ARCHAEOLOGY WALES

# Archaeological Monitoring and Recording: Llyn Celyn Reservoir, Gwynedd

April 2024

Report No. 2252

REGISTERED ORGANISATION CIfA

# Archaeological Monitoring and Recording:

# Llyn Celyn Reservoir, Gwynedd

April 2024

Prepared for Dŵr Cymru Welsh Water

Report No.2252

| Version | Date | Sections Revised | Prepared/Revised by | Checked & Authorised by |
|---|---|---|---|---|
| 1 | 22/04/24 | Original | Paul W Huckfield | Charley James-Martin |
| | | | | |



Archaeology Wales Limited
Main Office, Unit D11.6 Treforest Industrial Estate
Pontypridd - CF37 5UR
Tel: +44 (0) 1686 440371
Email: admin@arch-wales.co.uk
Web: arch-wales.co.uk

## Contents



## Figures



## Plates

## *Summary*

*Archaeology Wales was commissioned by Dŵr Cymru, Welsh Water (henceforth – 'the Client') to oversee the archaeological element of the groundworks at Llyn Celyn Reservoir, Gwynedd, North Wales, LL23 7PB. Centred on SH 88058 40353 (henceforth 'the Site').*

*Following pre-planning consultations with Gwynedd Archaeological Trust Archaeological Planning Services (henceforth GAT-AP) mitigation comprising archaeological monitoring and recording (AM&R) during the groundworks with the potential to disturb the archaeological resource were recommended.*

*The archaeological monitoring exposed a range of features associated with both the construction of the reservoir in the 1960s and deconstruction and demolition of the infrastructure that had had been put in place to construct it.*

*All work was undertaken to the standards and guidance set by the Chartered Institute for Archaeologists; Standard and the Universal guidance for archaeological monitoring and recording (2023a&b). AW is a Registered Organisation with the CIfA.*

## *Crynodeb*

*Comisiynwyd Archaeology Wales gan Dŵr Cymru, Welsh Water ('y cleient' – o hyn ymlaen) i oruchwylio'r elfennau archeolegol o'r gwaith tir yn Gronfa Dŵr Llyn Celyn, Gwynedd, Gogledd Cymru, LL23 7PB. Wedi'i chanoli ar SH 88058 40353 ('y Safle' – o hyn ymlaen).*

*Ar ôl ymgymhoriadau cyn cynllunio gydag Ymddiriedolaeth Archeolegol Gwynedd – Gwasanaethau Cynllunio Archeolegol ('YAG –GCA' – o hyn ymlaen) awgrymwyd tyle lliniaru yn cynnwys monitro archeolegol a recordio (MA&R) yn ystod y gwaith tir sydd ar botensial i darddu ar yr adnoddau archeolegol.*

*Agorwyd y briff gwylio amrywiaeth o nodweddion yn gysylltiedig ar waith adeiladu'r cronni yn y 1960au a'r dymchweliad o'r isadeiledd a rhoddwyd ar waith mwyn ei adeiladu.*

Fe fydd y gwaith i gyd ei ymgymryd yn ôl y safonau a chanllawiau a gosodwyd gan y Sefydliad Siartredig ar gyfer Archeolegwyr; Safon ac Arweiniad Cyffredinol ar gyfer monitro a recordio archeolegol (2023a&b). Mae AW yn Gyrff Cofrestredig o fewn y SSgA.

# 1. Introduction

1.1.1. Archaeology Wales (henceforth AW) were requested by Dŵr Cymru, Welsh Water (henceforth – 'the Client') to oversee the archaeological element of the groundworks at Llyn Celyn Reservoir, Gwynedd, North Wales, LL23 7PB. Centred on SH 88058 40353 (henceforth 'the Site').

1.1.2. Following pre-planning consultations with Gwynedd Archaeological Trust Archaeological Planning Services (henceforth GAT-AP), mitigation comprising archaeological monitoring and recording (AM&R) was suggested to lessen any loss to the archaeological resource. This would be undertaken whilst associated groundworks, including stripping soil for site compounds, storage areas and trackways, underground cabling, and the construction of the auxiliary slipway, took place.

1.1.3. An initial WSI was prepared by Mott MacDonald (2022b) to cover the proposed development works and was submitted as part of the planning application. An amendment to the existing WSI was requested by the Client and produced by AW (2023) in order to set out the methodology in regard to the mitigation strategy and standards to be employed during the fieldwork element of the project.

1.1.4. The AM&R took place over an eight month period between May and December 2023 and was carried out by AW staff and managed by Paul W Huckfield (AW Project Manager). All work conformed to the standards and guidance set by the Chartered Institute for Archaeologists (2023). AW is a Registered Organisation with the CIfA.

# 2. Site Description

2.1.1. The proposed development area is located adjacent to the north-east of Llyn Celyn Reservoir, and to the south of the A4212, centred at NGR: SH 88058 40353. Llyn Celyn Reservoir is located within Afon Tryweryn Valley, Snowdonia National Park (Figure 1).

2.1.2. The underlying geology of the proposed development site is defined by intrusive tuff and felsic rocks dating to Ordovician period (485.4 million - 443.8 million years ago) (BGS 2024).

# 3. Methodology

3.1.1. The archaeological monitoring and recording (AM&R) was carried out by a suitably qualified archaeologist on groundworks where sub-surface deposits were likely to be exposed or cut into. The excavation was undertaken by a mechanical excavator.

3.1.2. All deposits were recorded by means of a continuous context numbering system and recorded on pro-forma context sheets. Sections and plans of the excavation were photographed using a 12MP digital camera. All works were undertaken to the standards and guidance set by the Chartered Institute for Archaeologists; *Standard and the Universal guidance for archaeological monitoring and recording* (2023a&b) and current Health and Safety legislation.

# 4. Historical Background

4.1.1. A complete historic background is available in the desk-based assessment (DBA) carried out for the proposed development (Mott McDonald 2022a),

however only the parts relevant to the current application area are covered below.

4.1.2. The report identified that the Site is located within an area with low potential for unknown archaeological remains from the prehistoric to medieval period, and with medium to high potential for archaeological remains relating to the post-medieval and modern period.

4.1.3. Historic map regression from the 19th century onwards depicts the study area as being comprised of a largely agricultural landscape with piecemeal settlement until the development of the reservoir, in the mid to late 20th century, which greatly altered the landscape of the Tryweryn Valley.

4.1.4. The main focuses of archaeological potential within the development area are remains relating to this agricultural landscape and the post-medieval occupation and land use. But also, the later deposits and infrastructure associated with the construction of Llyn Celyn. The reservoir itself is recognised as a non-designated historic asset (GAT 60873).

4.1.5. Features associated with the Bala/Ffestiniog Railway, which was closed in 1961, partly due to the proposed reservoir, also fall within the application area.

# 5. Archaeological Monitoring and Recording Results

5.1.1. The groundworks comprised the excavation of four main areas (B, C, D, and E) on the hillside to the east of the reservoir along with connecting roadways and a cable trench for the rerouting of a HV cable. In addition to the excavation of the mentioned areas, monitoring was also carried out on the removal of a drystone wall to make way for infrastructure to the north of Area D and the south of Area E (Figure 2).

### 5.2. Area B (Plates 3-10)

5.2.1. Area B was roughly 45m by 51m wide and lay to the north-east of the main compound. This area was predominantly top stripped to a depth of approximately 0.5m below the existing ground level. The basal deposit encountered (101) was a compacted pale yellow-brown silty clay with frequent medium angular stones. This layer was interpreted as made ground associated with either the construction of the dam or the later landscaping of the site for the World Canoe competitions held at the site in 1981. Above this was a mixed layer of leveling topsoil (100). This was composed of a friable dark brownish deposit of silty clays with frequent root matter throughout. This layer extended across the full extent of the area to a depth of 0.3m. This deposit was not bottomed.

5.2.2. Occasional finds of fragments of machinery, and tools from the construction of the dam were recovered from (101).

5.2.3. A trench was dug at the southern end of the Area B, parallel to the sites access road to act as a silt trap. This measured approximately 50m in length by 1m wide and was dug to a depth of 0.8m. All deposits were as discussed above.

### 5.3. Roadway between Areas B and C (Plates 11-16)

5.3.1. A linear area from the northwestern tip of Area B up to Area C was stripped to construct the haulage road. A sondage, 3m by 1.8m was dug to a maximum depth of 0.8m, prior to excavation in order to judge ground conditions. The final excavated area covered 140m in length by 7m wide and was generally dug to an average depth of 0.8m.

5.3.2. The lower deposit encountered (201) was a compacted pale yellow-brown silty clay with pockets of light grey friable clay within its matrix. Frequent medium angular and sub-angular stones were noted throughout. This layer was interpreted as redeposited natural associated with the construction of the

dam. Capping this was (200) a friable dark brownish deposit of silty clays with frequent root matter throughout. This layer extended across the full extent of the area to a depth of 0.3m.

5.3.3. At the southern end of the roadway, where it met Area B, the topsoil (200) and subsoil (201) were cut by a linear gully [202]. This feature measured 38m in length, 2.5m in width, and was excavated to a depth of 0.8m. It was oriented roughly north/south and continued to the east beyond the limit of excavation. In order to construct [202] deposit (201) had been dug through and had been heaped to the south, forming a slight bank, 0.3m in height by 1m wide. The bank had in turn had been capped by (200).

5.3.4. A thin lens, comprised of dark brownish silty humus (203), had built up within the dip of [202] to a maximum depth of 0.15m.

5.3.5. Midway along [202] a 6.5m wide section had been infilled to form a pathway over the feature. This fill (204) contained a section of metal piping, 2m in length, with a circumference of 0.5m. This would seem to have been packed into place and capped by flat angular stones set within a yellow-brown silty clay matrix. As elsewhere, the deposit had been overlain by (200). The feature was identified as a drainage gully associated with the dam construction.

### 5.4. Area C (Plates 17-23)

5.4.1. Aerial photography identified Area C as having been one of the locations of the storage and welfare buildings during the construction of the dam in the 1960's. This area, like B, was top stripped to a depth of approximately 0.8m below the existing ground level. The earliest layer encountered (301) was a compacted pale yellow-brown silty clay with frequent medium to large boulders and fragmented bedrock. Finds of tools and fitting from the compound buildings a were recovered from this deposit. Above this was (300), a friable dark brownish deposit of silty clays with frequent root matter

throughout, which had a maximum thickness of 0.25m.

5.4.2. This stratigraphy was noted across almost the full extent of Area C, however, along the northern boundary, overlying the made ground deposit (301), was a series of concrete aprons. The northernmost, [302] was linear in plan, oriented north-west/south-east, and measured 50m in length, by 7m in width. A smaller rectilinear structure, 1m in width, by 2m in length, extended out to the south from the midsection of the structures southern edge.

5.4.3. The second apron, [303], was roughly 7m away to the south and measured 4m in length, by 2m in width. Overlying both was a thin lens of the extant topsoil layer (300). These features were not fully excavated and remained in situ.

5.4.4. Further to the east, a vague square shaped cut (304), measuring 0.85m by 0.8m, had been dug into the redeposited subsoil (301). Within the cut a series of bricks [305], two along each side, had been laid out to form a rough square feature 0.5m by 0.5m. Two courses of bricks were exposed, however, none showed evidence of being bonded. Surrounding [305], and infilling the cut, was (306) a compacted pale yellow silty clay. The central void of feature [305] was filled by medium sized sub rounded cobbles within a soft and friable dark brown silty clay (307). This feature was sealed by the extant topsoil layer (300), a soft and friable dark greyish-brown clay silt. This contained occasional stone fragments and charcoal flecks, was root disturbed and measured between 0.1m and 0.2m in depth. This feature was interpreted as a small cesspit and was not fully excavated and remained in situ.

### 5.5. Area D (Plates 24-31)

5.5.1. Area D was a roughly circular gently sloping field that lay to the north-east of Area C, it was 115m in length, by 125m wide. Information from aerial photographs and the Liverpool Corporation plans indicated that two structures had originally been located towards the centre of the area, along

with an electrical sub-station to the south-east during the construction of the dam.

5.5.2. The area was top stripped to a depth of approximately 0.45m below the existing ground level (400) and the spoil heaped around the edge of the area to form a bund. The lower deposit encountered (401) was a friable dark brownish deposit of silty clays. This layer extended across the full extent of the area and was not bottomed.

5.5.3. A rough rectangular concrete slab [402] set within (401) was exposed towards the centre of Area D. This feature, though unknown in use, was in the general location of one of the structures identified from the aerial photographs. The slab was 1.5m by 1m in size and was of a coarse construct, inset with brick fragments and stone inclusions. The feature was not fully excavated and remained in situ. Lying a short distance to the north-west of [402] was the remains of a rectangular timber frame, still with remnants of white paint. This measured 0.5m by 1m and was interpreted as a window surround, possibly from the adjacent structure. As to the other structures identified from aerial photographs, there was no evidence.

5.5.4. The only other sub-surface features noted were two field drains, one of modern orange plastic piping and the other of French style. The remains of a square concrete block, 0.5m by 0.5m and 0.35m in thickness, inset with an iron hoop was also discovered within the area during the top strip.

### 5.6. Former haulage road (Plates 32-35)

5.6.1. Running around the southern perimeter of Area D was the original haulage road used during the construction of the dam. This curved beneath D, heading east, where it connected to the modern road. This road was reopened as part of the current scheme.

5.6.2. The feature was not amongst the areas specified to undergo archaeological

monitoring, nevertheless, the Client was aware that the reinstatement of the drainage gully on the northern side of the road may expose material or finds associated with the dam's construction that had been washed or dumped within it and so was included.

5.6.3. The recut ditch was 0.5m wide and excavated to a depth of 0.2m beneath the present topsoil. A dark brownish silty humus (500) had built up within the gully. This deposit was not bottomed.

5.6.4. No finds or features of archaeological significance were found within this area.

**5.7. Removal of drystone wall (Plates 36-45)**

5.7.1. Prior to the construction of the haulage road between Areas D and E, two sections of a linear drystone wall had to be removed. The process of deconstruction was undertaken a course at a time by machine fitted with a hydraulic grab and by hand.

5.7.2. The first section was located at NGR SH 88092 40256. This boundary wall [600] was sinuous in nature, aligned north/south and followed the break of slope. At its maximum it stood 1.8m high, with a width of 1-1.3m at its top, to 2m at its base. Construction along the length of the boundary varied depending on the topography, using both standard drystone walling (coping, face stones, through stones, heartings, and footings) and freestanding clawdd type. The clawdd construction utilised the natural boulders, proliferate in the landscape, as both footers [603] and also to form the outerface [601]. Where used, these were substantial in size with some being in excess of 1.5m in length, by 1m in width.

5.7.3. Cloddiau have an earth or earth/rubble core and are in essence earth banks protected by stone. The stone does not so much support the soil as protect it from weathering. At Llyn Celyn the rubble core (602) was composed of small to medium size subangular stones set within a dark brown silty clay earth

matrix.

5.7.4. No finds or features of archaeological significance were found during the deconstruction of the wall.

5.7.5. The second section of drystone wall [700] was located at NGR SH 88263 40300 and ran along the ridge of a natural south-facing slope. Here the construction was more akin to a containing wall or reveting, with rocks arranged against an earth embankment and held together by their own weight. The structure was approximately 1.8m tall and 0.5m wide at its crown. In section the wall was seen to have three phases of construction. Phase one, (703) a dark brown silty clay backfill, with sub-angular stones 0.5-0.7m in size. At the base of the backfill was a large, rounded boulder, against this, and set at an angle of 45 degrees was (702) a band of flat and angular stones, approximately 1m tall by 0.25m wide. This stone deposit, being two stones wide, were all placed roughly parallel to ground and packed between with smaller stones. Against this was (701) a 0.2m wide strip of dark brown silty clay with frequent sub-angular stones 0.1-0.2m in size. Lying against this were [700] the main outer face of wall stones.

5.7.6. Within this section of walling were located the two 'tally stones' (see section 6. Finds).

### 5.8. HV trench (Plates 46-50)

5.8.1. A trench was excavated to divert a High Voltage cable around the spillway construction. The trench for this was 217m in length and stepped, being 1.8m wide at the mouth and 0.8m at the base. It extended from the edge of Area E in the north-east, running south-west till it met the roadway between areas D and E.

5.8.2. The basal deposit (802) noted varied in thickness from approximately 0.2m and was composed of a mid-greyish brown sandy clay with moderate pebble

and stone inclusions. Above this was (801) a firm orange silty subsoil, approximately 0.4m thick, with moderate subangular stone inclusions and dark orangey-brown sandy patches. Capping all was (800), a 0.45m thick firm mid brownish grey silty topsoil with frequent small to large subrounded and subangular stone inclusions. Following discussions with Scottish Power a further cable ditch was excavated. This was located in an area of already reduced ground and cut into the underlying bedrock.

5.8.3. No finds or features of archaeological significance were found during the excavation of the cable trench.

### 5.9. Roadway between Areas D and E (Plates 51-55)

5.9.1. A strip, extending out from the north-west corner of Area D heading north-west, before curving to the north-east and joining the eastern corner of Area E, was dug to construct the new haulage road. The final excavated area covered approximately 315m in length by 7m wide and was generally dug to an average depth of 0.8m/1m.

5.9.2. The lower deposit encountered (902) was a compacted pale yellow-brown silty clay with frequent medium to large angular and sub-angular stones throughout. This layer was interpreted as either natural or redeposited natural laid down during the construction of the dam. Overlying this was (901) a friable orange/brownish silty clay subsoil. This layer was 0.2m in thickness and was noted across the full extent of the exposed roadway. Capping all, was the topsoil (900) comprised of dark brownish silty humus.

5.9.3. No finds or features of archaeological significance were found during the construction of the roadway.

### 5.10. Area E (Plates 56-60)

5.10.1. Area E was roughly triangular in shape, having a total area of approximately

150m in length, by 100m wide, and covered the original reservoir carpark and layby, adjacent to the A4212, as well as the immediate slope of ground to the south.

5.10.2. The northern section of Area E was 50m in length with a width of 20m. Overlaying the natural deposit (1002) in the northern area of Area E was (1004) a made ground deposit. This comprised of a moderately compact mid orangey brown and mid brownish grey clayey silt and silty clay, this layer was and 0.5m thick. The made ground layer was overlain by the hardcore layer of the carpark (1003), which comprised of a very compact light greyish blue hardcore and shale 0.1m in thickness.

5.10.3. The southern section of Area E was 100m long, by 80m wide and was stripped to a depth of approximately 7m, into the underlying geology, for the main body of the reservoir spillway. The lower deposit encountered was the natural deposit (1002) which was a compact light greyish yellow silty clay mottled with dark greyish orange silty clay with abundant large boulders and moderately frequent areas of bedrock, this deposit had an exposed thickness of 6.05m. This was overlain by subsoil (1001), which comprised of a moderately firm mid yellowish brown clay silt with frequent small sub-angular stone inclusions less than 0.1m and rooting. This layer with a thickness of 0.2m. Overlaying all was the topsoil (1000) which comprised of a friable greyish brown clayey silt with occasional small subangular stone inclusions less than 0.05m. a thickness of 0.2m.

5.10.4. No finds or features of archaeological significance were found within this area.

### 5.11. Working platform adjacent to Area E (Plates 61-67)

5.11.1. This area covered 75m in length and 40m wide and included the partial removal of a modern stone wall at the eastern end of the reservoir and a layer of boulder pavement covering the bank of the reservoir, as well as the previous

spillway and hesgyn catchwater. The area was stripped down to a maximum depth of 4m with the deeper stripping area being at the north-west.

5.11.2. The basal deposit was a made-up ground layer (1102) likely made during the construction of the dam and reservoir in the 1960s, this comprised of a moderately compact mid orangey brown clayey silt with patches of dark brownish orange and light yellowish brown silty clay with frequent moderately large subangular stones up to 0.5m. This deposit was with an exposed thickness of 3.2m. The basal layer was overlain by topsoil (1101) which comprised of a friable dark greyish brown clayey silt with occasional small subangular stone inclusions less than 0.05m. This layer was 75m long, 40m wide with a total thickness of 0.3m. A 5m section of the stone wall [1100] to the east of the reservoir was removed before stripping could commence in this area to make access for the 50 tonne excavator possible. The wall was comprised of uneven courses of stone slabs bonded with cement with a height of 0.5m and a thickness of 0.5m.

5.11.3. During the removal of the stone pavement on the flank of the reservoir the remains of narrow gauge tracks set into a concrete block were uncovered. These were the remains of a section of tramway for the bogeys to move material during the construction of the dam in the 1960's.

5.11.4. No finds or features of archaeological significance were found within this area.

# 6. The Finds

6.1.1. All the artefacts recovered during the AM&R were modern in date and came predominantly from the topsoil or subsoil (Plates 68-73). All items were associated with either the initial construction of the reservoir in the 1960s, or the deconstruction and demolition of the infrastructure that had had been put

in place to construct it. None of the finds were considered to be of archaeological significance and were not retained in accordance with AW guidelines. The only items of note, not archaeologically but from a social history point of view, are the two talley stones (Plate 72). These were discovered on the outerstones of wall [700], and first thought to be historical in date. However, following discussions with the previous landowner they transpired to be modern, having been placed there by himself or his Father.

The stones are slate and have two columns of numbers scratched upon them. Their purpose is for counting the sheep out and back again as they moved between fields.

# 7. Discussion and Conclusion

7.1.1. The AM&R exposed a range of features associated with the construction of the reservoir in the 1960s, and the removal of that infrastructure afterwards.

7.1.2. It also demonstrated the significant amount of remodelling of the surrounding landscape that took place post-construction, with large amounts of redeposited material noted across all areas monitored. This landscaping may well have either removed all trace of the earlier agricultural landscape and post-medieval occupation or buried it at a greater depth that the current groundworks on the lower slopes went to.

7.1.3. No physical evidence could be found of the Bala/Ffestiniog Railway that once ran through Area B. Though the reappropriated remains of railway sleepers and a rail (Plates 74 and 75) had been utilised as fence posts along a boundary to the east of Area C. Maybe these too, lay deeper that the works undertaken within this area.

# 8. Sources

**General**

Chartered Institute for Archaeologists, 2023a. *Standard for archaeological monitoring and recording.*

Chartered Institute for Archaeologists, 2023b. *Universal Guidance for archaeological monitoring and recording*.

Mott MacDonald, 2022. *Llyn Celyn Section 10 MITIOS Works: Historic Environment Desk Based Assessment.*

Mott MacDonald, 2022. *Llyn Celyn Section 10 MITIOS Works: Written Scheme of Investigation for an archaeological watching brief*.

**Websites**

British Geological Survey: Geology of Britain viewer: *www.bgs.ac.uk/discoveringGeology/geologyOfBritain/viewer.html* (Accessed 17/11/2023).

Dŵr Cymru, Welsh Water. *Llyn Celyn improvement work*. https://corporate.dwrcymru.com/en/community/investment-projects/llyn-celyn

Peoples Collection Wales. *Construction of dam at Llyn Celyn, Tryweryn Valley.*

https://www.peoplescollection.wales/items/25734#?xywh=-2155%2C-2%2C7817%2C3547

ARCHAEOLOGY WALES

# Figures

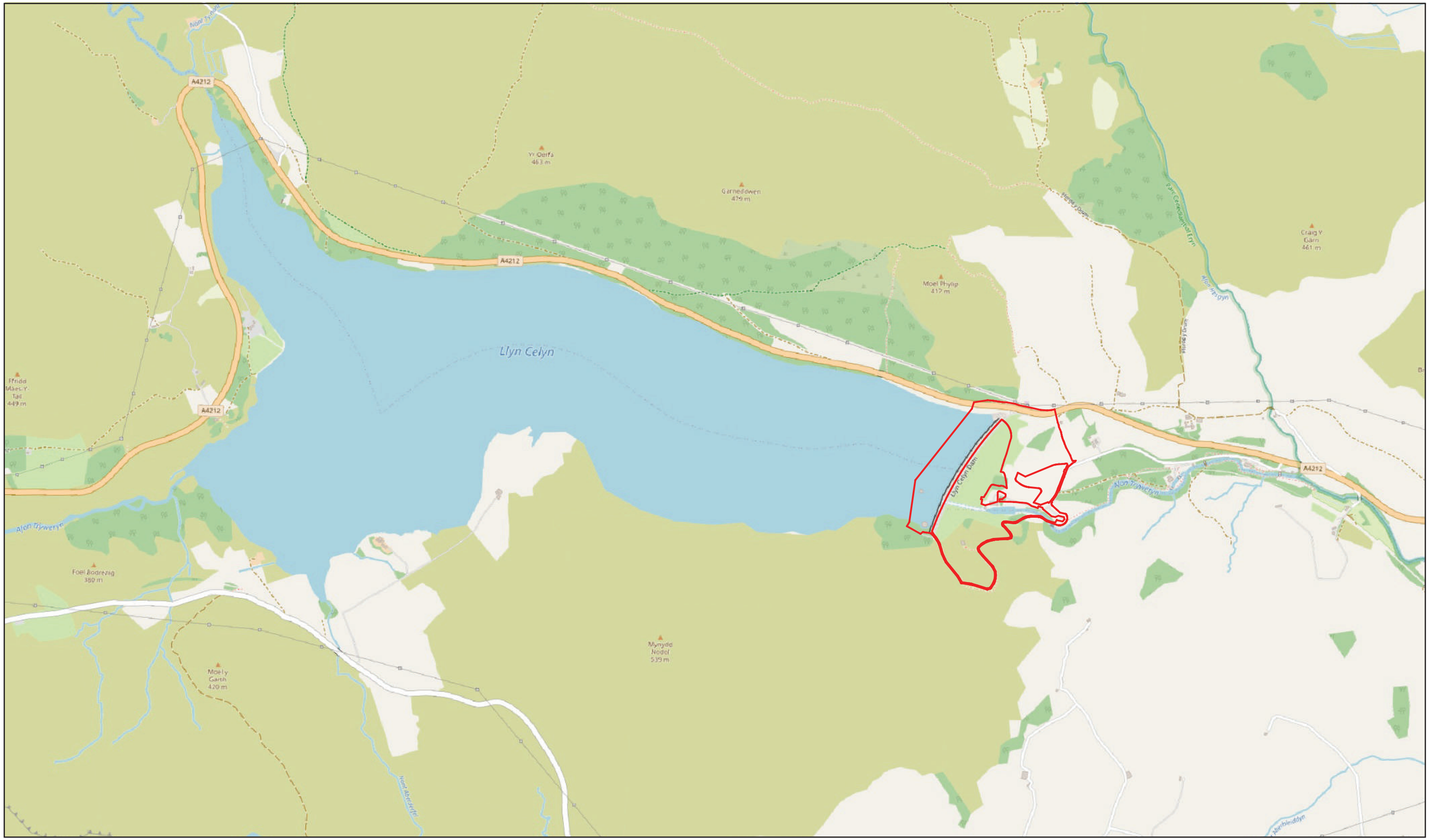



Figure 1. Site location.

Development area

0 1km

N

ARCHAEOLOGY WALES

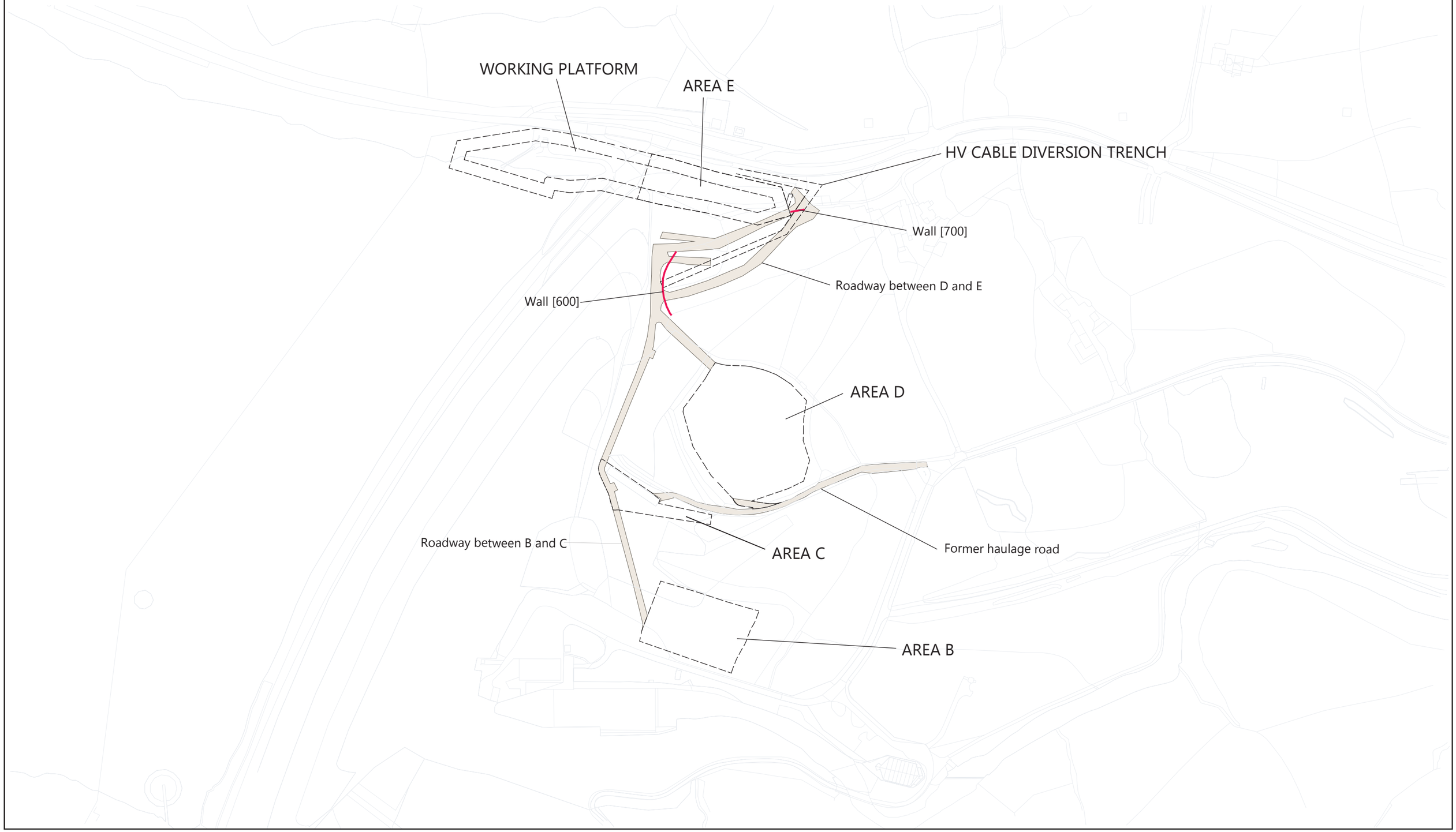



Figure 2. Map showing the areas of excavation.
(Plan supplied by client).



Main areas of excavation

Course of roadway

Location of removed drystone wall

N

0 200m

ARCHAEOLOGY WALES

ARCHAEOLOGY WALES

# Plates

*Plate 1. Llyn Celyn Reservoir, looking west.*

*Plate 2. General shot over the area, prior to commencement of groundworks, looking east.*

*Plate 3. Area B, prior to groundworks, looking south-east.*

*Plate 4. Southern end of Area B during topsoil stripping, looking south.*

*Plate 5. Area B, looking north*

*Plate 6. Area B, looking west.*

*Plate 7. Area B at sign off.*

*Plate 8. Silt trap at base of Area B, looking east.*

*Plate 9. East-facing section of silt trap.*

*Plate 10. The silt trap at sign off.*


*Plate 11. Roadway between B and C under construction.*

*Plate 12. Sondage dug within roadway to judge ground conditions.*

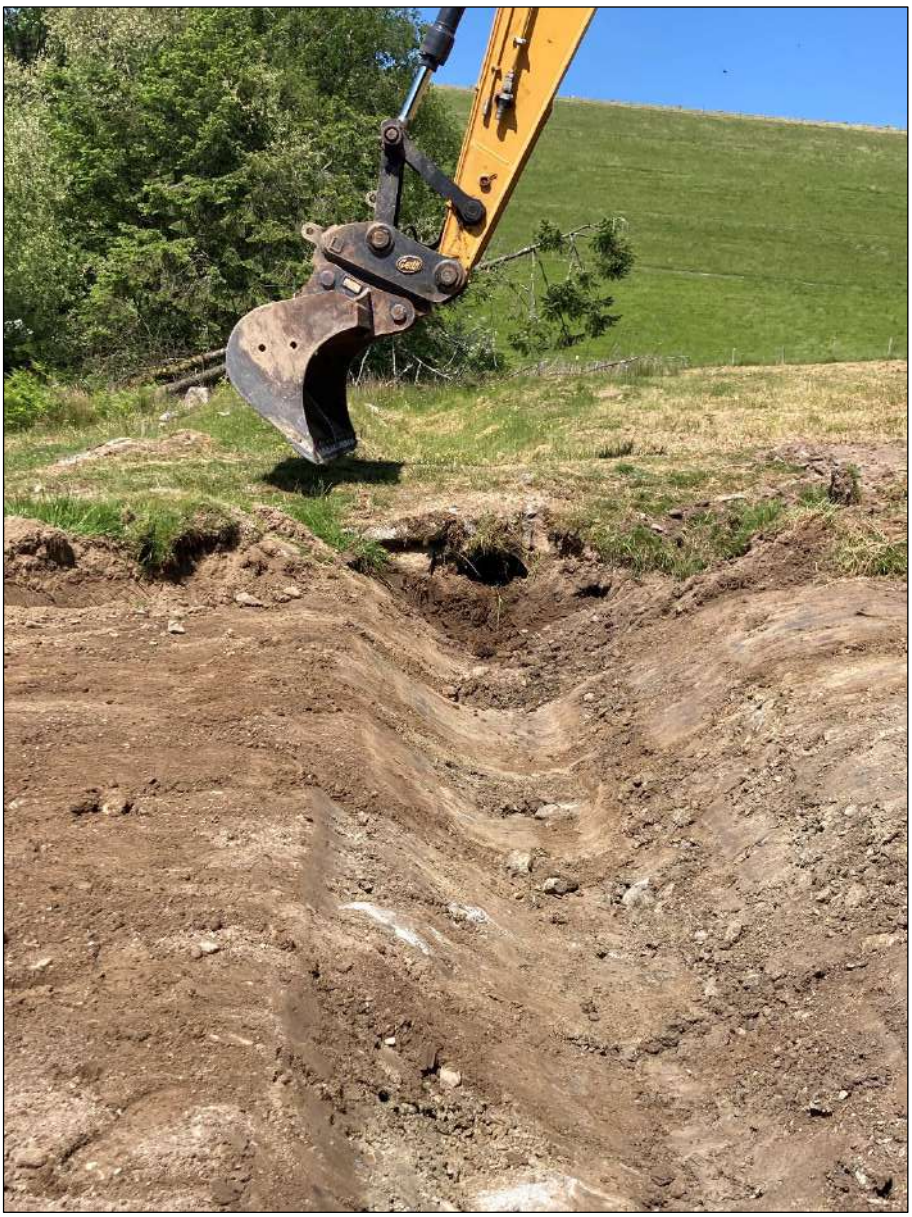


*Plate 13. Drainage gully (202) under excavation, looking west.*

*Plate 14. View to the east along drainage gully (202), showing deposit (200).*

*Plate 15. Representational section through roadway.*

*Plate 16. Roadway at sign off.*


*Plate 17. Exposure of concrete apron [302] in Area C.*

*Plate 18. [302] original 1960's construction works building, looking west.*

*Plate 19. Second concrete apron [303], looking south-west.*

*Plate 20. Aerial photograph of the reservoir under construction. Linear building [302] is clearly visible on the right (--).*

*Plate 21. Feature [305].*

*Plate 22. General shot across Area C, looking south-east.*

*Plate 23. Area C at sign off, looking west.*

*Plate 24. Area D during top strip, looking south.*

*Plate 25. Deposit (401), Area D. Looking west.*

*Plate 26. Area D after stripping, looking east.*

*Plate 27. Feature [402]*

*Plate 28. Rectangular timber window frame, Area D, looking west.*

*Plate 29. Concrete block. Area D.*

*Plate 30. Remains of modern field drain, Area D.*

*Plate 31. View across Area D at sign off.*

*Plate 32. Start of the former haulage road prior to commencement of work, looking west.*

*Plate 33. The course of the former haulage road, looking east.*

*Plate 34. Excavation of the road gullies along the haulage road.*

*Plate 35. The former haulage road at sign off.*

*Plate 36. Wall [600] prior to removal, looking east.*

*Plate 37. View along the capping of wall [600] prior to removal.*

*Plate 38. Deconstruction of wall [600] with the hydraulic grab.*

*Plate 39. Deconstruction of wall [600] being carried out by hand.*

*Plate 40. South-facing section of wall [600] showing traditional dry stone build.*

*Plate 41. North-facing section of wall [600] showing clawdd construction.*

*Plate 42. Section of wall [700] prior to removal.*

*Plate 43. Deconstruction of wall [700] with the hydraulic grab.*

*Plate 44. East-facing section of wall [700] showing construction technique.*


*Plate 45. Section through drystone wall [700], looking north.*

*Plate 46. HV trench under excavation, looking north.*

*Plate 47. View along section of the HV trench, looking south.*

*Plate 48. Northern part of HV trench under excavation, looking north-east.*

*Plate 49. Representative section through the HV trench.*

*Plate 50. Location of the HV trench, to the left of the photo, at sign off. Looking east.*

*Plate 51. Construction of the roadway between Areas D and E, looking west.*

*Plate 52. Roadway under construction, looking south-west.*

*Plate 53. Representative section through the roadway.*

*Plate 54. General view across the northern part of the site showing the roadway under construction and the HV trench. Looking east.*

*Plate 55. The roadway between D and E at the time of sign off, looking south.*

*Plate 56. The former carpark within Area E under excavation, looking east.*

*Plate 57. Road between northern and southern sections of Area E during excavation.*

*Plate 58. Southern section of Area E. under excavation, looking east.*

*Plate 59. Southern section of Area E showing depth of excavation, looking east.*

*Plate 60. General view across Area E, at the time of sign off.*

*Plate 61. Area of the working platform, prior to commencement of work. Looking north-west.*

*Plate 62. The original spillway for the reservoir, after clearance.*

*Plate 63. Working platform alongside spillway, looking west.*


*Plate 64. Working platform under excavation, looking south.*

*Plate 65. Remains of bogy track used to transport material during construction of the reservoir, exposed during the work.*

*Plate 66. General view across the working platform excavations.*

*Plate 67. Working platform adjacent to Area E, at the time of sign off. Looking west.*

*Plate 68. Remains of a fuse box from Area C.*

*Plate 69. Selection of finds associated from the dam construction. Area B.*

*Plate 70. Hinged metal covering. Area D.*

*Plate 71. Reinforced prefabricated concrete pillar. Roadway between D and E.*

*Plate 72. 'Tally stone' found between the outer wall stones of [700].*

*Plate 73. Clamp or press found outside of monitoring area, Roadway between D and E.*

*Plate 74. Repurposed railway sleeper.*

*Plate 75. Reused rail noted to the east of Area C.*

ARCHAEOLOGY WALES

# Appendix I. Context Inventory

| Area | Context No. | Group No. | Same as | Type | Fill of | Interpretation | Description | Length (m) | Width (m) | Depth/ thickness (m) | Spot date |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Area B | 100 | | | deposit | | Topsoil | Friable dark brownish deposit of silty clays with frequent root matter | 45m (in excav) | 51m v | 0.3 | |
| Area B | 101 | | | deposit | | Subsoil | Compacted pale yellow-brown silty clay with frequent medium angular stones. <0.1m | 45m (in excav) | 51m(in excav) | 0.2 | |
| Area B | 102 | | | deposit | | Natural | Compact, light greyish yellow mottled dark greyish orange silty clay, with abundant large boulders and bedrock. | 45m (in excav) | 51m (in excav) | 1.5 | |
| Road B&C | 200 | | 100 | deposit | | Topsoil | Friable dark brownish deposit of silty clays with frequent root matter | 140m (in excav) | 7m (in excav) | 0.3 | |
| Road B&C | 201 | | 101 | | | subsoil | Compacted pale yellow-brown silty clay with pockets of light grey friable clay within its matrix. Frequent medium angular and sub-angular stones | 140m (in excav) | 7m (in excav) | 0.4 | |
| Road B&C | 202 | | | Feature | | water management feature | Linear gully with bank | 38m | 2.5m | 0.8 | Modern |
| Road B&C | 203 | | | deposit | 202 | natural fill | thin lens of dark brownish silty humus, maximum depth of 0.15m | | | 0.15 | |
| Road B&C | 204 | | | deposit | 202 | Fill | a section of metal piping packed around and capped by flat angular stones <0.5m set within a yellow-brown silty clay matrix. | | | | Modern |
| Area C | 300 | | 100 | | | Topsoil | A soft and friable dark greyish-brown clay silt. This contained occasional stone fragments and charcoal flecks, was root disturbed. | | | | |
| Area C | 301 | | 101 | deposit | | subsoil | Compact, light greyish yellow mottled dark greyish orange silty clay, with abundant large boulders and bedrock. | | | 0.25m | |
| Area C | 302 | | | Structure | | Concrete apron | Concrete apron linear in plan, oriented north-west/south-east. 50m x 7m. A smaller rectilinear structure, 1m x 2m extended out to the south from the midsection of the structures southern edge. | 50m | 7m | | Modern |
| Area C | 303 | | | Structure | | Concrete apron | Concrete apron | 4m | 2m | | |
| Area C | 304 | | | cut | | Cut | Vaguely square shaped cut | 0.85m | 0.85m | | |
| Area C | 305 | | | structure | | brick feature | Feature formed from bricks, two along each side, laid out to form a rough square. Two courses of bricks were exposed. No evidence of bonding. | 0.5m | 0.5 | | Modern |
| Area C | 306 | | 101 (?) | deposit | 304 | Fill | Compacted pale yellow silty clay | | | | Modern |
| Area C | 307 | | | deposit | 305 | Backfill | Soft and friable dark brown silty clay with frequent sub rounded cobbles >0.5 | | | NB | |
| Area D | 400 | | 100 | deposit | | Topsoil | Friable dark brownish deposit of silty clays with frequent root matter | 115m (in excav) | 125m (in excav) | 0.45m | |
| Area D | 401 | | 101 | deposit | | subsoil | Compacted pale yellow-brown silty clay | | | NB | |
| Area D | 402 | | | feature | | Concrete slab | Rough rectangular concrete slab inset with brick fragments and stone inclusions | 1.5m | 1m | | Modern |
| Former haulage Road | 500 | | 100 | deposit | | natural fill | Friable dark brownish deposit of silty clays with frequent root matter | | 0.5m | NB | Modern |
| Linear drystone wall | 600 | 600 | | Structure | 601 | Wall | Sinuous boundary wall, aligned north/south following break of slope. At maximum, 1.8m high x 1-1.3m at its top, to 2m at base. Construction along length varied depending on the topography. Built with standard drystone walling and freestanding clawdd type | | 1m | | Post-med/Modern |
| Linear drystone wall | 601 | | | Outerwall | | wall | large natural boulders used as outerface of wall >0.8 - 1.5 x 0.5 - 1m | 1.5 | 1 | | Post-med/Modern |
| Linear drystone wall | 602 | | | rubble core | | wall | dark brown silty clay earth matrix with small to medium sized subangular stones. | | | | Post-med/Modern |
| Linear drystone wall | 603 | | | Footers | | wall | large natural boulders used as footings for wall >1.5 x 1m and upwards in size. | | | | Post-med/Modern |
| Supported drystone wall | 700 | 700 | | Structure | | Wall | Containing wall or reveting, with rocks arranged against an earth embankment, held together by own weight. 1.8m tall x 0.5m at crown. | 1.8m | 0.5 | | Post-med/Modern |
| Supported drystone wall | 701 | | | deposit | | | Band of dark brown silty clay with frequent sub-angular stones 0.1-0.2m. | 1.8 | 0.2 | | Post-med/Modern |
| Supported drystone wall | 702 | | | deposit | | retaining wall | Band of flat and angular stones, sloping at 45 degree angle. Stones two wide laid parallel to ground and packed between with smaller stones. | 1m | 0.25m | | Post-med/Modern |
| Supported drystone wall | 703 | | | deposit | | made bank | A dark brown silty clay backfill, with sub-angular stones 0.5-0.7m in size. At the base of the backfill was a large, rounded boulder. | | | | Post-med/Modern |
| Supported drystone wall | 704 | | 103 | Natural | | Natural bank | Compacted pale yellow-brown silty clay with frequent medium angular stones. <0.1m | | | | |
| HV trench | 800 | | 100 | deposit | | Topsoil | Firm mid brownish grey silt with frequent small to large subrounded and subangular stone inclusions. | 217m (in ex | 1.8m (in excav) | 0.45m | |
| HV trench | 801 | | 101 | deposit | | Subsoil | Firm orange silt with a moderate subangular stone inclusions and dark orangey-brown sandy patches. | 217m (in ex | 1.8m (in excav) | 0.4m | |
| HV trench | 802 | | 102 | deposit | | Natural | Mid greyish brown sandy clay with moderate pebble and stone inclusions.> 0.1-0.2m. | 217m (in ex | 1.8m (in excav) | 0.2m | |
| Road D&E | 900 | | 100 | deposit | | Topsoil | dark brownish silty humus | 315m (in ex | 7m (in excav) | | |
| Road D&E | 901 | | 101 | deposit | | Natural/redeposited natural | friable orange/brownish silty clay subsoil. | 315m(in exc | 7m (in excav) | 0.2 | |
| Road D&E | 902 | | 102 | deposit | | Natural | Compacted pale yellow-brown silty clay with frequent medium to large angular and sub-angular stones >0.5. | 315m (in ex | 7m (in excav) | NB | |
| Area E | 1000 | | 100 | deposit | | Topsoil | Friable greyish brown clayey silt with occasional small subangular stone inclusions less than 0.05m. | | | 0.2 | modern |
| Area E | 1002 | | 101 | deposit | | Natural | a compact light greyish yellow silty clay mottled with dark greyish orange silty clay with abundant large boulders and moderately frequent areas of bedrock, | | | 6.05m | modern |
| Area E | 1003 | | | deposit | | Carpark surface | Very compact, mid greyish blue hardcore and shillet. | 50m (in excav) | 20m (in excav) | 0.1 | modern |
| Area E | 1004 | | | deposit | | Made ground beneath car park | Moderately compact mid orangey brown and mid brownish grey clayey silt and silty clay, with frequent large subangular stones. | 50m (in excav) | 20m (in excav) | 0.5 | |
| Working plaform | 1100 | | | Structure | | Wall | Modern wall comprised of uneven courses of stone slabs bonded with cement. | | 0.5m | 0.5m | Modern |
| Working plaform | 1101 | | 100 | deposit | | topsoil | Friable dark greyish brown clayey silt occasional small subangular stone inclusions <0.05m. | 75m (in excav) | 40m (in excav) | 0.3m | Modern |
| Working plaform | 1102 | | 101 | deposit | | Natural/redeposited natural | Made-up ground layer- moderately compact mid orangey brown clayey silt with patches of dark brownish orange and light yellowish brown silty clay. Frequent moderately large subangular stones > 0.5m. | 75m (in excav) | 40m (in excav) | 3.2m-NB | Modern |

ARCHAEOLOGY WALES

# Appendix II:
# Written Scheme of Investigation

ARCHAEOLOGY WALES
Revealing the past, informing the future

# WRITTEN SCHEME OF INVESTIGATION

# FOR AN ARCHAEOLOGICAL

# WATCHING BRIEF AT

## Llyn Celyn Reservoir,
## Gwynedd, North Wales LL23 7PB

**Prepared for:**
**Dŵr Cymru, Welsh Water**

**Project No: 3067**

**February 2023**

**Archaeology Wales Limited**
Main Office, Unit D11.6
Treforest Industrial Estate Pontypridd - CF37 5UR
**Tel: +44 (0) 2920 020 136**
Email: admin@arch-wales.co.uk
Web: arch-wales.co.uk

## Contents

# 1. Introduction and Planning Background

1.1.1. This Written Scheme of Investigation (WSI) details a program of archaeological mitigation to be undertaken by Archaeology Wales Ltd (henceforth – AW) at the request of Dŵr Cymru, Welsh Water (henceforth – 'the Client').

1.1.2. Following pre-planning consultations with Gwynedd Archaeological Trust Archaeological Planning Services (henceforth GAT-AP) an archaeological watching brief was suggested to mitigate any loss to the archaeological resource. This proposed scheme of mitigation will be undertaken whilst associated groundworks take place, including stripping soil for site compounds, storage areas and trackways, underground cabling, and the construction of the auxiliary slipway.

1.1.3. An initial WSI was prepared by Mott MacDonald to cover the proposed development works and was submitted as part of the planning application.

1.1.4. Archaeology Wales was commissioned by the client to oversee the archaeological element of this groundwork. At the request of the client an amendment to the existing WSI was requested in order to set out the methodology in regards to the mitigation strategy and standards to be employed during the fieldwork element of the project.

1.1.5. The proposed development as outlined in the primary WSI (Mott McDonald, 2022) comprises the construction of an Auxiliary Spillway and associated groundworks including topsoil stripping as well as trenching for underground cabling. The site is located at Llyn Celyn Reservoir, Gwynedd, North Wales, LL23 7PB. Centred on SH 88058 40353 (Figure 1).

1.1.6. The purpose of the archaeological mitigation (watching brief) is to provide the local planning authority with sufficient information regarding the nature of archaeological remains on the site of the development, the requirements for which are set out in Planning Policy Wales (edition 11 – February 2021), and Technical Advice Note (TAN) 24. The work is to ensure that all buried artefacts and deposits are fully investigated and recorded if they are disturbed or revealed as a result of activities associated with the development.

1.1.7. This WSI has been prepared by Rachel Willmot, Archaeology Wales Ltd, at the request of Dŵr Cymru, Welsh Water.

1.1.8. All work will be undertaken to the standards and guidance set by the Chartered Institute for Archaeologists; *Standard and guidance for an archaeological watching brief* (2020 update). AW is a Registered Organisation with the CIfA.

## 2. Site Description

2.1.1. The proposed development area is located adjacent to the north-east of Llyn Celyn Reservoir, and to the south of the A4212, centred at NGR: SH 88058 40353. Llyn Celyn Reservoir is located within Afon Tryweryn Valley, Snowdonia National Park.

2.1.2. The underlying geology of the proposed development site is defined by intrusive tuff and felsic rocks dating to Ordovician period (485.4 million - 443.8 million years ago) (BGS 2023).

## 3. Historical and Archaeological Background

3.1.1. Prehistoric activity in the area is predominantly defined by funerary and ritual monuments. The most impressive of these being Garnedd Wen, a large stone burial cairn, which is a scheduled monument (ME254). Further remains such as a submerged barrow and possible standing stones are noted outside of the development area.

3.1.2. Medieval archaeology within the Tryweryn Valley can be defined as being agricultural in nature, with the remains of ridge and furrow (GAT10208) and a medieval enclosure (GAT60645), laying outside the area of proposed works. The later medieval period is represented once more by largely agriculturally based features, with two large Grade II listed farmhouses, as well as a landscape containing sheepfolds, historic field boundaries, and associated ancillary structures.

3.1.3. There is a likelihood that remains associated with the post-medieval settlement of Capel Celyn will be exposed during groundwork within the development area. This former village, located within the Tryweryn Valley, was flooded in the 1950s in order to the facilitate the need for daily water supply by the rapidly expanding post-war Liverpool.

## 4. Objectives

4.1.1. This WSI sets out a program of works to ensure that the watching brief will meet the standard required by The Chartered Institute for Archaeologist's *Standard and guidance for archaeological watching briefs* (update 2020).

4.1.2. The objective of the watching brief will be:

- to allow the investigation and recording of any archaeological features that are uncovered during the proposed groundworks within the application area.

- to provide the opportunity, if needed, for the watching archaeologist to signal to all interested parties, before the destruction of the material in question, that an archaeological find has been made for which the resources

allocated to the watching brief are not sufficient to support the treatment to a satisfactory or proper standard.

4.1.3. A written report will be compiled following the fieldwork. Sufficient desk-top research will be undertaken to ensure that the results of this work are properly understood, interpreted, and reported.

4.1.4. The report will include a comprehensive assessment of the historic context within which the archaeological evidence rests and will aim to highlight any relevant research issues within regional, national and, if relevant, international research frameworks.

## 5. Timetable of works

### 5.1. Fieldwork

5.1.1. The programme of mitigation will be undertaken during ground works associated with the proposed development. Archaeology Wales will update GAT-AP with the exact dates in which the development is monitored.

### 5.2. Report delivery

5.2.1. The report will be submitted to the client and to GAT-AP within three months of the completion of the fieldwork. A copy of the report will also be sent to the regional HER.

## 6. Fieldwork

### 6.1. Detail

6.1.1. The work will be undertaken to meet the standard required by The Chartered Institute for Archaeologist's *Standard and guidance for watching briefs* (2020).

6.1.2. The watching brief should be undertaken using a tracked 360 degree excavated equipped with a flat-bladed bucket and will be monitored by a suitably qualified archaeologist.

6.1.3. The site archaeologist undertaking the watching brief will be afforded the required access by the main contractor in order to observe and where necessary to record any archaeological remains revealed. Groundwork will not be undertaken without the presence of the site archaeologist. The site archaeologist will record finds and less significant archaeological deposits and features without significant delay to the work program.

6.1.4. Where significant or complex archaeological deposits or features are encountered there will be a requirement for those areas to be fenced off and highlighted to all contractors employed on the site. Machines or contractors shall not enter this area

until archaeological recording has been completed. If significant archaeological features are revealed during the work Mott McDonald will be contacted in the first instance, and a meeting between the client, GAT-AP and AW will be called at the earliest convenience.

6.1.5. If significant archaeological features are encountered contingency arrangements will be made. Contingency costs will be agreed in advance before any extension to the program commences and will follow a site meeting between Archaeology Wales, the client (or their representatives) and GAT-AP.

### 6.2. Recording

6.2.1. Recording will be carried out using AW recording systems (pro-forma context sheets, etc.) using a continuous number sequence for all contexts.

6.2.2. Plans and sections will be drawn to a scale of 1:50, 1:20 and 1:10 as required and related to Ordnance Survey datum and published boundaries where appropriate.

6.2.3. All features identified will be tied into the OS survey grid and fixed to local topographical boundaries.

6.2.4. Photographs will be taken in digital format with an appropriate scale, using a 12MP camera with photographs stored in Tiff format.

### 6.3. Finds

6.3.1. The professional standards set in the Chartered Institute for Archaeologists' standards and guidance for the collection, documentation, conservation, and research of archaeological (2020) will form the basis of finds collection, processing, and recording.

6.3.2. Finds will be carefully excavated by hand. The excavation of fragile or particularly significant finds will be undertaken in consultation with an appropriate archaeological conservator. Finds will be bagged by archaeological context, the location of special finds and flint working deposits will be recorded three dimensionally.

6.3.3. In most cases all finds will be recovered from site, quantified and assessed by specialist. Finds retention and discard policies will be drawn up in conjunction with specialist advice and the requirements of the receiving archive or regional/national guidelines (NPAAW 2019) in conjunction with the CIfA Selection Strategy Tool Kit (CIfA 2019). If large quantities of material are identified, an onsite discard policy may be implemented under the guidance of relevant finds specialists and the local authority archaeologists.

6.3.4. Retained finds will be suitably bagged, boxed and marked. Following cataloguing

and initial analysis finds of low archaeological significance may be discarded.

6.3.5. Finds recovered that are regarded as Treasure under The Treasure Act 1996 will be reported to HM Coroner for the local area.

6.3.6. Any finds which are considered to be in need of immediate conservation will be referred to a UKIC qualified conservator (normally Phil Parkes at Cardiff University).

### 6.4. Environmental Sampling Strategy

6.4.1. In areas that have previously been disturbed, environmental sampling is unlikely to be required, unless excavations go beyond the disturbed layers and archaeology is encountered below that level.

6.4.2. Features or archaeological deposits that are encountered will be sampled by means of the most appropriate method (bulk, column, etc.) up to 40 litres in size.

6.4.3. Where sampling will provide a significant contribution to the understanding of the site AW will draw up a site-specific sampling strategy alongside a specialist environmental archaeologist. All environmental sampling and recording and will follow English Heritage's *Guidelines for Environmental Archaeology* (2002).

### 6.5. Human Remains

6.5.1. In the event that human remains are encountered, their nature and extent will be established, and the coroner informed. All human remains will be left in situ and protected during backfilling. Where preservation in situ is not possible the human remains will be fully recorded and removed under conditions that comply with all current legislation and include acquisition of licenses and provision for reburial following all analytical work. Human remains will be excavated in accordance with the Chartered Institute for Archaeologist's *Excavation and Post-Excavation Treatment of Cremated and Inhumed Human Remains: Technical Paper Number 13* (1993), and the Chartered Institute for Archaeologist's *Updated Guidelines to the Standards for Recording Human Remains* (2017).

6.5.2. A meeting with the client, GAT-AP, and AW will be called if the human remains uncovered are of such complexity or significance that the contingency arrangement would not be of sufficient scope.

### 6.6. Specialist Advisers

6.6.1. In the event of certain finds, features or sites being discovered, AW will seek specialist opinion and advice. A list of specialists is given in the table below although this list is not exhaustive.

| Artefact type | Specialist |
|---|---|

| | |
|---|---|
| Lithics | Dr Julie Birchenall (Freelance) |
| Animal bone | Dr Richard Madgwick (Cardiff University) |
| CBM, heat affected clay, Daub etc. | Dr Siân Thomas (Archaeology Wales)<br>Dr Phil Mills (Freelance)<br>Sandra Garside Neville (Freelance) |
| Clay pipe | Charley James Martin (Archaeology Wales) |
| Glass | Rowena Hart (Archaeology Wales) |
| Cremated and non-cremated human bone | Malin Holst (University of York)<br>Dr Richard Madgwick (Cardiff University) |
| Metalwork | Dr Rhiannon Philp (Archaeology Wales)<br>Dr Kevin Leahy (PAS/University of Leicester)<br>Quita Mould (Freelance) |
| Metal work and metallurgical residues | Dr Tim Young (GeoArch) |
| Neo/BA pottery | Dr Alex Gibson (Freelance)<br>Dr David Mullin (Freelance) |
| IA/Roman pottery | Dr Jane Timby (Freelance) |
| Roman Pottery | Dr Siân Thomas (Archaeology Wales)<br>Dr Peter Webster (Freelance) |
| Medieval and Post Medieval Pottery | Paul Blinkhorn (Freelance) |
| Charcoal (wood ID) | Dana Challinor (Freelance) |
| Waterlogged wood | Professor Nigel Nayling (University of Wales Trinity St Davids – Lampeter) |
| Pollen | Dr Rhiannon Philp (Archaeology Wales) |
| Charred and waterlogged plant remains | Wendy Carruthers (Freelance)<br>Kath Hunter Dowse (Freelance) |

### 6.7. Specialist Reports

6.7.1. Specialist finds and palaeoenvironmental reports will be written by AW specialists, or sub-contracted to external specialists when required.

## 7. Monitoring

7.1.1. GAT-AP will be contacted approximately two weeks prior to the commencement of archaeological site works, and subsequently once the work is underway.

7.1.2. Any changes to the WSI that AW may wish to make after approval will be communicated to Mott McDonald and GAT-AP for approval on behalf of Planning Authority.

7.1.3. GAT-AP will be given access to the site so that they may monitor the progress of the watching brief. No area will be backfilled until GAT-AP has had the opportunity to inspect it and signs off the area. GAT-AP will be kept regularly informed about developments, both during the site works and subsequently during post-excavation.

# 8. Post-fieldwork programme

## 8.1. The Site Archive

8.1.1. An ordered and integrated site archive will be prepared in accordance with: *Management of Research Projects in the Historic Environment (MoRPHE)* (Historic England 2006) upon completion of the project.

8.1.2. The site archive (including artefacts and samples) will be prepared in accordance with the National Monuments Record (Wales) agreed structure and deposited with an appropriate receiving organisation, in compliance with CIfA Guidelines (*Standard and guidance for the creation, compilation, transfer and deposition of archaeological archives'*, 2020). It will also conform to the guidelines set out in *'The National Standard and Guidance to Best Practice for Collecting and Depositing Archaeological Archives in Wales 2019'* (National Panel for Archaeological Archives in Wales 2019). The legal landowner's consent will be gained for deposition of finds. The project will adhere to the *Welsh Archaeological Trust's joint Guidance for the Submission of Data to the Welsh Historic Environment Records* (2018).

## 8.2. Analysis

8.2.1. Following a rapid review of the potential of the site archive, a programme of analysis and reporting will be undertaken. The report will adhere to the *Welsh Archaeological Trust's joint Guidance for the Submission of Data to the Welsh Historic Environment Records* (2018).

8.2.2. This will result in the following inclusions in the final report:

- Non-technical summary, in English and Welsh
- Location plan showing the area/s covered by the groundworks, all artefacts, structures, and features found
- Plan and section drawings (if features are encountered) with ground level, ordnance datum and vertical and horizontal scales.
- Written description and interpretation of all deposits identified, including their character, function, potential dating, and relationship to adjacent features. Specialist descriptions and illustrations of all artefacts and soil samples will be included as appropriate.
- An indication of the potential of archaeological deposits which have not been disturbed by the development
- A discussion of the local, regional, and national context of the remains by means of reviewing published reports, unpublished reports, historical maps, documents

from local archives and the regional HER as appropriate.

- A detailed archive list at the rear listing all contexts recorded, all samples finds and find types, drawings and photographs taken. This will include a statement of the intent to deposit, and location of deposition, of the archive.

### 8.3. Report to client

8.3.1. Copies of all reports associated with the watching brief, together with inclusion of supporting evidence in appendices as appropriate, including photographs and illustrations, will be submitted to the client and GAT-AP upon completion.

### 8.4. Additional reports

8.4.1. After an appropriate period has elapsed, copies of all reports will be deposited with the relevant county Historical Environment Record, the National Monuments Record and GAT-AP.

### 8.5. Summary reports for publication

8.5.1. Short archaeological reports will be submitted for publication in relevant journals; as a minimum, a report will be submitted to the annual publication of the regional CBA group or equivalent journal.

### 8.6. Notification of important remains

8.6.1. Where it is considered that remains have been revealed that may satisfy the criteria for statutory protection, AW will submit preliminary notification of the remains to Cadw.

### 8.7. Archive deposition

8.7.1. The final archive (site and research) will, whenever appropriate, be deposited with a suitable receiving institution, usually the relevant Local Authority museums service. Arrangements will be made with the receiving institution before work starts.

8.7.2. Although there may be a period during which client confidentiality will need to be maintained, copies of all reports and the final archive will be deposited no later than six months after completion of the work.

8.7.3. Copies of all reports, the digital archive and an archive index will be deposited with the National Monuments Record, RCAHMW, Aberystwyth.

8.7.4. Wherever the archive is deposited, this information will be relayed to the HER. A summary of the contents of the archive will be supplied to GAT.

### 8.8. Finds deposition

8.8.1. The finds, including artefacts and ecofacts, excepting those which may be subject to the Treasure Act, will be deposited with the same institution, subject to the agreement of the legal landowners.

### 8.9. Staff

8.9.1. The project will be managed by Paul W Huckfield (AW Project Manager) and the fieldwork undertaken by AW Staff. Any alteration to staffing before or during the work will be brought to the attention of GAT-AP and the client.

## 9. Health and Safety

### 9.1. Risk Assessment

9.1.1. Prior to the commencement of work AW will carry out and produce a formal Health and Safety Risk Assessment in accordance with The Management of Health and Safety Regulations 1999. A copy of the risk assessment will be kept on site and be available for inspection on request. A copy will be sent to the client (or their agent as necessary) for their information. All members of AW staff will adhere to the content of this document.

### 9.2. Other Guidelines

9.2.1. AW will adhere to best practice with regard to Health and Safety in Archaeology as set out in the FAME (Federation of Archaeological Managers and Employers) health and safety manual Health and Safety in Field Archaeology (2002).

## 10. Community Engagement and Outreach

10.1.1. Wherever possible, AW will ensure suitable measures are in place to inform the local community and any interested parties of the results of the site investigation work. This may occur during the site investigation work or following completion of the work. The form of any potential outreach activities may include lectures and talks to local groups, interested parties and persons, information boards, flyers and other forms of communication (social media and websites), and press releases to local and national media.

10.1.2. The form of any outreach will respect client confidentiality or contractual agreements. As a rule, outreach will be proportional to the size of the project.

10.1.3. Where outreach activities have a cost implication these will need to be negotiated in advance and in accordance with the nature of the desired response and learning outcomes.

## 11. Insurance

11.1.1. AW is fully insured for this type of work and holds Insurance with Aviva Insurance Ltd and Hiscox Insurance Company Limited through Towergate Insurance. Full details of these and other relevant policies can be supplied on request.

## 12. Quality Control

### 12.1. Professional standards

12.1.1. AW works to the standards and guidance provided by the Chartered Institute for Archaeologists. AW fully recognise and endorse the Chartered Institute for Archaeologists' Code of Conduct, Code of Approved Practice for the Regulation of Contractual Arrangements in Field Archaeology and the Standard and Guidance for archaeological field evaluation (CIfA 2020) currently in force. All employees of AW, whether corporate members of the Chartered Institute for Archaeologists or not, are expected to adhere to these Codes and Standards during their employment.

### 12.2. Project tracking

12.2.1. The designated AW manager will monitor all projects in order to ensure that agreed targets are met without reduction in quality of service.

## 13. Arbitration

13.1.1. Disputes or differences arising in relation to this work shall be referred for a decision in accordance with the Rules of the Chartered Institute of Arbitrators' Arbitration Scheme for the Institute for Archaeologists applying at the date of the agreement.

## 14. References


British Geological Survey: *Geology of Britain viewer*. www.bgs.ac.uk/discoveringGeology/geologyOfBritain/viewer.html (accessed 05/02/23).

Chartered Institute for Archaeologists, 2020. *Standards and guidance for an archaeological watching brief*

Chartered Institute for Archaeologists, 2020. *Standards and guidance for the collection, compilation, transfer and deposition of archaeological archives.*

Chartered Institute for Archaeologists, 2020. *Standards and guidance for the collection, documentation, conservation and research of archaeological materials.*

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

English Heritage, 2002. *Guidelines for Environmental Archaeology*.

English Heritage, 2006. *Management of Research Projects in the Historic Environment (MORPHE).*

Mott MacDonald, 2022. *Llyn Celyn Section 10 MITIOS Works: Historic Environment Desk Based Assessment.*

Mott MacDonald, 2022. *Llyn Celyn Section 10 MITIOS Works: Written Scheme of Investigation for an archaeological watching brief*.

National Panel for Archaeological Archives in Wales, 2019. The National Standard and Guidance to Best Practice for Collecting and Depositing Archaeological Archives in Wales.

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

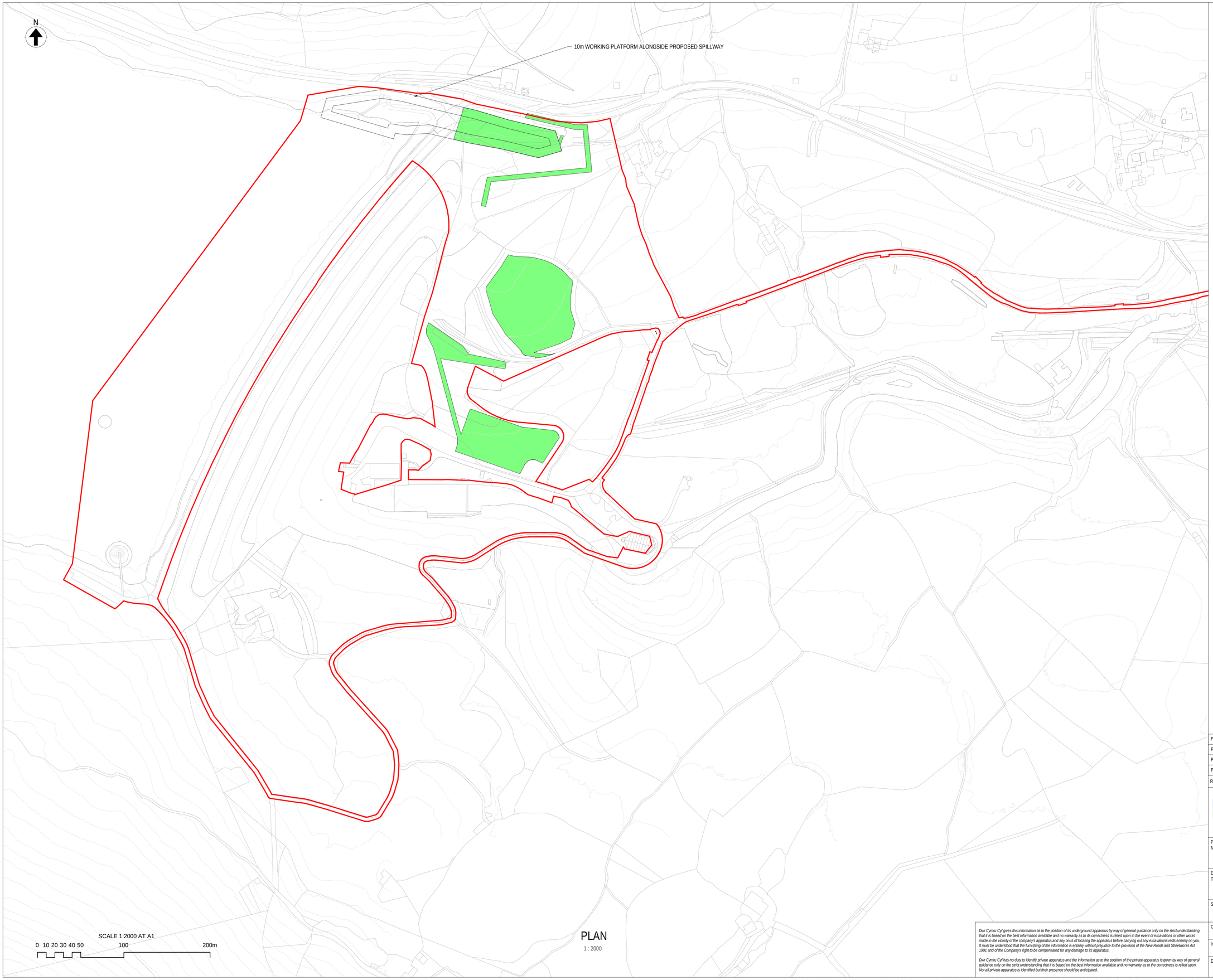
ARCHAEOLOGY WALES

# Figures


Area of development

Figure 1. Site location plan


ARCHAEOLOGY WALES
Revealing the past, informing the future




PLAN
1 : 2000

A1h

NOTES:

1. ALL DIMENSIONS ARE SHOWN IN MILLIMETRES (mm) UNLESS NOTED OTHERWISE.
2. NO DIMENSIONS ARE TO BE SCALED FROM THIS DRAWING.
3. DRAWING FOR PLANNING APPLICATION TO SNOWDONIA NATIONAL PARK AUTHORITY AND WATCHING BRIEF DURING ASSOCIATED EXCAVATION WORKS ONLY. NOT TO BE USED FOR ANY OTHER PURPOSE.
4. THIS DRAWING SHOULD BE READ IN CONJUNCTION WITH INFORMATION PROVIDED AS PART OF THE PLANNING APPLICATION FOR THE WORKS.

LEGEND:

PLANNING APPLICATION SITE BOUNDARY

EXTENT OF ARCHAEOLOGICAL WATCHING BRIEF WHERE EXCAVATION IS REQUIRED

| Rev. | Date. | BIM. | Description. | Chk. | App. | Iss Date. |
|---|---|---|---|---|---|---|
| P04 | 11.10.22 | LE | FOR INFORMATION | SRG | MJM | 11.10.22 |
| P03 | 03.01.22 | LE | FOR INFORMATION | SRG | MJM | 06.10.22 |
| P02 | 28.06.22 | LE | FOR INFORMATION | SRG | RE | 28.06.22 |
| P01 | 21.0622 | LE | FOR INFORMATION | SRG | MJM | 24.06.22 |

Capital Delivery Alliance
Cynghrair Cyflawni Cyfalaf

Project Name. LLYN CELYN SECTION 10 MITIOS WORKS

Drawing Title. EXTENT OF ARCHAEOLOGICAL WATCHING BRIEF

Suitability. FOR INFORMATION

Suitability Code. S2

*Dwr Cymru Cyf gives this information as to the position of its underground apparatus by way of general guidance only on the strict understanding that it is based on the best information available and no warranty as to its correctness is relied upon in the event of excavations or other works made in the vicinity of the company's apparatus and any onus of locating the apparatus before carrying out any excavations rests entirely on you. It must be understood that the furnishing of the information is entirely without prejudice to the provision of the New Roads and Streetworks Act 1991 and of the Company's right to be compensated for any damage to its apparatus.*

*Dwr Cymru Cyf has no duty to identify private apparatus and the information as to the position of the private apparatus is given by way of general guidance only on the strict understanding that it is based on the best information available and no warranty as to the correctness is relied upon. Not all private apparatus is identified but their presence should be anticipated.*

| Originator. | Designer. | Date. |
|---|---|---|
| LE | KM | 21.06.22 |
| Internal Project Number. | Scale. | Rev. |
| ST39 | 1 : 2000 @ A1 | P04 |
| Drawing Number. | | |
| B15100-123532-12-ZZ-DR-CA-PN9104 | | MMB MOTT MACDONALD BENTLEY |

ARCHAEOLOGY WALES

# Appendix III:
# Selection Strategy

# Selection Strategy

| Project Information | |
|---|---|
| **ID** | 3067 |
| **Name** | Llyn Celyn Reservoir |
| **Project Management** | |
| **Project Manager** | Paul Huckfield |
| **Post Excavation Manager** | Rhiannon Philp |
| **Organisation** | Archaeology Wales |
| **Stakeholders** | |
| **Collecting Institution(s)** | Heneb - Gwynedd HER; RCAHMW |
| **Project Lead / Project Assurance** | Paul Huckfield |
| **Landowner / Developer** | Dŵr Cymru Welsh Water |
| **Other** | |
| **Resources** | No unusual resources required outside of AW normal operating equipment and personnel to implement this Selection Strategy. |

**Context**

Archaeology Wales was commissioned by Dŵr Cymru, Welsh Water (henceforth – 'the Client') to oversee the archaeological element of the groundworks at Llyn Celyn Reservoir, Gwynedd, North Wales, LL23 7PB. Centred on SH 88058 40353 (henceforth 'the Site').

Following pre-planning consultations with Gwynedd Archaeological Trust Archaeological Planning Services (henceforth GAT-AP) mitigation comprising archaeological monitoring and recording (AM&R) during the groundworks with the potential to disturb the archaeological resource were recommended.

The archaeological monitoring exposed a range of features associated with both the construction of the reservoir in the 1960s and deconstruction and demolition of the infrastructure that had had been put in place to construct it.

All work was undertaken to the standards and guidance set by the Chartered Institute for Archaeologists; Standard and the Universal guidance for archaeological monitoring and recording (2023a&b). AW is a Registered Organisation with the CIfA.

## Digital Data

| Stakeholders |
| --- |
| Rhiannon Philp (PX manager), Paul Huckfield (Project Manager), RCAHMW, Heneb – Gwynedd HER |
| **Data Management Plan (DMP)** |
| **Selection and De-selection** |
| DMP Attached as a separate document |
| **Amendments** |
| Detail any amendments to the above selection strategy here. |

| Date | Amendment | Rationale | Stakeholders |
| --- | --- | --- | --- |
| | | | |

## Documents

| Stakeholders |
| --- |
| Rhiannon Philp (PX manager), Paul Huckfield (Project Manager), |
| **Selection and De-selection** |
| **Selection**<br>2.1. All original documentary material created during data gathering will be selected for inclusion in the final archive. Duplicates, photocopies of originals and research materials will be de-selected during archive completion<br>2.2. Selection reviews will be undertaken after the following phases:<br>• Fieldwork<br>• Reporting<br>• Archive Completion<br>2.3. Relevant Standards and Guidance:<br>• CIfA. 2020. Standard and Guidance for the Collection, Documentation, Conservation and Research of Archaeological Materials.<br>• CIfA. 2022 revision. Code of conduct: professional ethics in archaeology<br>• Any information provided by Receiving Institutions<br>2.4. It is not envisaged that the selection decisions will deviate from standard guidelines |
| **De-selection**<br>It is envisaged that the material de-selected from inclusion in the preserved archive will be |

| |
|---|
| duplicates, re-productions, miscellaneous material, correspondence and GDPR/confidentiality created during the analysis phase of the project. De-selected material will therefore be retained to supplement AW/AE's research files. A copy of the complete digital working archive incl. the preserved archive is stored on AW/AE's server. |

| **Amendments** | | | |
|---|---|---|---|
| Detail any amendments to the above selection strategy here. | | | |
| **Date** | **Amendment** | **Rationale** | **Stakeholders** |
| 04/06/2025 | Physical documentary archive deselected | Full digital copy uploaded to RCAHMW | AW; RCAHMW |

## Materials

| **Materials Selections Template** | | | |
|---|---|---|---|
| **No** | **Find type** | **Selection Strategy** | **Stakeholders** |
| 3.1 | Pottery | Retain until at least after Assessment. Further selection decisions to follow results of assessment. | Specialist; PXM; Receiving Institution |
| 3.2 | CBM | Retain until at least after Assessment. Further selection decisions to follow results of assessment. | Specialist; PXM; Receiving Institution |
| 3.3 | Metals | Retain until at least after Assessment. Further selection decisions to follow results of assessment. | Specialist; PXM; Receiving Institution |
| 3.4 | Worked Stone | Retain until at least after Assessment. Further selection decisions to follow results of assessment. | Specialist; PXM; Receiving Institution |
| 3.5 | Animal Bone | Retain until at least after Assessment. Further selection | Specialist; PXM; Receiving Institution |

| | | | |
|---|---|---|---|
| | | decisions to follow results of assessment. | |
| 3.6 | Lithics | Retain until at least after Assessment. Further selection decisions to follow results of assessment. | Specialist; PXM; Receiving Institution |
| 3.7 | Small Finds | Retain until at least after Assessment. Further selection decisions to follow results of assessment. | Specialist; PXM; Receiving Institution |
| 3.8 | Environmental Material | Retain until at least after Assessment. Further selection decisions to follow results of assessment. | Specialist; PXM; Receiving Institution |
| 3.9 | Modern (post 20th C) Material | Note in paperwork and discard on site. | Site Staff; PXM |

| **No** | ALL | **Material type** | All categories |
|---|---|---|---|

**Stakeholders**

Rhiannon Philp (PX manager), Paul W Huckfield (Project Manager),

**Selection**

a) All artefacts are returned to AW/AE Finds and Environmental processing facility and dealt with in accordance with the professional standards set in the Chartered Institute for Archaeologists' Standard and Guidance for the Collection, Documentation, Conservation and Research of Archaeological Materials (2020). Selection may also be made prior to deposition based on Society of Museum Archaeologists' Selection, Retention and Dispersal of Archaeological Collections guidelines (1993), National Standard and Guidance to Best Practice for Collecting and Depositing Archaeological Archives in Wales (2017) and consultation of the receiving institution's deposition guidelines

b) Selection reviews will be undertaken after the following phases:

- Fieldwork
- Assessment
- Analysis (if required)
- Archive Completion

c) Relevant Standards and Guidance:

- CIfA. 2020. Standard and Guidance for the Collection, Documentation, Conservation and Research of Archaeological Materials

- Historic England. 2011. Environmental Archaeology: A Guide to the Theory and Practice of Methods, from Sampling and Recovery to Post-excavation (second edition)
- Society of Museum Archaeologists. 1993. Selection, Retention and Dispersal of Archaeological Collections
- National Panel for Archaeological Archives in Wales. 2017. The National Standard and Guidance to Best Practice for Collecting and Depositing Archaeological Archives in Wales

d) It is not envisaged that the selection decisions will deviate from standard guidelines

**Uncollected Material**

All material will be collected in the first instance unless obviously modern (plastics/post 20th century artefacts).

**De-Selected Material**

After assessment stage material may be deselected based on the advice of the relevant material specialist and the requirements of the receiving institution. The selection strategy will be updated to reflect any decision made on de-selected material.

De-selected material will be assessed for educational value and retained/passed to an educational provider if deemed of use. If no further use is identified the de-selected material shall be discarded via Smiths Waste Management and deposited within their South Wales waste processing facility.

**Amendments**

Detail any amendments to the above selection strategy here.

| Date | Amendment | Rationale | Stakeholders |
|---|---|---|---|
| 14/06/2025 | Finds deselected or left in situ | All modern, deselected as per selection strategy | AW; Specialist |

ARCHAEOLOGY WALES

# Appendix IV: Data Management Plan

Data Management Plan

Section 1: Project Administration

| Project ID |
| --- |
| 3067 |
| Project Name |
| Llyn Celyn Reservoir |
| Project Description |
| Archaeology Wales was commissioned by Dŵr Cymru, Welsh Water (henceforth – 'the Client') to oversee the archaeological element of the groundworks at Llyn Celyn Reservoir, Gwynedd, North Wales, LL23 7PB. Centred on SH 88058 40353 (henceforth 'the Site').<br>Following pre-planning consultations with Gwynedd Archaeological Trust Archaeological Planning Services (henceforth GAT-AP) mitigation comprising archaeological monitoring and recording (AM&R) during the groundworks with the potential to disturb the archaeological resource were recommended.<br>The archaeological monitoring exposed a range of features associated with both the construction of the reservoir in the 1960s and deconstruction and demolition of the infrastructure that had had been put in place to construct it.<br>All work was undertaken to the standards and guidance set by the Chartered Institute for Archaeologists; Standard and the Universal guidance for archaeological monitoring and recording (2023a&b). AW is a Registered Organisation with the CIfA. |
| Project Funder / Grant reference |
| Dŵr Cymru Welsh Water |
| Project Manager |
| Paul Huckfield |
| Principal Investigator / Researcher |
| Menna Griffiths |
| Data Contact Person |
| Rhiannon Philp (rhiannon.philp@arch-wales.co.uk) |
| Date DMP created |
| 04.06.25 |
| Date DMP last updated |
| As above |
| Version |
| V2 |
| Related data management policies |
| This DMP is guided by the Project Brief, CIfA Standards and guidance, trusted digital repository guidelines (RCAHMW) or other best practice guidance (see brief for details) |

Section 2: Data Collection

| What data will you collect or create? |
| --- |
| The table below provides a summary of the data types, formats and estimated archive volume for data collected / created as part of this project. As the project progresses, more detail regarding files will be added to this DMP. |

| Type | Format | Estimated volume (Data Archived) |
|---|---|---|
| Text/documents | PDF (.pdf) | 4 |
| Images | Photographs (.jpg) | 385 |
| GIS | Shapefiles (.shp plus associated files) | 1 group |

How will the data be collected or created?

**Data Standards / Methods**

- Standard methods of data collection will be applied throughout the project, working to best practice guidance where applicable / available. In general, data acquisition standards are defined against RCAHMW Guidelines. Specific or additional guidance relevant to this project are listed below, and will
- be updated as the project progresses.
- Methods of collection are specified within the Project Design and will meet the requirement set out in the Project Brief, the organisation recording manual and relevant CIfA Standards and guidance.
- Where appropriate, project contributors external to the organisation will be required to include data standards, collection methodology and metadata with individual reports and data.
- Specific guidance:
  - Chartered Institute for Archaeologists, 2020. Standard and guidance for the archaeological investigation and recording of standing buildings or structures.
  - Historic England, 2016. Understanding Historic Buildings: A Guide to Good Recording Practice

**Data storage / file naming**

- The data produced will be uploaded at regular intervals during the project as a way of backing up the information.
- The working project archive will be stored in a project specific folder on the internal organisational server. The internal organisation server is backed up to a cloud-based storage system to maintain an up-to-date security copy of the organisation wide data.
- Project folders are named following established organisational procedures and the folder hierarchy and organisation devised will be understood by all members of staff involved in the project.
- Data collected will be downloaded and raw data will be stored in the appropriate folder.
- File naming conventions following established organisational procedures, based on RCAHMW file naming guidance, and include version control management.
- The data stored will be checked by the project manager regularly as a means of quality assurance.

Section 3: Documentation and metadata

What documentation and metadata will accompany the data?

- Data collected will include standard formats which maximise opportunities for use and reuse in the future (see Section 2, above).

- A RCAHMW metadata document will be included with the digital archive and include all data types included within the archive. A working copy will be kept on the organisational server in the Project Folder. A copy of the form containing HER required data will also be created.
- Data documentation will meet the requirement of the Project Brief, Museum Deposition Guidelines, Digital Repository Guidelines and the methodology described in the Project Design methodology.
- An archive catalogue documenting both physical and digital archive products will be maintained and submitted with both the Museum and Trusted Digital Repository

Section 4: Ethics and legal compliance

How will you manage any ethical, copyright and Intellectual Property Rights (IPR) issues?

- The project archive will include the names and contact details of individuals who intend to volunteer or participate in the excavation and post excavation stages. We have a GDPR compliant Privacy Policy which underpins the management of personal data; any personal data is managed through a secure cloud-based database and not retained on the project specific folders.
- Personal data will be removed from the archaeological project archive and permission to include individual's names in any reporting is gained prior to use.
- Copyright for all data collected by the project team belongs to the organisation, and formal permission to include data from external specialists and contractors is secured on the engagement of the specialist or contractor.
- Where formal permissions and/or license agreements are linked to data sharing, they will be included in the project documentation folders and will accompany the archaeological project archive.

Section 5: Data Security: Storage and Backup

How will the data be stored, accessed and backed up during the research?

- Organisational IT is managed by an external data management provider, who is also responsible for the management and verification of our daily back-ups and who supports access to security copies as needed
- Sufficient data storage space is available via the organisational server, which includes permissions-based access. The server is accessible by staff on and offsite through a secure log-in
- Off-site access to the project files on the organisation's server is provided to support back-up of raw data while fieldwork is ongoing. Where internet access for data back up is not possible, the raw data will be backed up to a separate media device (such as laptop and portable external hard drive).
- Project files will be shared with external specialists and contractors directly using the same system, with the wider project team gaining access to only the files needed using permissions-based access

Section 6: Selection and Preservation

Which data should be retained, shared, and/or preserved?

- The Selection Strategy and DMP will be reviewed and updated as part of the Post Excavation Assessment and Updated Project Design and following full analysis. Updated documentation will be included in all reporting stages.

- Prior to deposition, the Selection Strategy and DMP will be updated and finalised in agreement with all project stakeholders (including the Local Planning Archaeologist, Client, Museum, RCAHMW).
- Selection will be informed by the Project Design, defined against the research aims, regional and national research frameworks, specialist advice and the significance of the project results.
- The project will be published as an online technical report (accessible via RCAHMW and as part of this archive), with full access to research data.
- The data archive will be ordered, with files named and structured in a logical manner, and accompanied by relevant documentation and metadata, as outlined in Sections 2 and 3 of this DMP.
- Deselection will be undertaken automatically on any duplicate or unusable files, such as blurry or superfluous photographs.

What is the long-term preservation plan for the dataset?

- The digital archive will be deposited with the RCAHMW, which is working towards becoming a certified repository with Core Trust Seal.
- The archive will be prepared for deposition by the project team and the costs for the time needed for preparation, and the cost of deposition have been included in the project budget.

Have you contacted the data repository?

- AW has an ongoing agreement with the RCAHMW who the intended repository for digital data are.

Have the costs of archiving been fully considered?

- A costing estimate has been produced to allow for the preparation of the archive and has been included in the project budget.

Section 7: Data Sharing

How will you share the data and make it accessible?

- The museum and digital archive repository and will be updated as the project progresses.
- The investigations have resulted in the following documents: Project Design, Archaeological Monitoring and Recording Report
- A final version of the project report will be supplied to the Historic Environment Record, and any data which they request can also be provided directly.
- The location (s) of the final Archaeological Archive will be included in the final report

Are any restrictions on data sharing required?

- A temporary embargo may be required on the sharing of the project results. If this is the case, specific details once agreed will be included in the updated version of this DMP and will be documented in the overarching Project Collection Metadata.
- Data specific requirements, ethical issues or embargos which are linked to particular data formats will be documented within the relevant metadata tables accompanying the project archive

Section 8: Responsibilities

| Who will be responsible for implementing the data management plan? |
| --- |
| • The Project Manager and Post Excavation Manager will be responsible for implementing the DMP, and ensuring it is reviewed and revised at each stage of the project.<br>• Data capture, metadata production and data quality is the responsibility of the Project Team, assured by the Project Manager and Post Excavation Manager.<br>• Storage and backup of data in the field is the responsibility of the field team.<br>• Once data is incorporated into the organisations project server, storage and backup is managed by an external company.<br>• Data archiving is undertaken by the project team under the guidance of the Post Excavation Manager, who is responsible for the transfer of the Archaeological Project Archive to the agreed repository.<br>• Details of the core project team can be found in the Project Design. |

ARCHAEOLOGY WALES

**Archaeology Wales Limited**
Main Office, Unit D11.6 Treforest Industrial Estate
Pontypridd - CF37 5UR
**Tel: +44 (0) 1686 440371**
Email: admin@arch-wales.co.uk
Web: arch-wales.co.uk