ARCHAEOLOGY WALES

Archaeological Trenched Evaluation Report:

On Land North of Bronwylfa Road, Rhostyllen, Wrexham.

November 2023

Report No. 2241

By

Menna Griffiths and Anne Templeton

REGISTERED ORGANISATION CIfA

ARCHAEOLOGY WALES

Archaeological Trenched Evaluation Report:

On Land North of Bronwylfa Road, Rhostyllen, Wrexham.

November 2023

Innova Renewables Developments Limited

By

Menna Griffiths and Anne Templeton

Report No.2241

Version	Date	Sections Revised	Prepared/Revised by	Checked & Authorised by
1	06/11/2023	Original	Menna Griffiths	John Davey PhD MCIfA
2	13/11/2023	Minor changes to text	Dan Moore MA	John Davey PhD MCIfA

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

Constructionline Part of Capita plc

Acclaim Accreditation

REGISTERED ORGANISATION CIfA

Contents

List of Figures

List of Plates

Plate 10: Trench 7 fully excavated, view to the East. 2x1m scale.

Appendices

Appendix I: Context Register

Appendix II: Written Scheme of Investigation

Non-Technical Summary

Archaeology Wales conducted an archaeological evaluation of 7 trenches during October 2023 in advance of determination of a forthcoming planning application for a proposed new Energy Storage System (ESS) and substation on land north of Bronwylfa Road, to the west of Wrexham centred on SJ 29470 48398 .

The trenched evaluation was undertaken on behalf of Innova Renewables Developments and at the request of Clwyd Powys Archaeological Trust – Archaeological Planning Management.

A total of seven trenches were excavated across the site, four of which contained no significant archaeological finds or features. The evaluation recorded 3 archaeological features concentrated in the western part of the site, suggesting possible post medieval activity associated with extractive industries.

The possible post medieval features included two large gravel filled pits or possible bell pits and one linear ditch which contained a post medieval or modern metal pipe. Possible enclosure ditches, suggested by an earlier geophysical survey, were not identified. No archaeology from any other periods were encountered during the evaluation.

All work was conformed to the Standards and Guidance for Archaeological Field Evaluation (CIfA 2020).

Crynodeb Annhechnegol

Ymgymerwyd Archaeology Wales mantoliad 7 ffos yn ystod mis Hydref 2023 o flaen y penderfyniad ar gyfer cais cynllunio gerllaw ar gyfer System Storio Ynni ac isbwerdai arfaethedig ar dir i'r gogledd o lôn Bronwylfa, i'r gorllewin Wrecsam wedi'i chanoli ar SJ 29470 48398.

Ymgymerwyd y mantoliad ar gyfer Innova Renewables Developments ac ar gais Ymddiriedolaeth Archeolegol Clwyd-Powys - Goruchwyliaeth Cynllunio Archeolegol.

Cafodd cyfanswm o 7 ffos ei cloddi ar draws y safle, nad oedd unrhyw ddarganfyddiadau neu nodweddion archeolegol arwyddocaol o fewn pedwar o'r ffosydd. Wnaeth y mantoliad nodi 3 nodwedd archeolegol wedi'i ei lleoli yn yr ardal orllewinol y safle, sef yn awgrymu gweithgareddau ôl canoloesol yn gysylltiedig â diwydiannau echdynnol.

Mae'r nodweddion posib ôl canoloesol yn cynnwys dau bwll mawr raean neu bwll gloch ac un ffos linol a oedd yn cynnwys pibed metel ôl canoloesol neu fodern. Nad oedd y ffosydd llociau posib, a awgrymwyd gan arolwg geoffisegol cynharach, wedi'i dynodi. Nad oedd archaeoleg o unrhyw gyfnod arall wedi'i dynodi yn ystod y mantoliad hwn.

Ymgymerwyd y gwaith i gyd mewn cytundeb a'r safonau a chanllawiau'r Sefydliad Siartredig ar gyfer Archeolegwyr (2020).

1 Introduction

1.1.1 Archaeology Wales was commissioned by Innova Renewables Developments (henceforth – the client) at the request of Clwyd-Powys Archaeological Trust – Archaeological Planning Management (henceforth – CPAT-APM) to carry out an archaeological field evaluation on the site of the proposed new Energy Storage System and substation on Land North of Bronwylfa Road, to the East of Legacy Substation, Wrexham, centred on SJ 29470 48395) (Figures 1-2). The request for a trenched evaluation followed on from the results of a Geophysical survey undertaken by AW in 2022 (Muller 2023; Figure 3).

1.1.2 Consultation with CPAT-APM dated 13/12/2022 confirmed the requirement for an archaeological Geophysical survey to be submitted in support of the application at the pre-determination stage in the Energy Storage System areas to test for unrecorded sub-surface archaeology. Following the results of the survey the client confirmed that only the northern part of the area would be subject to the planning application. Upon further consultation with CPAT-APM dated the 10-11/5/2023 a plan of seven 10m x 1.8m trenches targeting specific geophysical anomalies was agreed (Figure 4).

1.1.3 A WSI (Appendix II) was subsequently prepared by Menna Griffiths (AW) and agreed with CPAT-APM in its capacity as archaeological advisors to the local planning authority (Wrexham County Borough Council). The purpose of the proposed archaeological evaluation was to determine the presence or absence of archaeological features, structures, deposits, artefacts or ecofacts, and their research potential, within the development area (CIfA 2020) and to provide the local planning authority with the information they are likely to request in respect of the proposed development, the requirements for which are set out in Planning Policy Wales Revised Edition.11, Section 6.1 (2021) and Technical Advice Note (TAN) 24: The Historic Environment (2017).

1.1.4 All work conformed to Standard and Guidance for Archaeological Field Evaluation (CIfA 2020) and Standards and Guidance for Archaeological Artefact and Environmental Collection, Documentation Conservation and Research (CIfA 2020). The work was undertaken by suitably qualified staff to the highest professional standards. AW is a Registered Organisation with the CIfA.

1.1.5 The field work was carried out in October 2023 under the supervision of Anne Templeton, with the assistance of Menna Griffiths. The project was managed by John Davey PhD MCIfA.

2 Site Description and Archaeological Background

2.1 Location, Topography and Geology

2.1.1 The Site is broadly triangular in shape, comprising a single agricultural field parcel and extends to approximately 5.5 ha in area. The site's boundaries feature a broad tree belt to the north and east, with hedgerows to the south and west. A former railway line runs along the northern boundary (set at a higher level and bounded by the mature vegetation) whilst the A483 lies to the east which is also elevated and bounded by mature established vegetation. The B5097 / Bronwylfa Road forms the southern boundary, from which there is a single gated access in the site, forms the southern boundary and Cadwgan Lane, a single-track road, forms the western boundary.

2.1.2 An existing vehicular access is located at the main development site's southern boundary from the B5097.

2.1.3 The land to the west of Cadwgan Lane comprises an L-shaped agricultural field and extends to approximately 3.4ha. It is bounded a tree belt to the north. Bersham Cricket Club to the south west, and the B5097 / Bronwylfa Road to the south. An access track for abnormal loads extending to approximately 0.2ha is proposed on the southern part of the field.

2.1.4 Agricultural land and uses form the site's predominant surroundings to the north, south and west with pockets of residential properties dispersed throughout. To the east of the site (approx. 500m), on the opposite side of the A483, is the village of Rhostyllen. The Legacy National Grid Substation, which the proposals will connect to, is located approximately 750m west of the site.

2.1.5 Wrexham City Centre is located approximately 3km north-east.

2.1.6 The underlying bedrock geology comprises of the Pennine Lower Coal Measures Formation, which is comprised of mudstone, siltstone and sandstone, and Pennine Middle Coal Measures Formation which comprises of Sedimentary bedrock formed between 319 and 309.5 million years ago during the Carboniferous period (BGS, Geology Viewer – accessed 25/09/2023).

2.1.7 The superficial geology of the eastern area of the proposed development site comprises of Devensian Till – Diamicton, which is a sedimentary superficial deposit formed between 116 and 11.8 thousand years ago during the Quarternary period. The superficial geology of the western area of the site comprises of sand and gravel formed between 116 and 11.8 thousand years ago during the Quarternary period (BGS, Geology Viewer – accessed 25/09/2023).

2.2 Development Proposals

2.2.1 Installation and operation of an Energy Storage System (ESS) including energy storage units, substation, site access, cable connection, landscaping and ancillary infrastructure.

2.2.2 The proposed ESS will be based upon the latest energy storage technology. It will import and export large amounts of electricity with no time lag, storing surplus electricity from the grid and then providing a means of additional electricity supply at times of peak demand.

2.2.3 The Energy Storage units will be laid out in rows with intervening access areas. The units will sit on concrete slabs or supporting feet. Internal access tracks will comprise crushed stone and the access road for the abnormal load will be asphalt. The Energy Storage units will use LFP (Lithium Iron Phosphate) technology and measure approximately 2.9m in height. The GIS building in the substation area will measure approximately 14m in height and is therefore the tallest piece of equipment.

2.2.4 The associated MV skids are sited alongside the Energy Storage units and connect in groups to 33kV transformer bays distributed evenly throughout the site. The substation compound is proposed to be located on the north-western corner of the site.

2.2.5 Remaining areas within the site, outside of the fence line will be landscaped to create and enhance ecological habitat and enhance the visual quality of the area. Hedgerow enhancement and a 10m wide woodland structure will be implemented along the western boundary of the site to help screen the proposals from the surroundings, as well as bunding along western/southern/eastern boundaries. An attenuation basin is included on the eastern part of the site for sustainable drainage.

2.2.6 Access for construction and operation will be from the existing B5097 access and the new access established from the unnamed lane on the sites western boundary. A temporary construction compound is proposed in the field to the north of the new access road.

2.2.7 In summary, the proposed ESS development comprises:

- 400kV Substation with Gas Insulated Switchgear (GIS) building & Transformers;
- Energy storage containers;
- 33kV transformer bays;
- Medium Voltage (MV) Skid – Inverters & Transformers;
- Control buildings;
- Access from the adopted highway;

- Internal access road and crushed stone tracks;
- Drainage infrastructure, landscape, and ecological planting; and
- Security fencing and CCTV.

2.3 Archaeological and Historical Background

2.3.1 An archaeological Desk Based Assessment was carried out by AW in December of 2022 to determine the archaeological potential of the development site (Davey and Muller 2023). The site lies within 200m of the Bersham Conservation Area and there are four scheduled monuments within the wider development area, Offa's Dyke: extending 120m from the Railway to Bronwylfa Road, Legacy (DE194); Offa's Dyke: Cadwgan Hall Section, extending from Clywedog to the Railway (DE132); Moated site near Groesfoel Farm, Rhostyllen (DE193); and Croes-Foel Round Barrow (DE048) lies within the south eastern part of the development area. Two scheduled sections of Offa's Dyke lie within the boundaries of the proposed development area (DE194 and DE132). It is proposed that the cable trench will pass across the line of this monument.

2.3.2 The presence of the Moated site near Groesfoel Farm is evidence of Medieval activity within the site as the site comprises of a Medieval homestead. This monument is of National Importance for its potential to enhance our knowledge of medieval settlement. Cadwgan Hall immediately to the north of the development site is further evidence of Medieval activity in the area, it is believed to be the site of a Medieval Motte and Bailey adjacent to Offa's Dyke.

2.3.3 Historical maps from the early 19th century show evidence of industrial activity. The ordinance survey drawings depicts a part of the Great Western Railway Rhos Branch line, built between 1899 and 1912, running through the site from east to west. It also depicts coal pits within the wider study area from this period ((OS County Series 6-inch Denbighshire Sheet XXVIII.SW Revised: 1909 to 1910, Published 1914).

2.3.4 The site lies within the landmap historic landscape area of Talwrn (WRXHMHL021) characterised as a rural environment of agricultural irregular fieldscapes.

2.3.5 There are five listed buildings within close proximity to the development site.

2.3.6 A geophysical Survey was carried out by AW in May of 2023 which identified a number of anomalies characteristic of archaeological features. These included field boundaries which are visible on 19th century mapping, however many of these features have been interpreted to represent former field boundaries which pre-date the 1839 tithe map. The geophysical results also indicated that one or more pits may be present in the vicinity of these field boundaries. Field 3 of the

geophysical survey contained four possible larger circular or elliptical anomalies which could represent former open caste coal (bell) pits (Muller 2023).

3 Methodology

3.1 Objectives

3.1.1 The objective of the intrusive trial trench evaluation was to locate and describe archaeological features present within the development area. In addition, it was intended to elucidate the presence or absence of archaeological material, its character, distribution, extent, condition, and relative significance.

3.1.2 This resulting report provides information which is sufficiently detailed to allow the archaeological resource to be better understood and to inform whether further archaeological work should be undertaken in association with the proposed development.

3.2 Overview

3.2.1 The work was undertaken to meet the standard required by The Chartered Institute for Archaeologist's Standard and Guidance for Archaeological Field Evaluation (2020).

Trenched Evaluation Methodology

3.2.2 All works were carried out in accordance with the Code of Conduct as set out by the Chartered Institute for Archaeologists. Sample excavation of archaeological deposits was undertaken in accordance with the methodology set out in the WSI.

3.2.3 All trenches were excavated using a mechanical excavator equipped with a flat bladed, toothless ditching bucket, under archaeological direction.

3.2.4 Machine excavation was undertaken down to the surface of the first significant archaeological deposits or to the surface of natural undisturbed ground, whichever was uppermost. This was monitored by a qualified field archaeologist.

3.2.5 Seven trenches were excavated. These were to each measure 10m in length and 1.8m wide. The exact positioning of the trenches depended on the position of Tree Preservation Orders, and of an extant services or other obstructions identified during the initial phase of groundworks.

3.2.6 Examination and cleaning of deposits was undertaken by hand using appropriate hand tools. Any archaeological deposits were examined and recorded both in plan and section. Any features were excavated to ascertain their extent, form, function and if possible, date. Where appropriate a representative sample, sufficient to

meet the objectives of the evaluation, of identified features was investigated and all features were recorded. The stratigraphy of each trench was recorded in full.

3.2.7 All archaeological features revealed were planned and recorded in accordance with industry standards. Each context was recorded on a pro-forma context sheet by written and measured description; principal deposits recorded by drawn plans (scale 1:20) or electronically using GPS as appropriate and drawn sections (scale 1:10 or 1:20 as appropriate). Photographs (digital colour) were taken as appropriate. Finds and samples were bagged separately and related to the context record. All artefacts recovered were retained for processing and analysis.

4 Results

4.1 Overview

4.1.1 The evaluation consisted of seven 10m x 1.8m machine dug trenches that targeted possible archaeological features identified in the geophysical survey (Muller 2023).

4.2 Trench 1 (Figure 5; plate 1)

4.2.1 Trench 1 measured 10m long by 1.8m wide and was excavated to a maximum depth of 0.75m. It was orientated E-W and located within the northwestern corner of the site in order to test one of the dipolar magnetic responses comprising geophysical anomaly F12.

4.2.2 The basal deposit (102) was interpreted as natural geological layer. It comprised a mid-reddish brown sandy silt with inclusions of frequent gravel and sandstone. The deposit was encountered at a depth of 0.55m below ground level and had an exposed thickness of 0.2m. Deposit (102) was overlaid by subsoil layer (101).

4.2.3 Layer (101) comprised a mid-reddish brown sandy silt subsoil containing inclusions of moderately frequent rounded and subangular sandstone. The deposit was encountered at a depth of 0.3m below ground level and had an exposed thickness of 0.25m. Subsoil (101) was overlaid by topsoil layer (100).

4.2.4 Layer (100) was a mid-greyish brown sandy silt topsoil with. The deposit had a maximum thickness of 0.3m.

4.2.5 The trench was devoid of any significant archaeological finds, features, or deposits.

4.3 Trench 2 (Figures 5-6; plates 2-3)

4.3.1 Trench 2 measured 10m long, was stepped to a width of 5.65m and was excavated to a maximum depth of 1.2m. It was E-W orientated and located towards the

western boundary of the site, in order to test one of the dipolar magnetic responses comprising geophysical anomaly F12.

4.3.2 Basal deposit (202) was interpreted as a natural geological layer. It comprised a light greyish brown sand and gravel. The layer was encountered at a depth of 1m below ground level and had an exposed thickness of 0.2m. Deposit (202) was overlaid by layer (201).

4.3.3 Layer (201) comprised mixed stone, sandstones, gravels and slate interpreted to be a loose re-deposited layer. It was encountered at a depth of 0.25m below ground level and measured more than 6m in length, 1.8m in width and had a maximum thickness of 0.75m. Deposit (201) appeared to be cut by pit [203].

4.3.4 Pit [203] was apparently cut into deposit (201). It was located towards the south western corner of the trench and was roughly ovular in plan and orientated approximately E-W, it had moderately sloping and symmetrical sides and an assumed concave base. It measured 4m in length and 2m in width with a depth of 0.75m as excavated. The pit was filled by deposit (204).

4.3.5 Fill (204) comprised a mixed orangey red sand of a loose compaction containing large rounded and subangular sandstone inclusions and some degraded orange sandstone around the edge. It had a length of 4m and a width of 2m and had a maximum thickness of 0.75m. It contained no dateable finds. Pit [203]/(204) is tentatively interpreted as a cobble filled circular feature with a redder colouration to the fill around the edge. Due to the loose rubbly nature of the fill and the depth of the trench it was not possible to enter the trench safely and clean up the sections, however its does appear to correspond with one of the dipolar magnetic responses comprising geophysical anomaly F12, possible bell-pit. Deposit (204) was overlain by topsoil (200).

4.3.6 Deposit (200) was a mid-greyish brown sandy silt topsoil with no inclusions. The deposit had a maximum thickness of 0.25m.

4.4 Trench 3 (Figures 5-6; Plates 4-5)

4.4.1 Trench 3 measured 10m long, was stepped to a width of 3.8m, and excavated to a maximum depth of 1.2m. It was E-W orientated and located to the east of Trench 2, in order to test one of the linear magnetic responses comprising geophysical anomaly F4.

4.4.2 Basal deposit (302) was interpreted as a natural geological layer. It comprised gravels and frequent subangular and rounded sandstone and ironstone. The deposit was encountered at a depth of 1.2m below ground level. Natural layer (302) was overlain by subsoil (301).

4.4.3 Layer (301) comprised a mid-reddish brown sandy silt subsoil containing moderate inclusions of rounded and subangular sandstone. It was encountered

at a depth of 0.5m below ground level and had an exposed thickness of 0.7m. Subsoil (301) was cut by pit [303].

4.4.4 Pit [303] was located towards the southeastern corner of the trench. It was subcircular in plan and continued beyond the limit of excavation. It had a symmetrical profile with moderately sloping sides and a concave base. It measured 2m in length and 0.9m wide and had a maximum depth of 0.7m. The pit was filled by deposit (304).

4.4.5 Fill (304) comprised a light orangey yellow sand and mid greyish brown sandy silt of a very loose compaction containing rare inclusions of small sandstone and infrequent black carbon deposits, possibly representing degraded coal, but no dateable finds. Due to the loose rubbly nature of the fill and the depth of the trench it was not possible to enter the trench safely and clean up the sections, however its position does appear to correspond with one of the magnetic responses comprising geophysical anomaly F4. However, F4 had previously interpreted as a linear comprising the western arm of a possible enclosure. The excavated evidence from Trench 3 rather indicates that this putative linear is more correctly an amalgamation of discrete feature [303] and natural geological magnetic variations. Deposit (304) was overlain by deposit (300).

4.4.6 Deposit (300) was a mid-greyish brown sandy silt topsoil with no inclusions. The deposit had a maximum thickness of 0.5m.

4.5 Trench 4 (Figures 5-6; Plates 6-7)

4.5.1 Trench 4 measured 10m long by 1.8m wide and was excavated to a maximum depth of 0.8m. It was orientated approximately NE-SW and was located to the west of Trench 6 in order to test one of the linear magnetic responses comprising geophysical anomaly F4.

4.5.2 The basal deposit (402) was interpreted as a natural mid-reddish brown silty clay with light orangey grey and light pinkish grey sand. The deposit was encountered at a depth of 0.6m below ground level and had an exposed thickness of 0.2m. Natural layer (402) was overlaid by subsoil (401).

4.5.3 Layer (401) comprised a mid-reddish brown sandy silt subsoil containing moderate inclusions of rounded and subangular sandstone. It was encountered at a depth of 0.30m below ground level and had an exposed thickness of 0.3m. Deposit (401) was cut by linear ditch [403].

4.5.4 Linear ditch [403] was located in the northern part of the trench. It was orientated E-W, with a symmetrical profile, steep sides and a concave base. It measured 1.8m long as exposed within the trench, and continued beyond the limit of excavation, a width of 1m, and a maximum depth of 0.8m. The ditch was filled by deposit (404].

4.5.5 Fill (404) comprised a firm mid-greyish brown sandy silt containing rare small to medium subangular stones. It also contained a metal (Fe) pipe of likely modern date. Fill (404) was overlain by topsoil (400). Linear ditch [403]/(404) appears to correspond with the northern arm of a possible enclosure (F4) identified during the geophysical survey. However, the fact that fill (404) contains a post medieval or modern Fe pipe, would indicate that this linear more correctly exists in isolation from any putative enclosure and potentially serves a cattle trough located inside the southern boundary of this field.

4.5.6 Topsoil (400) comprised a mid-greyish brown clayey silt with no inclusions. The deposit had a maximum thickness of 0.3m.

4.6 Trench 5 (Figure 5; plate 8)

4.6.1 Trench 5 measured 10m long by 1.8m wide and was excavated to a maximum depth of 0.9m. It was orientated NE-SW and located in the southwestern corner of the site in order to test one of the linear magnetic responses comprising geophysical anomaly F4.

4.6.2 The basal deposit (502) was interpreted as a natural layer. It comprised mixed mid-reddish-brown sand and gravel and sandy silt with inclusions of frequent sandstone and ironstone. The deposit was encountered at a depth of 0.9m below ground level. Deposit (502) was overlaid by layer (501).

4.6.3 Layer (501) comprised a mid-reddish brown clayey silt subsoil containing moderate small rounded and subangular sandstones. The deposit was encountered at a depth of 0.4m below ground level and had an exposed thickness of 0.5m. Layer (501) was overlaid by topsoil layer (500).

4.6.4 Layer (500) was a mid-greyish brown sandy silt topsoil with no inclusions. The deposit had a maximum thickness of 0.4m.

4.6.5 The trench was devoid of any significant archaeological finds, features and deposits. It is possible that the ironstone recorded in the natural layer (502) may have been responsible for the magnetic response recorded in the geophysical survey.

4.7 Trench 6 (Figure 5; Plate 9)

4.7.1 Trench 6 measured 10m long by 1.8m wide and was excavated to a maximum depth of 1m. It was orientated NW-SE and located along the southern border of the site in order to test one of the dipolar magnetic responses comprising geophysical anomaly F12.

4.7.2 The basal deposit (602) was interpreted as a natural layer. It comprised a mixed mid reddish-brown clay and a light pinkish yellow sand with no inclusions. The deposit was encountered at a depth of 0.5m below ground level and had an exposed thickness of 0.2m. Deposit (602) was overlaid by layer (601).

4.7.3 Layer (601) comprised a mid-reddish brown clayey silt subsoil with no inclusions. The deposit was encountered at a depth of 0.3m below ground level and had an exposed thickness of 0.5m. Deposit (601) was overlaid by topsoil layer (600).

4.7.4 Layer (600) was a mid-greyish brown clayey silt topsoil with no inclusions. The deposit had a maximum thickness of 0.3m.

4.7.5 The trench was devoid of any archaeological finds, features and deposits.

4.8 Trench 7 (Figure 5; Plate 10)

4.8.1 Trench 7 measured 10m long by 1.8m wide and was excavated to a maximum depth of 1.15m. It was orientated E-W and located northeast from Trench 6 in order to test one of the dipolar magnetic responses comprising geophysical anomaly F12.

4.8.2 The basal deposit (702) was interpreted as a natural layer. It comprised a mid-greyish brown clay with moderate small sandstone and gravel inclusions. The deposit was encountered at a depth of 0.95m below ground level and had an exposed thickness of 0.2m. Natural layer (702) was overlaid by layer (701).

4.8.3 Layer (701) comprised a mid-reddish brown clayey silt subsoil containing infrequent medium subangular and rounded sandstone inclusions. The deposit was encountered at a depth of 0.4m below ground level and had an exposed thickness of 0.55m. Subsoil (701) was overlaid by topsoil layer (700).

4.8.4 Layer (700) comprised a mid-greyish brown clayey silt topsoil with no inclusions. The deposit had a maximum thickness of 0.4m.

4.8.5 The trench was devoid of any significant archaeological finds, features and deposits.

5 Discussions and Conclusions

5.1.1 The archaeological trenched evaluation on Land North of Bronwylfa Road, Rhostylen, followed on from an archaeological desk-based assessment (Davey & Muller 2023) and a geophysical survey (Muller 2023), both undertaken by AW. These assessments set out the potential for surviving subsurface archaeological deposits on the site. The geophysical survey revealed anomalies that had been tentatively interpreted as possible industrial post medieval coal mining 'bell pits' (F12), and a possible ditched enclosure of medieval or earlier date (F4). These anomalies were tested through the excavation of seven targeted 10m x 1.8m trenches.

5.1.2 The excavation of the seven trenches revealed evidence for three archaeological features:

- Pit [203] within Trench 2 corresponds with one of the di-polar geophysical anomalies (F12) and is tentatively interpreted as a possible 'bell pit'. Unfortunately, the nature of the fill and the layer (201) into which it appeared to be cut were very loose and unstable and it was not possible to safely enter the trench to excavate or clean up the sections any further. Caveats must therefore remain to its interpretation as a former 'bell pit'. Firstly, neither the backfill of the pit (204), nor the loose layer (201) surrounding it contained any evidence of former coal working waste as would be expected associated with a bell pit. Secondly, the loose nature of the surrounding material would have presented serious safety issues in its original excavation. And use. It is possible that loose material (201) represents the upcast mound from the excavation of the pit, and that lower down, the shaft was cut into more stable material. Nevertheless, the presence of coal waste would be expected in both layers (201) and (204) if that was the case.

- Pit [303] in Trench 3 did contain some black carbon rich material within its fill (304). Again, the loose nature of the trench edges did not allow for any further safe excavation in this trench. Nevertheless, pit [303] is tentatively interpreted as a possible bell pit. Trench 3 had been located over a possible linear geophysical anomaly thought to be associated with possible ditched enclosure (F4). Anomaly F4 was tested in three trenches (Trenches 3, 4 and 5) in which the anomalies were revealed to comprise a a discrete feature [303], a modern linear [403] and natural magnetic variation.

- Linear [403] in trench 4 coincides with the northern arm of putative ditched enclosure (F4). However, on excavation it was shown to contain a modern metal (Fe) pipe within its fill (404).

5.1.3 One further trench, Trench 5, had been targeted over putative enclosure (F4) but no significant archaeological deposits were recorded. It is considered that the potential geophysical anomaly that Trench 5 had targeted represents natural magnetic variation within the mixed and variable superficial geology comprising Devensian Till and Quaternary sands and gravels.

5.1.4 Three further trenches had been targeted over putative bell pits F12 (Trenches 1, 6 and 7) but no significant archaeological deposits were recorded in any of these trenches. These trenches had been targeted over strong di-polar geophysical anomalies. However, no evidence for archaeological features, or modern intrusive ferrous material, that could have given rise to these magnetic responses was forthcoming from the excavations, despite the machine excavated spoil heaps being closely examined in each instance.

5.1.5 No archaeological evidence from other periods was encountered during this trenched evaluation. The only artefact recovered from the excavations was a section of the modern Fe pipe from context (404), now discarded.

5.1.6 It is considered that the archaeological potential of the proposed development area is low. Nevertheless, there remains a low potential for deep and loose backfill deposits associated with former coal mining bell pits within the vicinity of Trenches 2 and 3.

6 Bibliography

British Geological Survey: Geology of Britain viewer: www.bgs.ac.uk/discoveringGeology/geologyOfBritain/viewer.html (accessed 25/09/2023)

Chartered Institute for Archaeologists, 2020. Standards and guidance for archaeological field evaluation.

Chartered Institute for Archaeologists, 2019. Toolkit for Selecting Archaeological Archives.

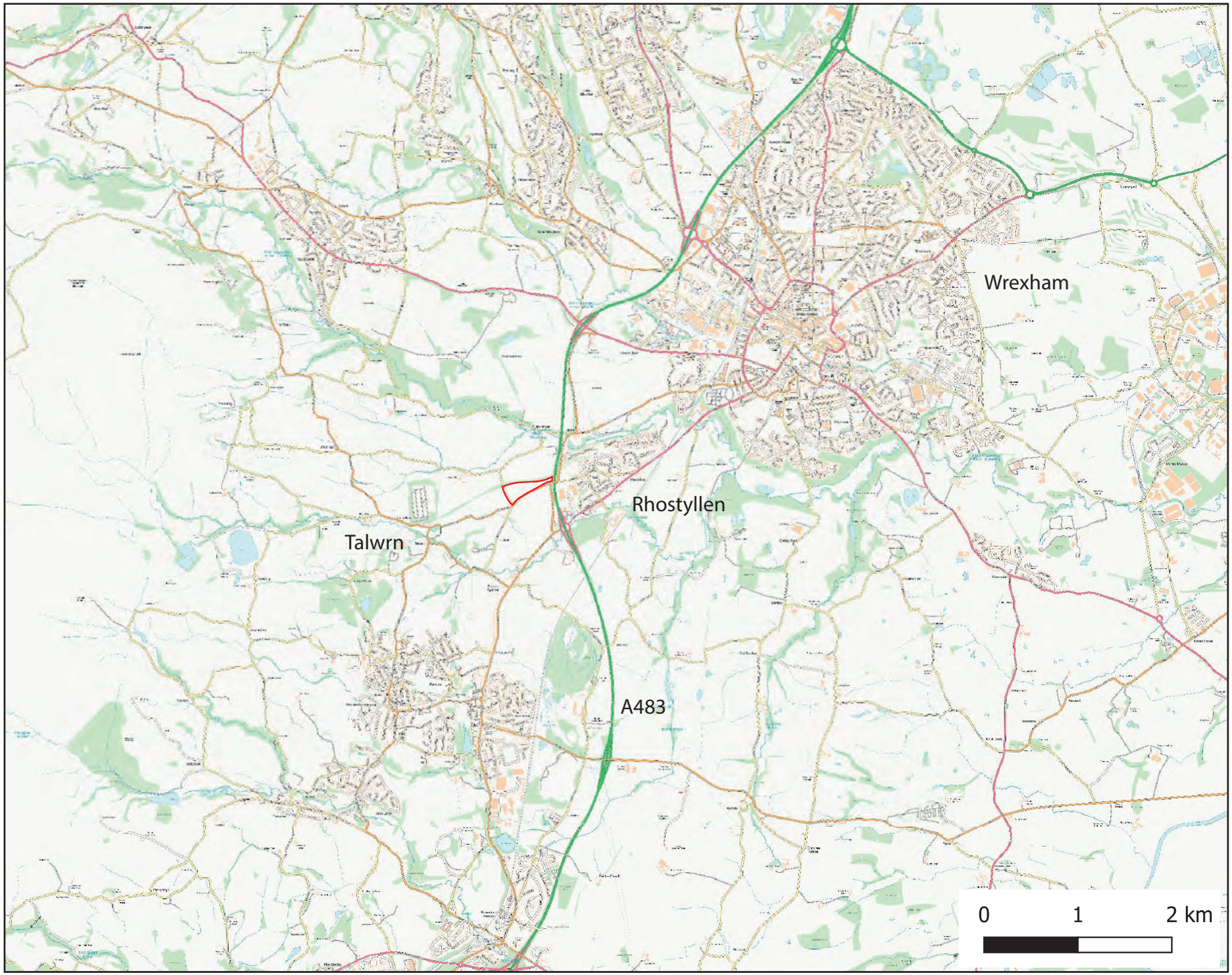
Chartered Institute for Archaeologists, 2020. Standards and guidance for the creation, compilation, transfer and deposition of archaeological archives.

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

Davey, J. & Muller, J. 2023. Archaeological Desk Based Assessment: On Land at Rhostyllen, Wrexham. Archaeology Wales Report No. 2162

Griffiths, M. 2023. Written Scheme of Investigation for an Archaeological Field Evaluation at Land at Rhostyllen, Wrexham.

Muller, J. 2023. Geophysical Survey Report on Land at Rhostyllen, Wrexham. Archaeology Wales Report No. 2195



Site location

Figure 1: Location Plan

ARCHAEOLOGY WALES
Revealing the past, informing the future

Figure 2: Proposed Development Plan

ARCHAEOLOGY WALES
Revealing the past, informing the future

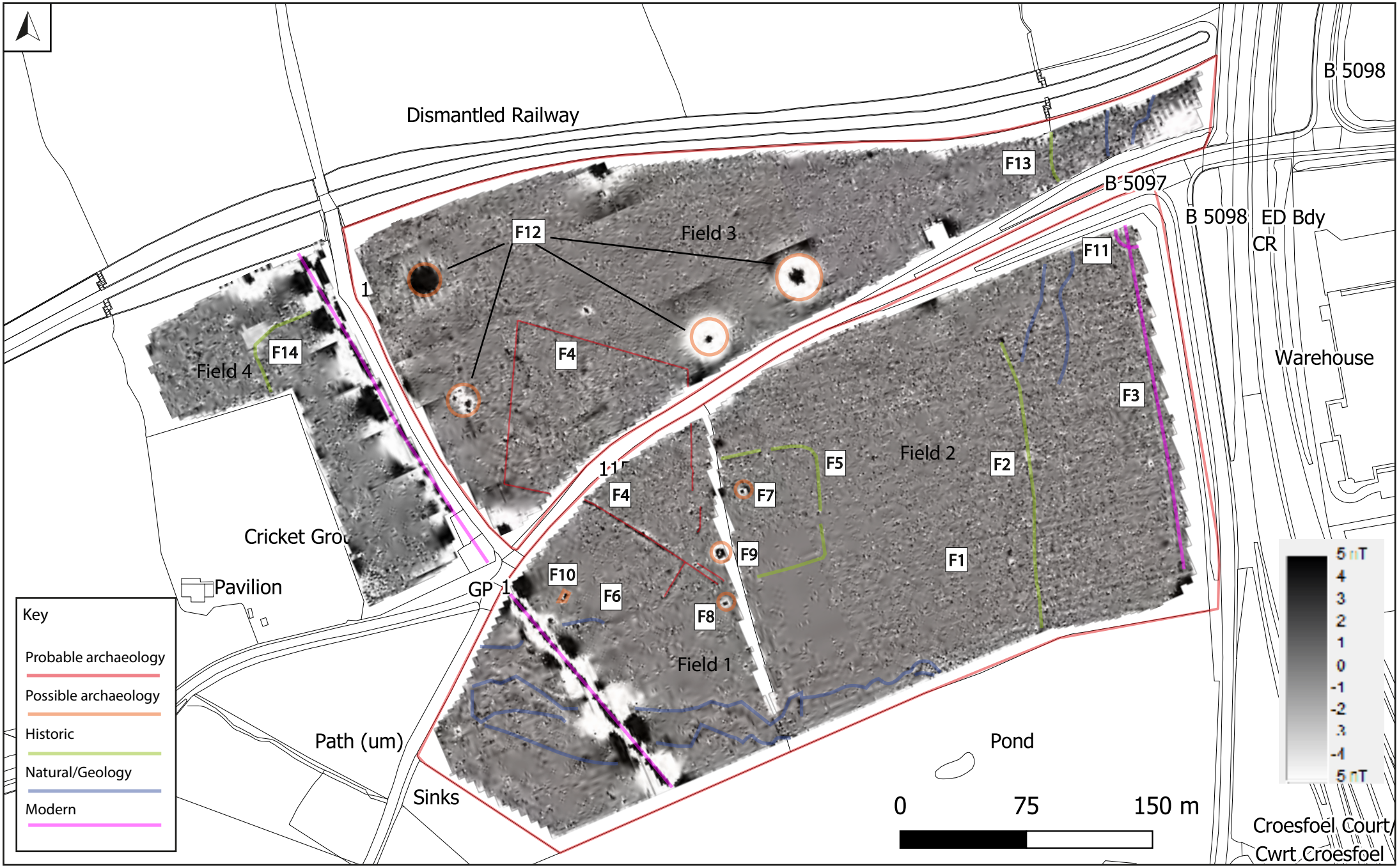


Figure 5. Fields 1-4: Greyscale plot of processed data clipped to +/-5 and destriped, with interpretation

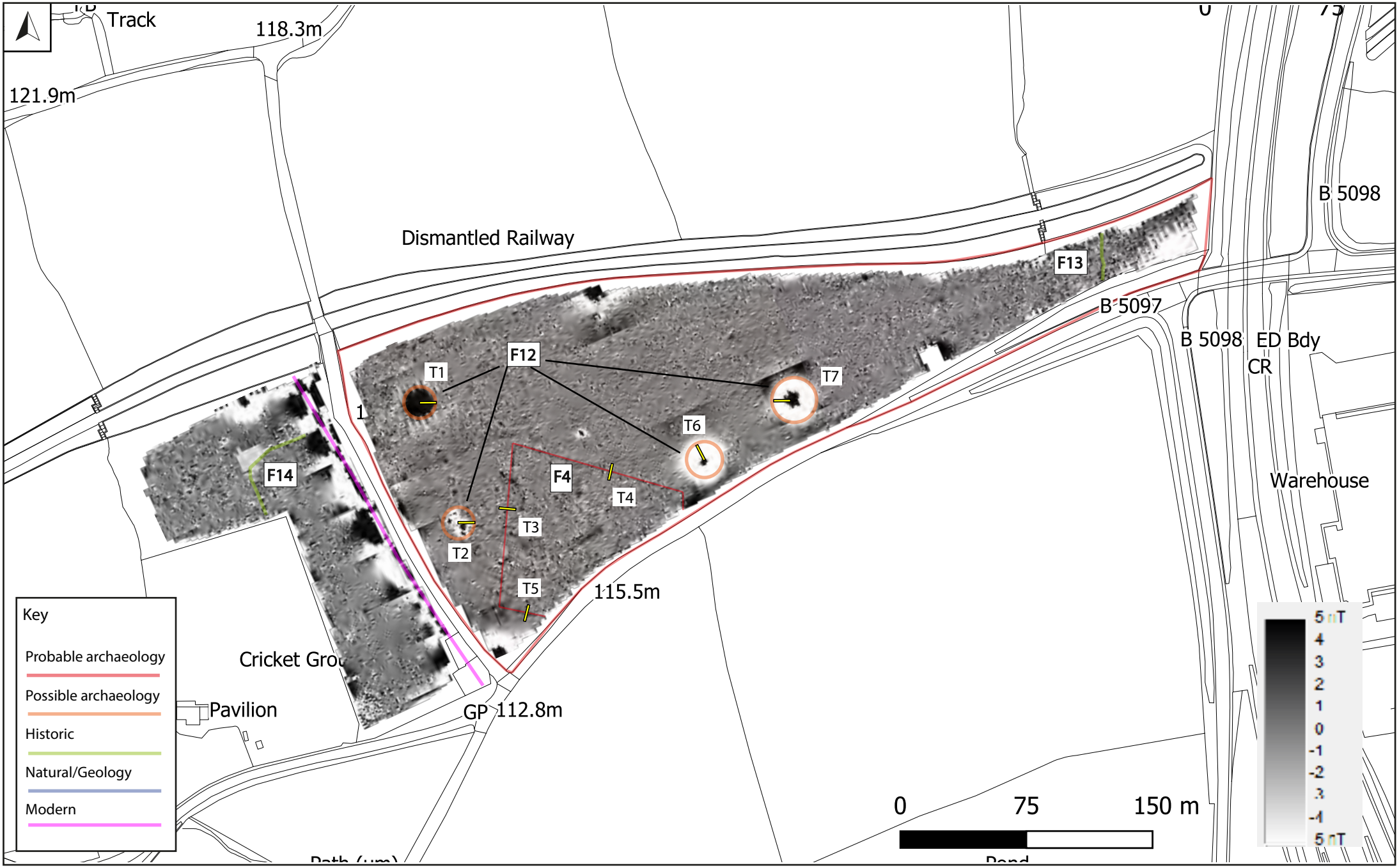


Figure 4. Proposed Trench Plan with Geophysical Survey Results and Interpretation

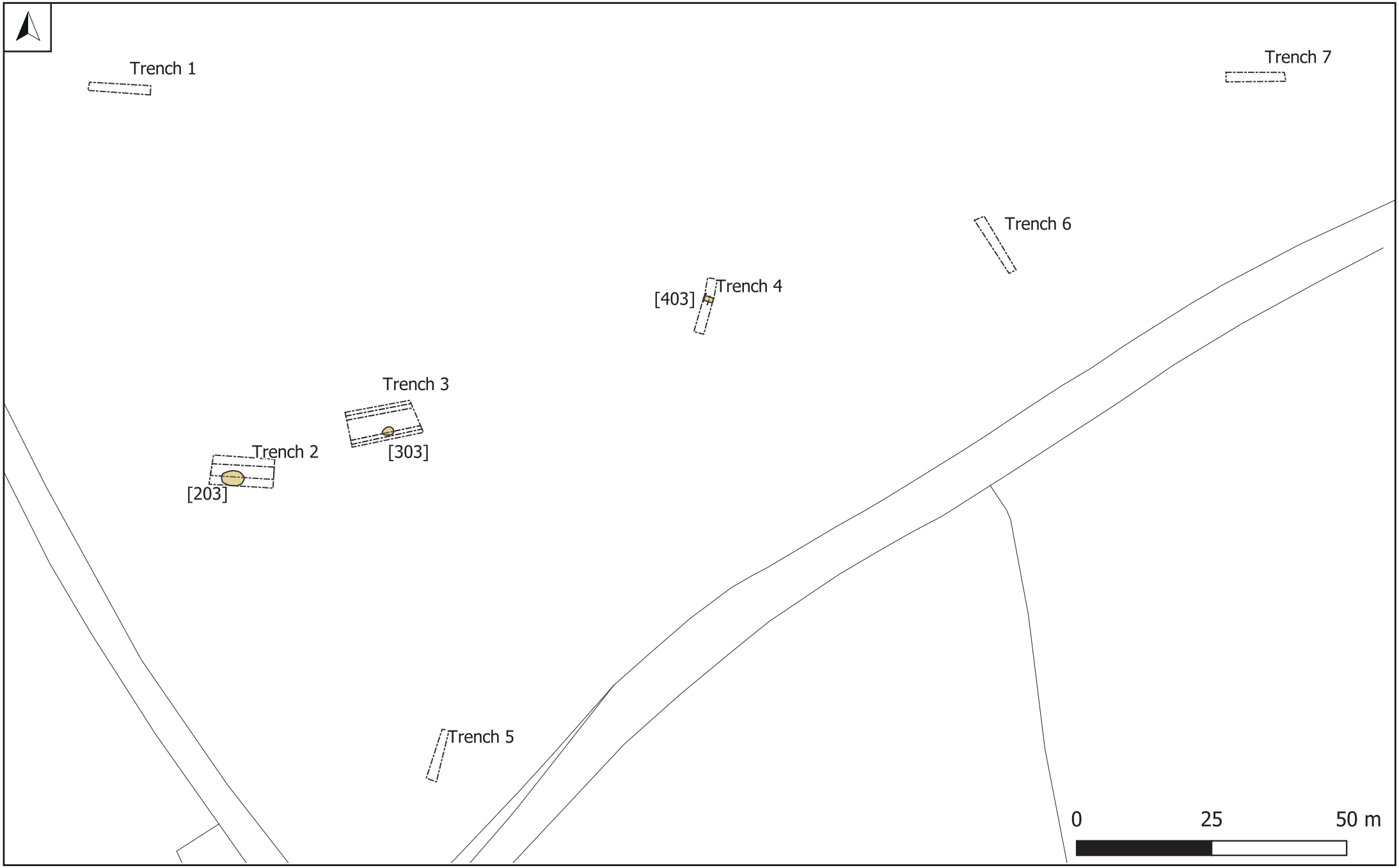


Figure 5. Trench Excavation Plan

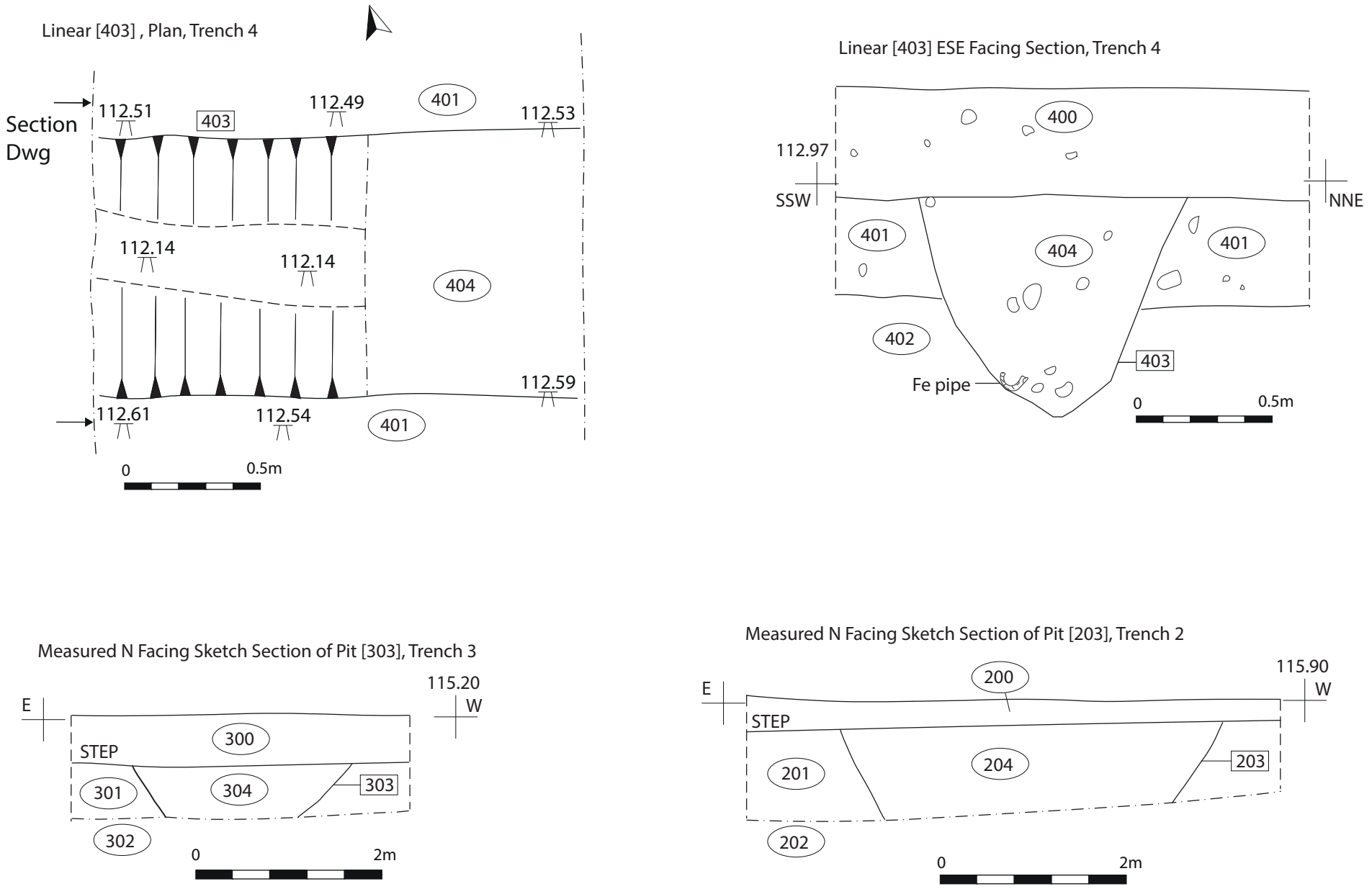


Figure 6. Detailed Plans and Sections

Plate 1: Trench 1, fully excavated, view to the West. 2x1m scale.

Plate 2: Trench 2, fully excavated, view to the west. 2x1m scale.

Plate 3: North facing section of pit [203] showing fill (204), view to the South. 1m scale.

Plate 4: Trench 3 fully excavated, view to the east. 2x1m scale.

Plate 5: North facing section of pit [303], showing fill (304), view to the South.1m scale.

Plate 6: Trench 4, view to the Northeast, linear [403] unexcavated. 2x1m scale.

Plate 7: East southeast facing section of ditch [403] partially excavated, view to the West northwest. 1m scale.

Plate 8: Trench 5 fully excavated, view to the South southwest. 2x1m scale.

Plate 9: Trench 6 fully excavated, view to the South southeast. 2z1m scale

Plate 10: Trench 7 fully excavated, view to the East. 2x1m scale.

Archaeology Wales

APPENDIX I:
Context Inventory

Appendix 1 Context Inventory

Trench	Context No.	Type	Fill of	Interpretation	Description	Length (m)	Width (m)	Depth/ thickness (m)	Spot date
1	100	Deposit		Topsoil	Mid greyish brown sandy silt. No inclusions.	10		0.3	
1	101	Deposit		Subsoil	Mid reddish brown sandy silt. Rounded and subangular soundstone inclusions.	10	1.8	0.25	
1	102	Deposit		Natural	Mid reddish brown silty clay with gravel and sandstone.	10	1.8	0.2	
2	200	Deposit		Topsoil	Mid greyish brown sandy silt. No inclusions.	10	1.8	0.25	
2	201	Deposit		Backfill	Small, medium, and large mixed stone. Sandstone, gravel, and possible slate. No visible structural cut.	10	1.8	0.75	
2	202	Deposit		Natural	Light greyish brown sand and granules.	10	1.8	>1	
2	203	Cut		Cut of backfilled material.	Oval/irregular shape. Moderate/assymetrical sides. Assumed concave base. Oriented east-west. Machine excavated.	4	2	0.75	Assumed post-medieval
2	204	Fill	[203]	Backfill	Very loose compaction. Orangey-red sand with large rounded and subangular sandstone inclusions and some orange degrading	4	2	0.75	

Trench	Context No.	Type	Fill of	Interpretation	Description	Length (m)	Width (m)	Depth/ thickness (m)	Spot date
					sandstone. Machine excavated				
3	300	Deposit		Topsoil	Mid greyish brown sandy silt. No inclusions.	10	1.8	0.5	
3	301	Deposit		Subsoil	Mid reddish brown sandy silt. Moderate small, medium, and large rounded and subangular sandstone inclusions.	10	1.8	0.7	
3	302	Deposit		Natural	Gravel. Small, medium, and large subangular sandstone and ironstone.	10	1.8	>1.2	
3	303	Cut		Cut of backfill	Sub-circular irregular shape. Moderate and broadly symmetrical sides. Concave base. Machine excavated.	2	0.9	0.7	
3	304	Fill	[303]	Backfill	Very loose compaction. Light orangey-yellow sand and mid-greyish brown silt. Small sandstone inclusions. Infrequent carbon deposit. High contamination/ ,acjome excavated and trench stepped.	2	0.9	0.7	
4	400	Deposit		Topsoil	Mid greyish brown clayey silt. No inclusions.	10	1.8	0.3	

Trench	Context No.	Type	Fill of	Interpretation	Description	Length (m)	Width (m)	Depth/ thickness (m)	Spot date
4	401	Deposit		Subsoil	Mid greyish brown clayey silt. Inclusions of small, medium, and large rounded and subangular sandstone.	10	1.8	0.3	
4	402	Deposit		Natural	Mixed fill - mid reddish brown clay and light orangey yellow and pinkish grey sand.	10	1.8	0.2	
4	403	Cut		Linear ditch	Linear cut. Steep and symmetrical sides. Concave base. Oriented SE/NW. Excavated against baulk section.	10	1.8	0.8	Post-medieval
4	404	Fill	[403]	Linear ditch	Firm compaction. Mid greyish-brown sandy silt. Subangular stone inclusions. Some leeching of iron from the natural due to holding water. Excavated by hand.	10	1.8	0.8	
5	500	Deposit		Topsoil	Mid greyish brown sandy silt. No inclusions.	10	1.8	0.4	
5	501	Deposit		Subsoil	Mid reddish brown clayey silt. Small moderate rounded and subangular sandstone inclusions.	10	1.8	0.5	
5	502	Deposit		Natural	Mid reddish brown sand and gravel. Small, medium, and large sandstone and ironstone inclusions. Mixed sandy silt.	10	1.8	>0.9	

Trench	Context No.	Type	Fill of	Interpretation	Description	Length (m)	Width (m)	Depth/ thickness (m)	Spot date
6	600	Deposit		Topsoil	Mid greyish brown clayey silt. No inclusions.	10	1.8	0.3	
6	601	Deposit		Subsoil	Mid reddish brown clayey silt. No inclusions.	10	1.8	0.3	
6	602	Deposit		Natural	Mixed fill. Mid reddish brown clay and light pinkish yellow sand.	10	1.8	0.2	
7	700	Deposit		Topsoil	Mid greyish brown clayey silt. No inclusions.	10	1.8	0.4	
7	701	Deposit		Subsoil	Mid reddish brown clayey silt. Infrequent medium subangular and rounded sandstone inclusions.	10	1.8	0.55	
7	702	Deposit		Natural	Mid greyish brown clay with moderate inclusions of small sandstone and gravel.	10	1.8	0.2	

Archaeology Wales

APPENDIX II: Written Scheme of Investigation

ARCHAEOLOGY WALES
Revealing the past, informing the future

Written Scheme of Investigation for an Archaeological Field Evaluation at Land at Rhostyllen, Wrexham

Prepared for :
Innova Renewables Developments Limited
Project No: 3056

Wrexham County Borough Council Planning Application Ref:
CPAT HER event number: 213991

September 2023

Constructionline
Part of Capita plc

REGISTERED ORGANISATION CIfA

Acclaim Accreditation

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. This Written Scheme of Investigations (WSI) details the proposal for an Archaeological Trenched Evaluation associated with the proposed new battery storage facility and substation on land at Rhostyllen, to the west of Wrexham centred on SJ 29470 48398 (Figures 1-2).

1.2. This WSI has been prepared by Menna Griffiths, Field Archaeologist at Archaeology Wales Ltd (henceforth- 'AW') on behalf of Novus Renewable Services Ltd and at the request of Clwyd-Powys Archaeological Trust – Archaeological Planning Management (henceforth- CPAT-APM).

1.3. The methodology set out in this WSI has been agreed with the Clwyd-Powys Archaeological Trust – Archaeological Planning Management (CPAT-APM) in its capacity as archaeological advisors to the local planning authority, Wrexham County Borough Council (henceforth WCBC).

1.4. Whilst the current development proposal is in the pre-planning Application stages, Consultation with Clwyd-Powys Archaeological Trust Archaeological Planning Management (CPAT-APM) dated 13/12/2022 confirmed the requirement for an archaeological Geophysical survey to be submitted in support of the application at the pre-determination stage in the battery storage facility areas to test for unrecorded sub-surface archaeology of prehistoric and medieval date due to the proximity of the proposals to scheduled monuments.

1.5. Archaeology Wales were commissioned to undertake the geophysical survey and based on the results (Muller 2023; Figure 3) CPAT-APM, indicated that a number of the geophysical anomalies identified would need to be investigated by targeted trenching at the pre-determination stage.

1.6. Following the results of the survey the client, Innova Renewables Developments Limited, confirmed that the only northern part of the area would be subject to the planning application. On further consultation with CPAT-APM dated the 10th and 11th May a plan of seven 10m x 1.8m trenches targeting specific geophysical anomalies was agreed (Figure 4).

1.7. The purpose of the proposed archaeological evaluation is to determine the presence or absence of archaeological features, structures, deposits, artefacts or ecofacts, and their research potential, within the development area (CIfA 2020) and to provide the local planning authority with the information they are likely to request in respect of the proposed development, the requirements for which are set out in Planning Policy Wales Revised

Edition.11, Section 6.1 (2021) and Technical Advice Note (TAN) 24: The Historic Environment (2017).

1.8. This WSI for an Archaeological Trench Evaluation follows as a result of an Archaeological Desk Based Assessment and a Geophysical Survey conducted by Archaeology Wales.

2. Site Description

2.1. The proposed development site comprises of mixed-use, irregular, and hedged agricultural fields. The proposed development area of the proposed battery site is approximately 7.2ha and is centred on NGR SJ 30539 48599.

2.2. The proposed Development site is bounded by the embankment of the former Rhos Railway Branch to the north, the valley of Glanyrafon Brook to the south and the A483 Wrexham Bypass to the east opposite the Croesfoel Industrial estate. Both proposed battery storage site is located on either side of the B5097 Pentre Bychan Road. The topography of the proposed development site slopes down from approximately 117m above Ordnance Datum to the northwest to 103m above Ordnance Datum.

2.3. The underlying bedrock geology of the proposed battery storage site is classified as Pennine Lower Coal Measures Formation, which comprises of Mudstone, siltstone and sandstone, and Pennine Middle Coal Measures Formation which comprises of Sedimentary bedrock formed between 319 and 309.5 million years ago during the Carboniferous period (BGS, Geology Viewer – accessed 25/09/2023).

2.4. The superficial geology of the eastern area of the proposed development site comprises of Devensian Till – Diamicton, which is a sedimentary superficial deposit formed between 116 and 11.8 thousand years ago during the Quaternary period. The superficial geology of the western area of the proposed development site comprises of Devensian Glaciofluvial Deposits which comprises of sand and gravel formed between 116 and 11.8 thousand years ago during the Quaternary period (BGS, Geology Viewer – accessed 25/09/2023).

3. Archaeological Background

3.1. An Archaeological Desk Based Assessment was carried out by Archaeology Wales in December 2022 to determine the archaeological potential of the proposed development site (Davey & Muller 2023). The site lies within 200m of the Bersham Conservation Area and there are four scheduled monuments

within the wider proposed development area, Offa's Dyke: extending 120m from Railway to Bronwylfa Road, Legacy (DE194); Offa's Dyke: Cadwgan Hall Section, extending from Clywedog to the Railway (DE132); Moated site near Groesfoel Farm, Rhostyllen (DE193); and Croes-Foel Round Barrow (DE048) lies in the south-eastern part of the proposed development area. Croes-Foel Round Barrow comprises of the remains of an earthen built round barrow, which likely dates to the Bronze Age (c. 2300 – 800 BC). The barrow is circular in shape on plan and has a rounded profile, this monument is of National Importance for its potential to enhance our knowledge of prehistoric burial and ritual practices.

3.2. Two scheduled sections of Offa's Dyke lie within the boundaries of the proposed development area (DE194 and DE132). It is proposed that the cable trench will pass across the line of this monument. The linear earthwork monument is believed to have been constructed in the 8th Century AD to define the western border of the Anglo-Saxon Kingdom of Mercia, and it comprises of a defensive bank and ditch consisting of a stretch bank, with a ditch on the western side. A counterscarp (raised bank) may be visible on the west side of the ditch in places. This monument if of National Importance for its potential to enhance our knowledge of early medieval defensive organisation and settlement.

3.3. The presence of the Moated site near Groesfoel Farm, Rhostyllen (DE193) in evidence of late medieval activity within the site. The monument comprises of a well-preserved medieval moated homestead, lying on fairly low land. The moat mostly complete except for its eastern side and has an average depth of 1.5m. The moat is waterfilled in the northwest corner and elsewhere it is marshy. On the north side there is a causeway with traces of masonry and there is masonry foundations of a building measuring 5m x 6.5m with a small rectangular addition of 3m square within the enclosure. This monument is of National Importance for its potential to enhance our knowledge of medieval settlement.

3.4. There is further known medieval activity from Cadwgan Hall immediately north of the site with an associated site: Cadwgan Hall mound (DE131) thought to be the site of a medieval Motte and Bailey adjacent to Offa's Dyke.

3.5. The presence of Industrial activity is evident on historical maps by the early 19th century. The ordinance survey drawings of 1835 at Esclusham records a coal pit in the southwest part of the wider study area, approximately 800m west of the proposed battery storage facility. A disused railway runs through the site from the site from east to west, this represents a section of the Great

Western Railway Rhos Branch line which was built between 1899 and 1912. The associated Legacy Station appears to have been constructed on the Rhos Branch adjacent to the former coal pits (OS County Series 6-inch Denbighshire Sheet XXVIII.SW Revised: 1909 to 1910, Published 1914).

3.6. The site lies within the landmap historic landscape area of Talwrn (WRXHMHL021) characterised as a rural environment of agricultural irregular fieldscapes.

3.7. There are five listed buildings within close proximity to the proposed development site.

3.8. A geophysical survey was carried out by Archaeology Wales in May of 2023 which identifies a number of anomalies characteristic of archaeological features. These included field boundaries which are visible on 19th mapping, however many of these features have been interpretated to represent former field boundaries which pre-date the 1839 tithe map. The geophysical results also indicated that one or more pits may be present in the vicinity of these field boundaries. Field 3 of the geophysical survey contained four possible larger circular or elliptical anomalies which could represent former open caste coal (bell) pits. The Geophysical report stated that "only targeted archaeological excavation would be able to confirm these interpretations".

4. Objectives

Field Evaluation

4.1. The objective of the intrusive trial trench evaluation will be to locate and describe archaeological features that may be present within the development area as suggested. The work will elucidate the presence or absence of archaeological material, its character, distribution, extent, condition, and relative significance. The work will include an assessment of regional context within which the archaeological evidence rests and will aim to highlight any relevant research issues within national and regional research frameworks.

4.2. A report will be produced that will provide information which is sufficiently detailed to allow the archaeological resource to be better understood. The information could then be used to help inform further archaeological work undertaken in association with the proposed development.

5. Timetable of Works

5.1. CPAT -APM will be informed in advance of the start date and any subsequent changes to the schedule. It is currently planned that the fieldwork will

commence on Monday 9th October.

5.2. The report will be submitted to the client and to CPAT-APM within three months of the completion of the fieldwork. A copy of the report will also be submitted to the local planning authority. A copy of the report will also be sent to the regional Historic Environment Record.

6. Methodology

Field Evaluation

6.2. The work will be undertaken to meet the standard required by The Chartered Institute for Archaeologist's Standard and Guidance for Archaeological Field Evaluation (2020).

6.3. The archaeological project manager in charge of the work will satisfy himself that all constraints to ground works have been identified, including the siting of live services and Tree Preservation Orders.

6.4. The agreed evaluation trenches will be positioned to maximise the retrieval of archaeological information within accessible areas, and to ensure that the archaeological resource is understood.

6.5. It is proposed that 7 trenches are machine excavated within the development area (Figure 4). All the trenches will measure 10m long and be cut to 1.8m in width.

6.6. The exact positioning of the trenches will depend on the position of an extant services or other obstructions that come to light during the initial phase of ground works.

6.7. The locations and dimensions of the trenches have been agreed with CPAT-APM.

6.8. The evaluation trenches will be excavated to the top of the archaeological horizon by a 360 excavator or similar machine fitted with a toothless grading bucket under close archaeological supervision.

6.9. All areas will be subsequently hand cleaned using pointing trowels and/or hoes to prove the presence, or absence, of archaeological features and to determine their significance. The excavation of the minimum number of archaeological features will be undertaken, to elucidate the character, distribution, extent and importance of the archaeological remains. As a minimum, small discrete features will be fully excavated, larger discrete

features will be half-sectioned (50% excavated) and long linear features will be sample excavated along their length – with investigative excavations distributed along the exposed length of any such feature and to investigate terminals, junctions and relationships with other features. Should this percentage excavation not yield sufficient information to allow the form and function of archaeological features/deposits to be determined full excavation of such features/deposits may be required.

6.10. Sufficient excavation will be undertaken to ensure that the natural horizons are reached and proven, where this can be practically and safely achieved. If safety reasons preclude manual excavation to natural, a hand auger may be used to try to assess the total depth of stratification within each area. The depth of the excavation will conform to current safety requirements. If excavation is required below 1m the options of using shoring will be discussed with the client and CPAT-APM, but the intention would be to stop at safe depths.

Contingency

6.11. Should potentially significant archaeological features be encountered during the course of the evaluation then CPAT-APM and the client will be informed at the earliest possible opportunity.

6.12. CPAT-APM may subsequently request that further archaeological work is undertaken in order to fully evaluate areas of significant archaeological activity. Such work may require the provision of additional time and resources to complete the archaeological investigation. The scope of such work will be agreed with CPAT-APM and the client prior to any extended works being undertaken.

Recording

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

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

6.15. All features identified will be tied into the OS survey grid and fixed to local topographical boundaries. Photographs will be taken in digital format with an appropriate scale, using a 10MP+ camera with photographs stored in Tiff format.

Finds

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

6.17. 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.

6.18. 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.

6.19. Retained finds will be suitably bagged, boxed and marked. Following cataloguing and initial analysis finds of low archaeological significance may be discarded.

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

6.21. 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).

Environmental Sampling Strategy

6.22. Deposits with a significant potential for the preservation of paleoenvironmental material will be sampled, by means of the most appropriate method (bulk, column etc). 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 (2nd Edition 2011).

Human remains

6.23. In the event that human remains are encountered, their nature and extent will be established, the client, CPAT-APM and the coroner informed.

6.24. Measures will be put in place to ensure that any such remains are fenced off, covered, and protected from deterioration and damage, and that human remains, and burial goods will be treated in a respectful manner.

6.25. 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.

6.26. Human remains will be excavated in accordance with the Chartered Institute for Archaeologist's Updated Guidelines to the Standards for Recording Human Remains (2017). A Ministry of Justice Licence will be obtained before remains can be lifted, this applies to both inhumation and cremated remains.

Specialist advisers

6.27. 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) Dr Hannah Russ (Freelance)
CBM, heat affected clay, Daub etc.	Dr Siân Thomas (Archaeology Wales) Dr Phil Mills (Freelance) 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) Dr Richard Madgwick (Cardiff University)
Metalwork	Dr Rhiannon Philp (Archaeology Wales) Dr Kevin Leahy (PAS/University of Leicester) Quita Mould (Freelance)
Metal work and metallurgical residues	Dr Tim Young (GeoArch)
Neo/BA pottery	Dr Alex Gibson (Bradford University) Dr David Mullin (Freelance)
IA/Roman pottery	Dr Jane Timby (Freelance)
Roman Pottery	Dr Siân Thomas (Archaeology Wales) Dr Peter Webster (Freelance)
Medieval and Post Medieval Pottery	Paul Blinkhorn (Freelance)

Artefact type	Specialist
Charcoal (wood ID)	Dana Challinor (Freelance)
Waterlogged wood	Professor Nigel Nayling (University of England – Lampeter) Damian Goodburn (MOLA) Mike Bamforth (Freelance)
Marine Molluscs	Dr Rhiannon Philp (Archaeology Wales)
Pollen	Dr Rhiannon Philp (Archaeology Wales)
Charred and waterlogged plant remains	Wendy Carruthers (Freelance) Kath Hunter Dowse (Freelance)

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

Monitoring

6.29. CPAT-APM will be contacted prior to the commencement of archaeological site works, and subsequently once the work is underway.

6.30. Any changes to the WSI that AW may wish to make after approval will be communicated to CPAT-APM for approval on behalf of the Planning Authority.

6.31. CPAT-APM will be given access to the site so that they may monitor the progress of the mitigation work. No area will be back-filled until CPAT-APM has had the opportunity to inspect it unless permission has been given in advance. CPAT-APM will be kept regularly informed about developments, both during the site works and subsequently during post-excavation.

7. Post-Fieldwork Programme

Site Archive

7.1. An ordered and integrated site archive will be prepared in accordance with: Management of Research Projects in the Historic Environment (MoRPHE) (2015) upon completion of the project.

7.2. The site archive – including all artefacts, soil samples, paper, and digital records – will be subjected to selection in order to establish those elements that will be retained for long term curation. The selection strategy will be agreed with all stakeholders and will be detailed in the Selection Strategy and Data Management Plan (CIfA 2020). It will be developed taking into consideration the aims and objectives of the project and will be informed through a detailed consideration of the Research Agenda of the Archaeology of Wales and other relevant research frameworks. The manner in which the

records will be prepared for long time storage will be guided by the requirements established by the repositories. A detailed justification for the disposal of both records and materials will be written and included within the Data Management Plan.

7.3. 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, 2014). 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 (National Panel for Archaeological Archives in Wales 2017). 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 (2022).

Analysis

7.4. Following a rapid review of the potential of the site archive, a programme of analysis and reporting will be undertaken.

7.5. This will result in the following inclusions in the report:

- A bilingual non-technical summary
- The aims and methods adopted in the course of the archaeological works, and the background and circumstances of the report (including development proposals and planning background)
- Location plan showing the area/s covered by the trenched evaluation, including the locations of all artefacts, structures and features found
- Plans and section drawings (if features are encountered) with ground level, ordnance datum and vertical and horizontal scales.
- A 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, and proposals for further necessary analysis
- The report will contain 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.

Report to Client

7.6. Copies of all reports associated with the mitigation, together with inclusion of supporting evidence in appendices as appropriate, including photographs and illustrations, will be submitted upon completion to CPAT-APM for comment and approval. Following approval, a copy will be sent to the client, and for formal submission to the Local Planning Authority.

Additional Reports

7.7. After an appropriate period has elapsed, copies of all reports will be deposited with the relevant county Historic Environment Record, the National Monuments Record and, if appropriate, Cadw. The report and all relevant information will be submitted to the Historic Environment Record following the guidelines and procedures laid out in the Guidance for the Submission of Data to the Welsh Historic Environment Records (WAT 2022).

Summary Reports for Publication

7.8. 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.

Notification of Important Remains

7.9. 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.

Archive Deposition

7.10. The final archive (site and research) will, whenever appropriate, be deposited with a suitable receiving institution. If artefacts are recovered, and dependent on the size of the final archive, the preferred receiving institution would be a suitable local institution. If no artefacts are recovered then the archive will be deposited with the National Monuments Record, RCAHMW, Aberystwyth. Arrangements will be made with the receiving institution before work starts.

7.11. 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 12 months after completion of the work.

7.12. Copies of all reports, the digital archive and an archive index will be deposited with the National Monuments Record, RCAHMW, Aberystwyth. A full Data Management Plan for this project is included in Appendix I.

7.13. 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 GGAT-APM.

Finds Deposition

7.14. 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. Staff

8.1. The project will be managed by John Davey MCIfA (AW Project Manager) and the assessment undertaken by suitably trained and experienced AW staff. Any alteration to staffing before or during the work will be brought to the attention of CPAT-APM and the client.

9. Health and Safety

9.1. Prior to the commencement of the site visit 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.

9.2. 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.

Other Guidelines

9.3. 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).

Insurance

9.4. 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.

10. Quality Control

Professional standards

10.1. 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 watching briefs currently in force.

10.2. 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.

Project tracking

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

11. Arbitration

11.1. 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.

12. References

British Geological Survey: Geology of Britain viewer: www.bgs.ac.uk/discoveringGeology/geologyOfBritain/viewer.html

Chartered Institute for Archaeologists, 2019. Toolkit for Selecting Archaeological Archives.

Chartered Institute for Archaeologists, 2020. Standards and guidance for the creation, 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 Archaeologists, 2020. Standards and guidance for archaeological field evaluation.

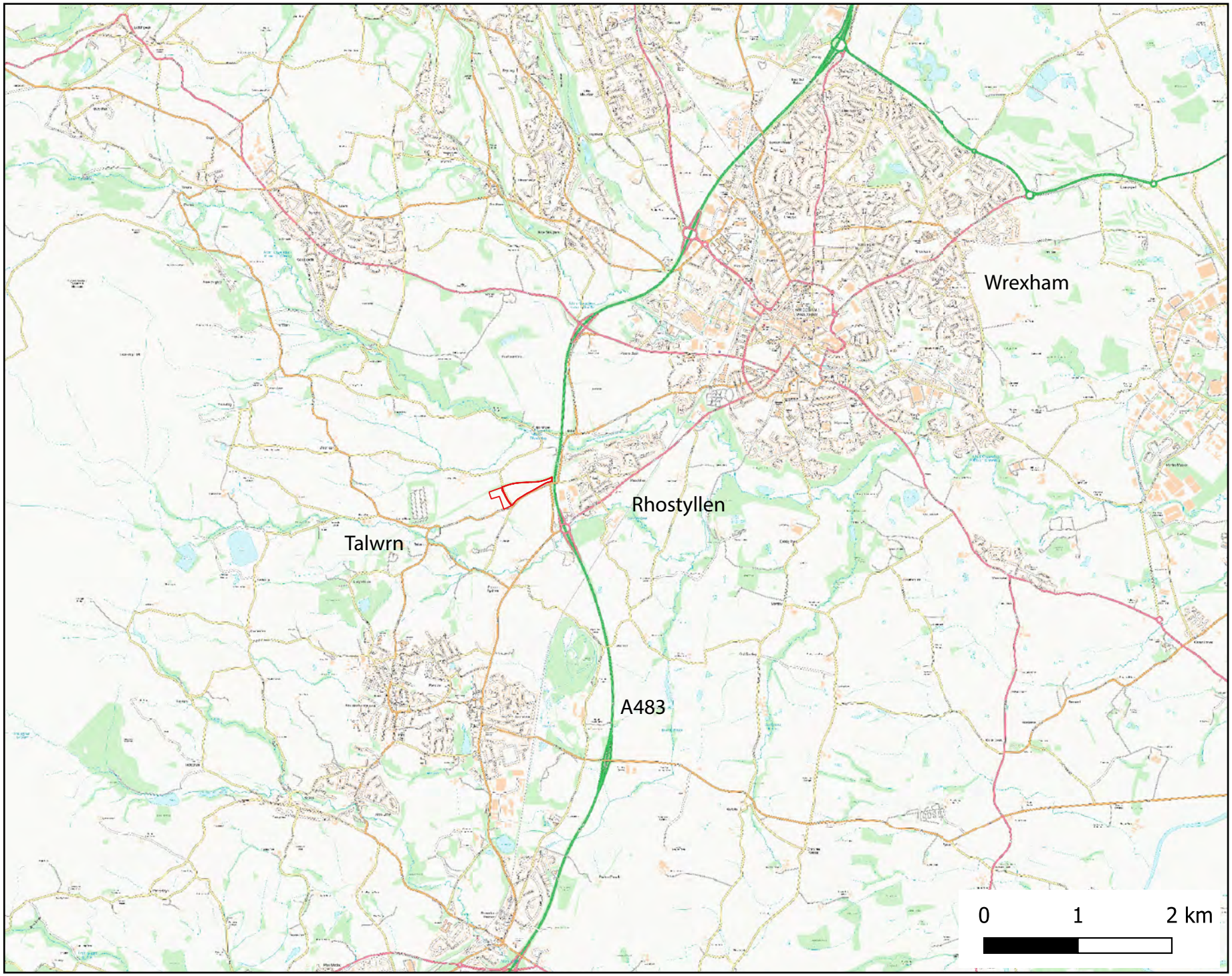
Chartered Institute for Archaeologists, 2020. Standard and Guidance for Geophysical Survey Chartered Institute for Archaeologists.

Davey, J. & Muller, J. 2023. Archaeological Desk Based Assessment: On Land at Rhostyllen, Wrexham. Archaeology Wales Report No. 2162

Muller, J. 2023. Geophysical Survey Report on Land at Rhostyllen, Wrexham. Archaeology Wales Report No. 2195

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

Welsh Archaeological Trusts, 2022. Guidance for the Submission of Data to the Welsh Historic Environment Records (HERs).



Site location

Figure 1: Location Plan

ARCHAEOLOGY WALES
Revealing the past, informing the future

Figure 2: Proposed Development Plan

ARCHAEOLOGY WALES
Revealing the past, informing the future

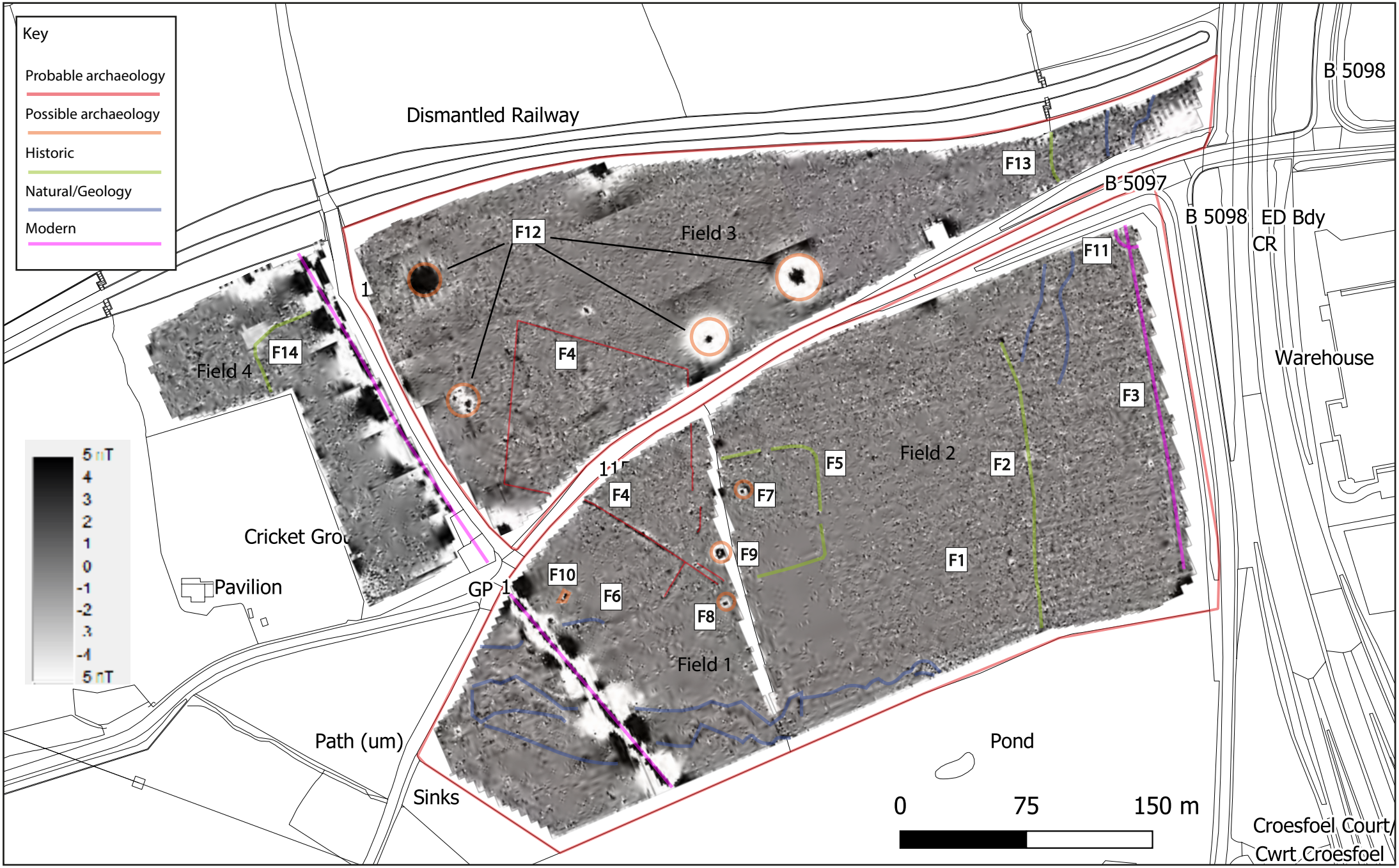


Figure 5. Fields 1-4: Greyscale plot of processed data clipped to +/-5 and destriped, with interpretation

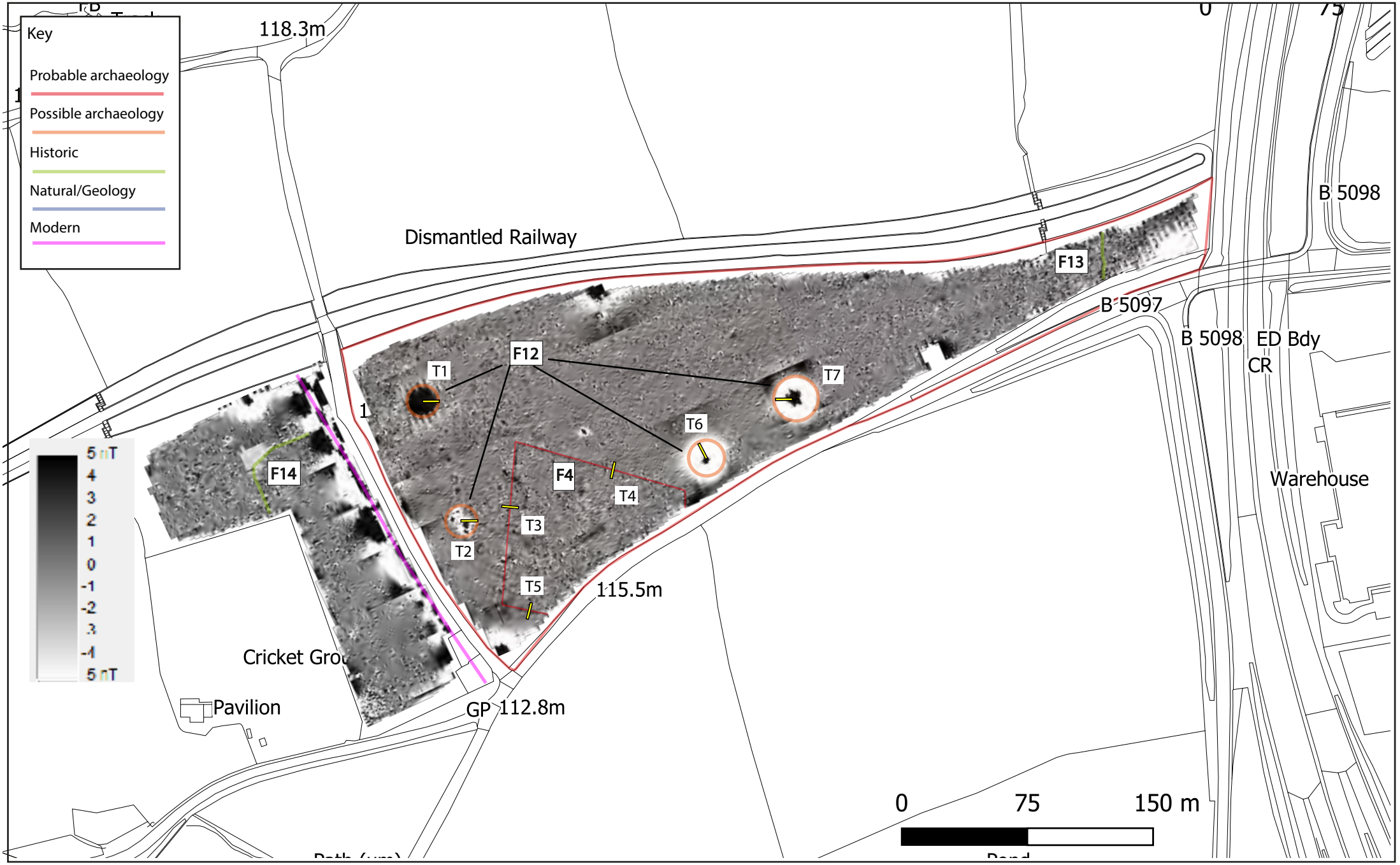


Figure 4. Proposed Trench Plan with Geophysical Survey Results and Interpretation

Appendix I Data Management Plan

Project Name and ID
3056 – Rhostyllen, near Wrexham RBW/23/EV
Project description
The proposed work consists of the excavation of 7 evaluation trenches in advance of a proposed battery storage development. All the trenches will be cut to 1.8m in width and the total length of trenching will be 70m.
Funder of client
Innova Renewables Ltd
Project Manager
John Davey – AW project manager
Principal investigator and contact
Same as above
Date DMP created and subsequent amendments
Created on 26/09/2023
Related Data Management policies
Project Brief, CIfA Standards and guidance, trusted digital repository guidelines (ADS and RCAHMW) or other best practice guidance (see brief for details)

Data type
.pdf: final report, WSI, all the paper archive generated onsite. .jpeg: Digital photographs .xlsx: spreadsheets including registers, context inventory, finds quantification, environmental sample quantification. All site drawings that are selected during the DMP will be stored as AI and PDF files The survey data will be stored both as raw data (text file/csv) and as shapefiles (shp). This will include a polygon showing the limits of the development area. The database generated with GIS will be stored so it is accessible by future users
How will data be generated?
Project Brief will determine the nature of data collection. The project brief has been produced taking into consideration guidance offered by CIfA, and by relevant repositories. While the data selection strategy may change during the course of the watching brief attending to the demands of the findings, an initial methodology is outlined in the brief which includes advice offered by specialists (e.g environmental specialist). A list of specialists that can be contacted to seek for advice is included in the brief. Data generated during the site work will be regularly updated to the served and stored within well-defined folder. The folder hierarchy and organisation devised will be understood by all members of staff involved in the project. The data stored will be checked by the project manager regularly as a means of quality assurance. The survey data will also be plotted regularly to assure that it is correct and that the instruments on site are working properly.

Further documentation accompanying the resulting archive
Data collected will include standard formats which maximise opportunities for use and reuse in the future. The archive will be associated to metadata summary which outlines details of all data types, quantities and all archive components

Data documentation will meet the requirement of the Project Brief, Museum Deposition Guidelines, Digita Repository Guidelines and the methodology described in the Project Design methodology. These details are checked and taken into consideration prior the start of the project.
Data protection
We have a GDPR compliant Privacy Policy. Sensitive data is never retained in the project folder. Copyright permission is sought from all specialists and other providers outside the organisation. Data sharing is also subjected to license agreements.
Storage
The project manager is responsible to the regular inspection of the data produced and stored in the server The data produced is uploaded regularly as a way of backing up the information. Time and resources are given to the site staff to be able to back up the data. Alternatively, laptops are issued to use during the time onsite.
Data retention
The DMP will be updated in light with the findings. This process will also inform any possible future project designs and further work associated with the project. The data selection plan will take into consideration the research agenda for Wales and any other local frameworks. At the deposition stage, the DMP will be finalised in agreement with all project stakeholders. The project results will be included in the Historic Environment Record.
Long term preservation plan
The digital archive will be deposited with the Archaeology Data Service, which is a certified repository with Core Trust Seal.
Data repository and costs
The digital archive will be deposited with the National Monuments Record, RCAHMW, Aberystwyth. Estimated cost for deposition with ADS have also been included in the project budget.
Data sharing and accessibility
A summary of the project will be provided for the museum and digital archive repositories once the work begins. Regular updates will be carried out to fit the emerging needs of the project. The documents expected for this project include a WSI and WB Report, although this is dependent on the results of the fieldwork, which may warrant a Post Excavation Assessment, Updated Project Design and possibly Final Report. The final report is expected to be completed within 3 months of the completion of fieldwork. Should the work reveal significant archaeology and therefore, specialists are required during the post-ex process, then the report might take up to twelve months to be submitted A final version of the project report will be supplied to the Historic Environment Record along with any further data they request.
DMP responsibility
The Project Manager will be responsible for implementing the DMP Data capture, metadata production and data quality are the responsibility of the Project Team, assured by the Project Manager. Storage and backup of data in the field is the responsibility of the field team. Once data is incorporated into the organisations project server, storage and backup is managed by the project manager Data archiving is undertaken by the Archives Officer, who is responsible for the transfer of the Archaeological Project Archive to the agreed repository.

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