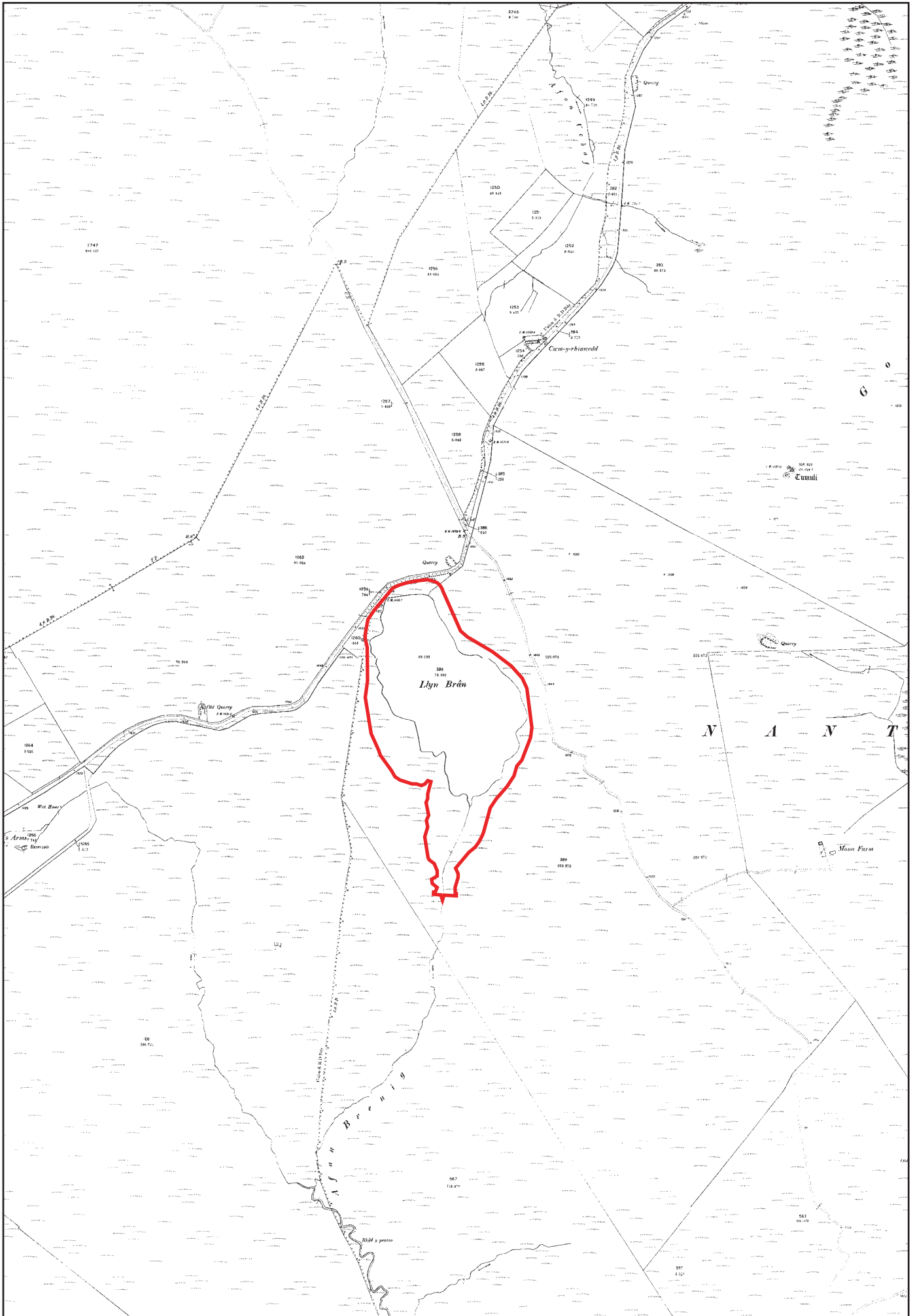


Figure 04: Reproduction of Second Edition 25-inch to 1 mile Ordnance Survey Sheets XVII.4, XVII. 8, XVIII.3 and XVIII.5, published 1889. Modern reservoir outlined in red. Scale: 1 to 10000@A4.

FIGURE 04

Reproduction of Third Edition 25-inch to 1 mile Ordnance Survey Sheets XVII.4, XVII. 8, XVIII.3 and XVIII.5, published 1913. Modern reservoir outlined in red. Scale: 1 to 10000@A4.

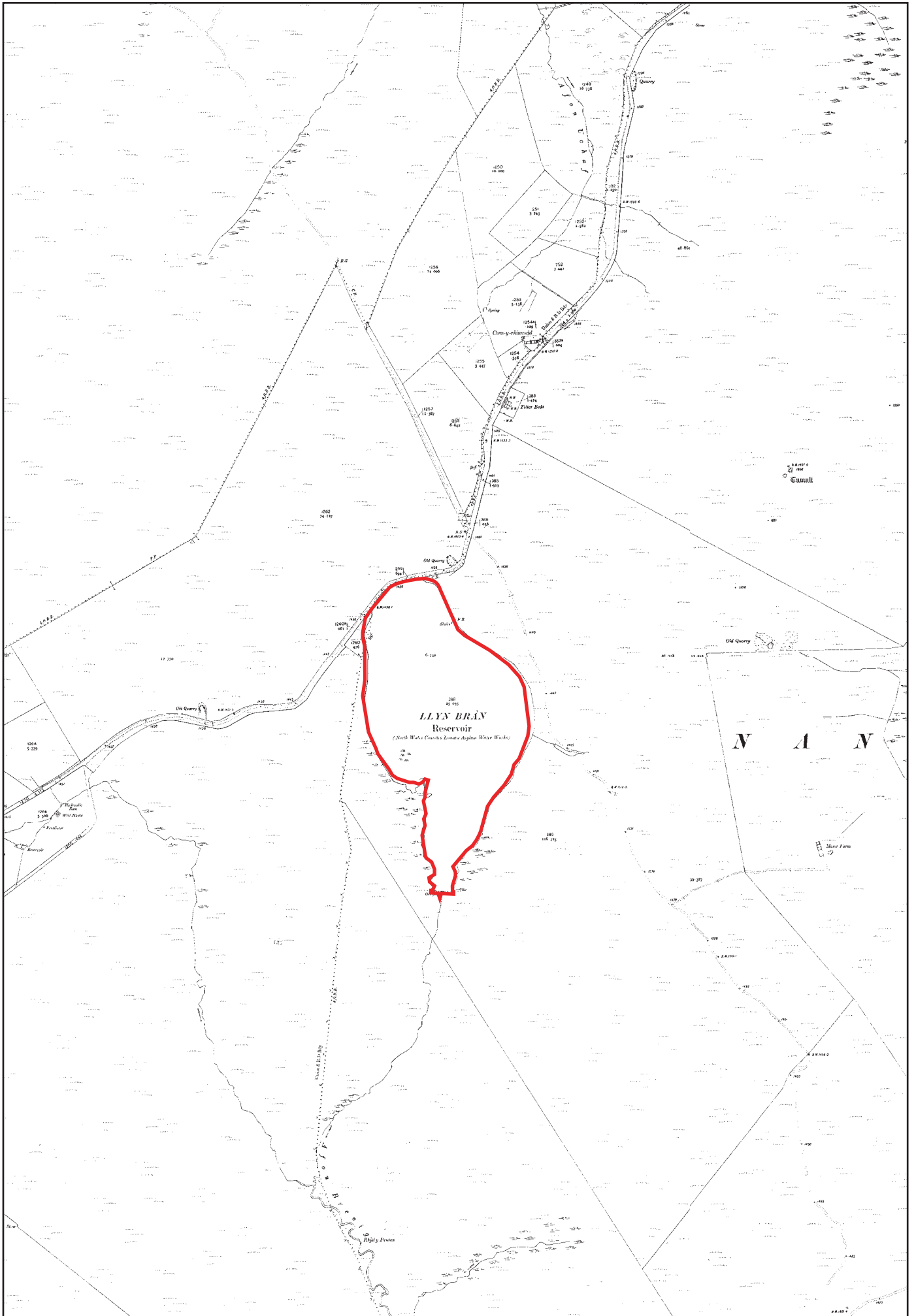


Figure 05: Reproduction of Third Edition 25-inch to 1 mile Ordnance Survey Sheets XVII.4, XVII. 8, XVIII.3 and XVIII.5, published 1913. Modern reservoir outlined in red. Scale: 1 to 10000@A4.

APPENDIX I

Gwynedd Archaeological Trust Watching Brief pro-forma

YMDDIRIEDOLAETH ARCHAEOLEGOL GWYNEDD ARCHAEOLOGICAL TRUST

WATCHING BRIEF DAY RECORD

Date

Project name

Project number

Compiler

Location

Description

Times of travelling and on-site

Drawn record details

Photographic record details

APPENDIX II

Gwynedd Archaeological Trust Building Record pro-forma

YMDDIRIEDOLAETH ARCHAEOLEGOL GWYNEDD ARCHAEOLOGICAL TRUST

BASIC RECORDING FORM	<i>Project name</i>	<i>Project number</i>
<i>Feature name</i>		<i>Feature Number</i>
<i>NGR</i>		
<i>Description</i>		
<i>Recommendations for further assessment</i>		
<i>Photographic record numbers</i>		
<i>Digital</i>		
		<i>Visit date</i>
		<i>Visit by</i>

APPENDIX III

Gwynedd Archaeological Trust photographic metadata pro-forma

APPENDIX IV

Gwynedd Archaeological Trust Selection Strategy

G2580 LLYN BRAN RESERVOIR DISCONTINUANCE SCHEME

28/04/2022 v1.0

Selection Strategy

Project Information

Project Management

Project Manager	John Roberts john.roberts@heneb.co.uk	
Archaeological Archive Manager	John Roberts john.roberts@heneb.co.uk	
Organisation	Gwynedd Archaeological Trust	
Stakeholders		Date Contacted
Collecting Institution(s)	CPAT Historic Environment Record	28/04/2022
	RCAHMW	On completion of Project Archive
Project Lead / Project Assurance	Mark Walters Development Control Archaeologist, Clwyd Powys Archaeological Trust	28/04/2022
Landowner / Developer	DCWW	n/a
Other	n/a	n/a

Resources

Resources required

Describe the resources required to implement this Selection Strategy, particularly if unusual resources are required.

No unusual resources required outside of GAT normal operating equipment and personnel.

Context

Describe below the context of this Selection Strategy. You should refer to:

- The aims and objectives of the project;
- Local Authority guidance (including the brief);
- Research Frameworks;
- The repository collection development policy and/or deposition policy;

- Material-specific guidance documents.

Note: This section may be copied from your Project Design/WSI to ensure all Stakeholders receive this context information.

The full aims and objectives of this project are detailed in the project specific WSI.

Gwynedd Archaeological Trust has been asked by DCWW to undertake archaeological mitigation during a reservoir discontinuance scheme at Llyn Bran, Bylchau, Denbighshire (NGR SH96205930; postcode: LL16 5SW; WSI Figure 01). The reservoir measures c.630m long north–south by up to 330m wide east–west and comprises a raised natural lake impounded by a small gravity dam at the southern end of the reservoir; the dam incorporates an overflow weir, from which water passes along the original watercourse downstream of the lake. The reservoir was built c.1896-7 and taken out of service in 1994 and the aim of the discontinuance scheme will be to return the water body to a natural lake. The scheme will include a reservoir draw down (water removal), reservoir basin work and dam demolition; in addition, an existing boathouse will be demolished. To accommodate the scheme works, a temporary access track and site compound will be built, as detailed in *Stillwater Associates* Drawing No. 1845-001 Rev C (WSI Figure 02). The works are scheduled between May and November 2022.

The archaeological mitigation will comprise:

- An archaeological watching brief during the installation of the access track/compound set-up and the excavation of an embankment surrounding an existing culvert; and
- A Level 3 Building Record of an existing boathouse and the dam structure.

Gwynedd Archaeological Trust. 2022. *Llyn Bran Reservoir Discontinuance Scheme: Written Scheme of Investigation. Project G2580.*

1 – Digital Data

Stakeholders

Name the individual(s) responsible for the Digital Data Selection decisions (i.e. Archaeological Archive Manager, Project Manager, Collections Curator).

John Roberts (GAT Principal Archaeologist)

Selection

Location of Data Management Plan (DMP)

Selection of digital data elements should be considered in your project's DMP. For the purpose of the Selection Strategy, you can either copy the selection section of your DMP below, or attach it as an appendix to this document. Please indicate here if the DMP is attached.

All digital data will be collected and stored in line with the Gwynedd Archaeological Trust (GAT) Data Management Plan located on GAT's servers (available on request).

The selection strategy in your DMP should:

- 1.1 Define what digital data will be selected for inclusion in the archaeological archive, how this will be done, and why. Do not forget to consider that specialists may have digital data that should be included in the archaeological archive.
- 1.2 Identify the selection review points during the project (i.e. project planning, data gathering, analysis and reporting and archive compilation).
- 1.3 Reference all relevant standards, policies or guidelines (e.g. digital repository deposition requirements) and specialist advice sought.
- 1.4 Identify any selection decisions that differ from standard guidelines and explain why.

Archiving will be completed based on following task list;

- Pro-formas: all cross referenced and scanned for digital archiving;
- Photographic Metadata: cross-referenced with all pro-formas and completed in *Microsoft Excel*.

This data will be used as the basis for the physical and digital dataset archives and to compile the project report.

The physical paper archive will be stored in a designated project folder and the location confirmed in the Trust project database; the digital dataset will be stored on a dedicated Trust server, with the location confirmed in the Trust project database via a specific hyperlink.

External datasets for the regional HER and RCAHMW have been prepared and submitted.

Archiving will be undertaken in accordance with the following standards and guidance:

- *Guidance for the Submission of Data to the Welsh Historic Environment Records (HERs) Version 1.1* (The Welsh Archaeological Trusts, 2018);
- *Guidelines for digital archives* (Royal Commission on Ancient and Historic Monuments of Wales, 2015);
- *Standard and guidance for the collection, documentation, conservation and research of archaeological materials* (Chartered Institute for Archaeologists, 2020); and
- *Standard and guidance for the creation, compilation, transfer and deposition of archaeological archives* (Chartered Institute for Archaeologists, 2020).

A selection review point will be completed during processing of the working project archive and again during final project archiving. There are no selection decisions that differ from standard guidelines.

De-Selected Digital Data

The procedure for dealing with De-selected digital data and what specialist advice informed this process should be recorded in your DMP. Please copy this information here or attach your DMP as an appendix to this document.

De-selected digital data to be confirmed on project completion.

2 – Documents

Stakeholders

Name the individual(s) responsible for the Documents Selection decisions (i.e. Archaeological Archive Manager, Project Manager, Repository Representative).

John Roberts – Principal Archaeologist, Gwynedd Archaeological Trust;
Dr Gary Duckers – Historic Environment Record, Clwyd Powys Archaeological Trust;
Gareth Edwards, *Head of Knowledge and Understanding, RCAHMW*

Selection

Describe your Selection Strategy for the Documents elements of the archaeological archive. To do this you must:

- 2.1 Define which documents will be selected for inclusion in the archaeological archive, how this will be done, and why. Do not forget to consider that specialists may have documents that should be included in the archaeological archive.
- 2.2 Identify the selection review points during the project (e.g. project planning, data gathering, analysis and reporting and archive compilation).
- 2.3 Reference all relevant standards, policies or guidelines (e.g. digital repository deposition requirements) and specialist advice sought.
- 2.4 Identify any selection decisions that differ from standard guidelines and explain why.

- A digital report will be provided to the regional Historic Environment Record using the Historic Environment Record Data Deposit Online System (<https://cpat.org.uk/heddos.html>); this will be submitted within six months of project completion (final report only), along with a digital dataset comprising an Event PRN summary.. The report and dataset will be submitted in accordance with the required standards set out in *Guidance for the Submission of Data to the Welsh Historic Environment Records (HERs)* (Version 1.1); and
- A digital report and digital archive dataset will be provided to Royal Commission on Ancient and Historic Monuments, Wales (final report only), in accordance with the *RCAHMW Guidelines for Digital Archives Version 1*. The dataset was prepared in the format required by RCAHMW and included:
 - Photographic metadata (Microsoft Access);
 - Photographic archive (TIFF format);
 - Project Information form (Excel);
 - File Information form (Excel) – Microsoft Word report text final;
 - File Information form (Excel) – Photographic metadata (general);
 - File Information form (Excel) – Adobe PDF report final; and
 - File Information form (Excel) - Photographic metadata (detail).
 - A selection review point will be completed during processing of the working project archive and again during final project archiving. There are no selection decisions that differ from standard guidelines.

De-Selected Documents

Describe the procedure for dealing with De-selected material and what specialist advice has informed this procedure.

Material de-selected from inclusion in the preserved archive are likely to be duplicates and reproductions created during the project. De-selected material will be retained to supplement GAT's research files or recycled.

3 – Materials

Note: This step should be completed for each material component of the archaeological archive. Copy this table for the various materials as required, providing the 'Material Type' and a section identifier (eg. '3.1') for each.

Material type

TBC

Section 3.

Stakeholders

Name the individual(s) responsible for the Materials Selection decisions (i.e. Archaeological Archive Manager, Project Manager, Repository Representative).

John Roberts – Principal Archaeologist, Gwynedd Archaeological Trust;
North East Wales Archive service.

Selection

Describe your Selection Strategy for each material type and or object type. To do this you must:

- 3.1 State the Selection Strategy you are applying to each category of material, how this will be done, and why.
- 3.2 Identify the selection review points during the project (e.g. project planning, data gathering, analysis and reporting and archive compilation).
- 3.3 Reference all relevant standards, policies or guidelines (e.g. thematic, period, and regional, Research Frameworks, repository deposition policies) and specialist advice sought.
- 3.4 Identify any selection decisions that differ from standard guidelines and explain why.

The Materials Selection Template may be useful in structuring this section.

The artefacts will be treated according to guidelines issued by the UK Institute of Conservation (Watkinson and Neal 2001) in particular the advice provided within *First Aid for Finds* (Rescue 1999) and Historic England.

Any waterlogged artefacts (e.g. wood or leather) that are to be recovered for post-excavation assessment and analysis will be processed in accordance with *Environmental Archaeology: a guide to the theory and practice of methods, from sampling and recovery to post-excavation* (English Heritage, 2011) and specifically in accordance with Brunning and Watson (2010) for waterlogged wood and Historic England (2012) for waterlogged leather. In such cases an external specialist will be contacted to agree an appropriate sampling and recovery strategy.

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

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

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

settled.

GAT will contact the landowner (via client) for agreement regarding the transfer of artefacts, initially to GAT and subsequently to the relevant museum (North East Wales Archive service). A GAT produced pro-forma will be issued to the landowner where they are given the option to donate the finds or to record that they want them returning to them once analysis and assessment has been completed. Artefacts will be transferred to the Conwy Archive Service in accordance with their guidelines.

The following selection review points during the project will be undertaken:

- Working project archive processing;
- Reporting; and
- archive compilation

Uncollected Material

If you are practising selection in the field, describe the process that will be applied. To do this you must:

- Detail how you will characterise, quantify and record all uncollected material on site.
- Explain how you will dispose of, or re-distribute, uncollected material.

Diagnostic artefacts will be retained for further examination and identification. Pottery sherds of 19th and 20th century date will be examined on site and the context from which they were retrieved noted but the sherds will not be retained.

De-Selected Material

Describe what you will do with the de-selected material. All processed material should have been adequately recorded before de-selection.

All processed material will be recorded before de-selection and identified in an amended Materials Selection table. Artefacts de-selected for museum accessioning will be retained at GAT as research and diagnostic tools..

Amendments

Detail any amendments to the above selection strategy here.

Date	Amendment	Rationale	Stakeholders

Materials Selection Template

This table may be inserted into Section 3 of the main [Selection Strategy Template](#) to help present differing selection strategies for different material types

Find Type	Selection Strategy	Stakeholders	Review Points

APPENDIX II

Gwynedd Archaeological Trust photographic metadata

PRN	PHOTO RECORD NUMBER	PROJECT NUMBER	SITE NAME	NGR	DESCRIPTION	VIEW FROM	SCALE(S)	PLATE NO.
36831	G2580_030	G2580	Llyn_Brân	SH96295911	General View of the Dam wall face from downstream	S	1x1m	1
36831	G2580_031	G2580	Llyn_Brân	SH96295911	Wider Angled shot of the dam from the stream to the south	S	1x1m	
36831	G2580_032	G2580	Llyn_Brân	SH96295911	General View along the dam parapet walk	W	1x1m	6
36831	G2580_033	G2580	Llyn_Brân	SH96295911	detail showing concrete render on the dam with protective barriers	S	1x1m	4
36831	G2580_034	G2580	Llyn_Brân	SH96295911	Detail showing the dam sluice	S	not used	2
36831	G2580_035	G2580	Llyn_Brân	SH96295911	Angled view showing the sluice	SW	1x1m	3
36831	G2580_036	G2580	Llyn_Brân	SH96295911	General View of the Dam	SE	1x1m	5
36831	G2580_037	G2580	Llyn_Brân	SH96295911	View of the dam from the east	E	1x1m	
36831	G2580_038	G2580	Llyn_Brân	SH96295911	General view of the dam	NE	1x1m	7
36831	G2580_039	G2580	Llyn_Brân	SH96295911	General view of the dam	NW	1x1m	8
36831	G2580_040	G2580	Llyn_Brân	SH96295911	General view of the dam	WSW	not used	9
36831	G2580_041	G2580	Llyn_Brân	SH96295911	General view of Llyn Bran	SW	not used	10
152060	G2580_042	G2580	Llyn_Brân	SH96235946	View of the bricked up fireplace within chamber 'a' of the pumping station	ESE	1x1m	
152060	G2580_043	G2580	Llyn_Brân	SH96235946	General view of chamber A in the pumping station	SSW	1x1m	
152060	G2580_044	G2580	Llyn_Brân	SH96235946	General view of access into the pumping chamber from the NW of chamber 'A'	SW	1x1m	15
152060	G2580_045	G2580	Llyn_Brân	SH96235946	General view of the breeze block additional chamber	SW	1x1m	16
152060	G2580_046	G2580	Llyn_Brân	SH96235946	Detail showing the former end wall of pumping station chamber 'A' and the new build	WSW	1x1m	
152060	G2580_047	G2580	Llyn_Brân	SH96235946	General view of the pumping station	NW	1x1m	
152060	G2580_048	G2580	Llyn_Brân	SH96235946	General view of the pumping station	NE	1x1m	
152060	G2580_049	G2580	Llyn_Brân	SH96235946	General view of the pumping station	SW	1x1m	
152060	G2580_050	G2580	Llyn_Brân	SH96235946	Angled view of the breeze block addition to the pumping house	SSE	1x1m	

PRN	PHOTO RECORD NUMBER	PROJECT NUMBER	SITE NAME	NGR	DESCRIPTION	VIEW FROM	SCALE(S)	PLATE NO.
152059	G2580_051	G2580	Llyn_Brân	SH96235944	View of the entrance to the boathouse showing the brick built construction	WSW	1x1m	19
152059	G2580_052	G2580	Llyn_Brân	SH96235944	View of the corrugated iron roof to the boathouse structure	WSW	1x1m	
152059	G2580_053	G2580	Llyn_Brân	SH96235944	General External view of the boathouse	WSW	1x1m	12
152059	G2580_054	G2580	Llyn_Brân	SH96235944	General External view of the boathouse	NNW	1x1m	13
152059	G2580_055	G2580	Llyn_Brân	SH96235944	General view showing the rear elevation of the boathouse and how it is cut into the bank	E	1x1m	14
152059	G2580_056	G2580	Llyn_Brân	SH96235944	General view showing the rear elevation of the boathouse and how it is cut into the bank	SE	1x1m	
152059	G2580_057	G2580	Llyn_Brân	SH96235944	General external view of the boathouse	S	1x1m	
152059	G2580_058	G2580	Llyn_Brân	SH96235944	Detail of metal hinge for a former doorway to the boathouse	WNW	1x1m	17
152059	G2580_059	G2580	Llyn_Brân	SH96235944	View of the boathouse entrance brickwork	N	not used	18
152059	G2580_060	G2580	Llyn_Brân	SH96235944	General view of the boathouse	W	1x1m	11

APPENDIX III

Gwynedd Archaeological Trust Selection Strategy

G2580 LLYN BRAN RESERVOIR DISCONTINUANCE SCHEME 07/07/2022 v2.0 Selection Strategy

Project Information

Project Management

Project Manager	John Roberts john.roberts @heneb.co.uk
Archaeological Archive Manager	John Roberts john.roberts @heneb.co.uk
Organisation	Gwynedd Archaeological Trust

Stakeholders		Date Contacted
Collecting Institution(s)	CPAT Historic Environment Record	28/04/2022
	RCAHMW	On completion of Project Archive
Project Lead / Project Assurance	Mark Walters Development Control Archaeologist, Clwyd Powys Archaeological Trust	28/04/2022
Landowner / Developer	DCWW	n/a
Other	n/a	n/a

Resources

Resources required

Describe the resources required to implement this Selection Strategy, particularly if unusual resources are required.

No unusual resources required outside of GAT normal operating equipment and personnel.

Context

Describe below the context of this Selection Strategy. You should refer to:

- The aims and objectives of the project;
- Local Authority guidance (including the brief);

- Research Frameworks;
- The repository collection development policy and/or deposition policy;
- Material-specific guidance documents.

Note: This section may be copied from your Project Design/WSI to ensure all Stakeholders receive this context information.

The full aims and objectives of this project are detailed in the project specific WSI.

Gwynedd Archaeological Trust has been asked by DCWW to undertake archaeological mitigation during a reservoir discontinuance scheme at Llyn Bran, Bylchau, Denbighshire (NGR SH96205930; postcode: LL16 5SW; WSI Figure 01). The reservoir measures c.630m long north–south by up to 330m wide east–west and comprises a raised natural lake impounded by a small gravity dam at the southern end of the reservoir; the dam incorporates an overflow weir, from which water passes along the original watercourse downstream of the lake. The reservoir was built c.1896-7 and taken out of service in 1994 and the aim of the discontinuance scheme has been to return the water body to a natural lake. The scheme will include a reservoir draw down (water removal), reservoir basin work and dam demolition; in addition, an existing boathouse has been demolished. To accommodate the scheme works, a temporary access track and site compound has been built, as detailed in *Stillwater Associates* Drawing No. 1845-001 Rev C (WSI Figure 02). The works are scheduled between May and November 2022.

The archaeological mitigation will comprise:

- An archaeological watching brief during the installation of the access track/compound set-up and the excavation of an embankment surrounding an existing culvert; and
- A Level 3 Building Record of an existing boathouse and the dam structure.

Gwynedd Archaeological Trust. 2022. *Llyn Bran Reservoir Discontinuance Scheme: Written Scheme of Investigation. Project G2580.*

1 – Digital Data

Stakeholders

Name the individual(s) responsible for the Digital Data Selection decisions (i.e. Archaeological Archive Manager, Project Manager, Collections Curator).

John Roberts (GAT Principal Archaeologist)

Selection

Location of Data Management Plan (DMP)

Selection of digital data elements should be considered in your project's DMP. For the purpose of the Selection Strategy, you can either copy the selection section of your DMP below, or attach it as an appendix to this document. Please indicate here if the DMP is attached.

All digital data has been collected and stored in line with the Gwynedd Archaeological Trust (GAT) Data Management Plan located on GAT's servers (available on request).

The selection strategy in your DMP should:

- 1.1 Define what digital data has been selected for inclusion in the archaeological archive, how this has been done, and why. Do not forget to consider that specialists may have digital data that should be included in the archaeological archive.
- 1.2 Identify the selection review points during the project (i.e. project planning, data gathering, analysis and reporting and archive compilation).
- 1.3 Reference all relevant standards, policies or guidelines (e.g. digital repository deposition requirements) and specialist advice sought.
- 1.4 Identify any selection decisions that differ from standard guidelines and explain why.

Archiving has been completed based on following task list;

- Pro-formas: all cross referenced and scanned for digital archiving;
- Photographic Metadata: cross-referenced with all pro-formas and completed in *Microsoft Excel*.

This data has been used as the basis for the physical and digital dataset archives and to compile the project report.

The physical paper archive has been stored in a designated project folder and the location confirmed in the Trust project database; the digital dataset has been stored on a dedicated Trust server, with the location confirmed in the Trust project database via a specific hyperlink.

External datasets for the regional HER and RCAHMW have been prepared and submitted.

Archiving has been undertaken in accordance with the following standards and guidance:

- *Guidance for the Submission of Data to the Welsh Historic Environment Records (HERs) Version 1.1* (The Welsh Archaeological Trusts, 2018);
- *Guidelines for digital archives* (Royal Commission on Ancient and Historic Monuments of Wales, 2015);
- *Standard and guidance for the collection, documentation, conservation and research of archaeological materials* (Chartered Institute for Archaeologists, 2020); and
- *Standard and guidance for the creation, compilation, transfer and deposition of archaeological archives* (Chartered Institute for Archaeologists, 2020).

A selection review point has been completed during processing of the working project archive and again during final project archiving. There are no selection decisions that differ from standard guidelines.

De-Selected Digital Data

The procedure for dealing with De-selected digital data and what specialist advice informed this process should be recorded in your DMP. Please copy this information here or attach your DMP as an appendix to this document.

There is no de-selected digital data

2 – Documents

Stakeholders

Name the individual(s) responsible for the Documents Selection decisions (i.e. Archaeological Archive Manager, Project Manager, Repository Representative).

John Roberts – Principal Archaeologist, Gwynedd Archaeological Trust;
Dr Gary Duckers – Historic Environment Record, Clwyd Powys Archaeological Trust;
Gareth Edwards, *Head of Knowledge and Understanding, RCAHMMW*

Selection

Describe your Selection Strategy for the Documents elements of the archaeological archive. To do this you must:

- 2.1 Define which documents has been selected for inclusion in the archaeological archive, how this has been done, and why. Do not forget to consider that specialists may have documents that should be included in the archaeological archive.
- 2.2 Identify the selection review points during the project (e.g. project planning, data gathering, analysis and reporting and archive compilation).
- 2.3 Reference all relevant standards, policies or guidelines (e.g. digital repository deposition requirements) and specialist advice sought.
- 2.4 Identify any selection decisions that differ from standard guidelines and explain why.

- A digital report has been provided to the regional Historic Environment Record using the Historic Environment Record Data Deposit Online System (<https://cpat.org.uk/heddos.html>); this has been submitted within six months of project completion (final report only), along with a digital dataset comprising an Event PRN summary.. The report and dataset has been submitted in accordance with the required standards set out in *Guidance for the Submission of Data to the Welsh Historic Environment Records (HERs)* (Version 1.1); and
- A digital report and digital archive dataset has been provided to Royal Commission on Ancient and Historic Monuments, Wales (final report only), in accordance with the *RCAHMMW Guidelines for Digital Archives Version 1*. The dataset was prepared in the format required by RCAHMMW and included:
 - Photographic metadata (Microsoft Access);
 - Photographic archive (TIFF format);
 - Project Information form (Excel);
 - File Information form (Excel) – Microsoft Word report text final;
 - File Information form (Excel) – Photographic metadata (general);
 - File Information form (Excel) – Adobe PDF report final; and
 - File Information form (Excel) - Photographic metadata (detail).
 - A selection review point has been completed during processing of the working project archive and again during final project archiving. There are no selection decisions that differ from standard guidelines.

De-Selected Documents

Describe the procedure for dealing with De-selected material and what specialist advice has informed this procedure.

There are no de-selected documents



Gwynedd Archaeological Trust
Ymddiriedolaeth Archaeolegol Gwynedd

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