

# **PUMSAINT FORT, CARMARTHENSHIRE: ARCHAEOLOGICAL EVALUATION**



Prepared by Dyfed Archaeological Services, a contracting arm  
of Heneb – the Trust for Welsh Archaeology

For: Waun Maenllwyd Wind Energy Hub Ltd



# THE TRUST FOR WELSH ARCHAEOLOGY – DYFED REGION ARCHAEOLOGICAL SERVICES

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PROJECT RECORD NO. 130801

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## PUMSAINT FORT, CARMARTHENSHIRE: ARCHAEOLOGICAL EVALUATION

by:

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**PUMSAINT FORT, CARMARTHENSHIRE:  
ARCHAEOLOGICAL EVALUATION 2024**

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## EXECUTIVE SUMMARY

*An archaeological evaluation was undertaken prior to proposed road widening at the junction of the A482 and a forestry track within the Scheduled Area of Pumsaint Roman Fort, Carmarthenshire (CM226, PRN 1956).*

*Two trenches were excavated. A section of a Roman road surface and possibly the upper fills of a ditch associated with the fort's eastern defences were revealed.*

*Artefacts included several fragments of Roman glass, eroded Roman pottery and finds of more recent date.*

### **CRYNODEB GWEITHREDOL**

*Cynhaliwyd gwerthusiad archaeolegol cyn lledu'r ffordd arfaethedig ar gyffordd yr A482 a thrac coedwigaeth o fewn Ardal Gofrestredig Caer Rufeinig Pumsaint, Sir Gaerfyrddin (CM226, PRN 1956).*

*Cloddiwyd dwy ffos. Datgelwyd darn o wyneb ffordd Rufeinig ac o bosibl llenwadau uchaf ffos yn gysylltiedig ag amddiffynfeydd dwyreiniol y gaer. Ymhlith yr arteffactau roedd sawl darn o wydr Rhufeinig, crochenwaith Rhufeinig wedi erydu a darganfyddiadau mwy diweddar.*

**PUMSAINT FORT, CARMARTHENSIRE:  
ARCHAEOLOGICAL EVALUATION 2024**

## **1 INTRODUCTION**

### **1.1 Project Commission**

- 1.1.1 The Trust for Welsh Archaeology – Dyfed Region Archaeological Services was commissioned by Waun Maenllwyd Wind Energy Hub Ltd to undertake an archaeological trial trench evaluation to assess the survival of buried archaeological remains within an area proposed for road widening.
- 1.1.2 The widening was proposed at a junction of the A482 and a forestry track which branches eastwards off the main road at the south end of Pumsaint village, Carmarthenshire (NGR SN 65663 50218, Figs. 1 and 2). The area of proposed widening lies within the Scheduled Monument of Pumsaint Roman Fort (CM226, PRN 1956, Figs 2 and 3); it is owned by The National Trust.
- 1.1.3 The evaluation was required by Cadw in advance of an application for Scheduled Monument Consent (SMC). The proposed widening could potentially expose, damage or destroy significant archaeological remains (Fig. 5).
- 1.1.4 The aim of the evaluation was to provide information on the character and significance of any below ground archaeological remains that might be present within the area of the proposed widening. Should any significant archaeological deposits be revealed, a programme of further mitigation would be formulated and potentially implemented prior to widening taking place. This report presents the results of the evaluation.
- 1.1.5 Prior to the commencement of works a Written Scheme of Investigation (WSI) was produced by the Trust for Welsh Archaeology – Dyfed Region Archaeological Services and approved by Cadw and the Development Management section of the Trust for Welsh Archaeology – Dyfed Region, again in their role as advisor to the planning authority (Appendix 1).
- 1.1.6 All the archaeological work undertaken was in accordance with the Chartered Institute for Archaeologists' *Standard and universal guidance for archaeological field evaluation* (CIfA 2023). The Trust for Welsh archaeology – Dyfed Region is a CIfA Registered Organisation.

### **1.2 Scope of Project**

- 1.2.1 A WSI for evaluation trial trenching was prepared by the Trust for Welsh Archaeology – Dyfed Region Archaeological Services prior to the commencement of works. This outlined the methodology by which the trial trenching was undertaken.
- 1.2.2 The purpose of evaluation as defined by CIfA (2014) is:

*to gain information about the archaeological resource within a given area or site (including its presence or absence, character, extent, date, integrity, state of preservation and quality), in order to make*

*an assessment of its merit in the appropriate context, leading to one or more of the following:*

- *The formulation of a strategy to ensure the recording, preservation or management of the resource*
- *The formulation of a strategy to mitigate a threat to the archaeological resource*
- *The formulation of a proposal for further archaeological investigation within a programme of research*

1.2.3 The overall scheme of work is summarised as follows:

*The implementation of a scheme of archaeological evaluation within the development area to inform the design of a proposed widening of the junction of the A482 trunk road and a forestry track which sits south of Pumsaint village. The archaeological field evaluation would determine, as far as is reasonably possible, the nature of the archaeological resource within this specified area using appropriate methods and practices. These would satisfy the stated aims of the project and comply with the code of conduct and other relevant regulations of CIfA.*

*A report shall be prepared on the results of the evaluation and an archive created of all finds, records, photographs and plans created by this mitigation strategy. Further mitigation is possible where significant remains are identified; the scope of which would be determined following this stage of work.*

### **1.3 Report Outline**

This report describes the location of the study area, reviews the historical and archaeological background, and provides a summary and discussion of the trial trenching and its results.

### **1.4 Abbreviations**

- All sites recorded on the regional Historic Environment Record (**HER**) are identified by their Primary Reference Number (**PRN**) and located by their National Grid Reference (**NGR**). The HER is held and managed by the Trust for Welsh Archaeology – Dyfed Region, Corner House, Carmarthen Street, Llandeilo SA19 6AE.
- Sites recorded on the National Monument Record (**NMR**) held by the Royal Commission on the Ancient and Historical Monuments of Wales (**RCAHMW**) are identified by their National Primary Reference Number (**NPRN**).
- Written Scheme of Investigation – **WSI**
- Altitude is expressed to a height above Ordnance Datum (aOD).
- References to cartographic, documentary evidence and published sources will be given in brackets throughout the text, with full details listed in the sources section at the rear of the report.

## 1.5 Illustrations

1.5.1 Printed map extracts are not necessarily produced to their original scale.

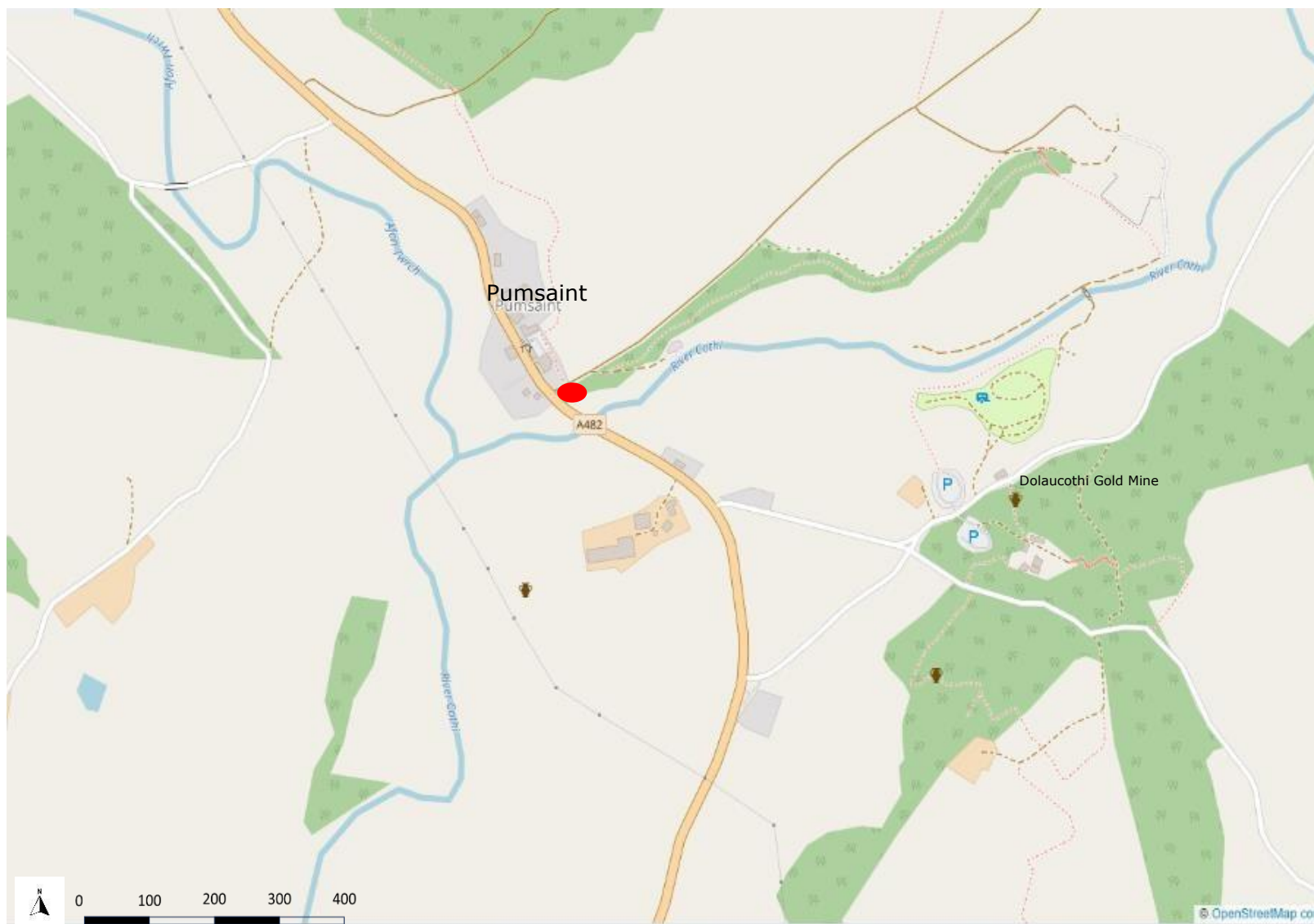
## 1.6 Timeline

The following timeline (Table 1) is used within this report to give date ranges for the various archaeological periods that may be mentioned within the text.

**Table 1:** *Archaeological and historical timeline for Wales*

Period	Approximate Date	
Palaeolithic	c.450,000 – 10,000 BC	Prehistoric
Mesolithic	c. 10,000 – 4400 BC	
Neolithic	c.4400 – 2300 BC	
Bronze Age	c.2300 – 700 BC	
Iron Age	c.700 BC – AD 43	
Roman (Romano-British) Period	AD 43 – c. AD 410	Historic
Post-Roman / Early Medieval Period	c. AD 410 – AD 1086	
Medieval Period	1086 – 1536	
Post-Medieval Period*	1536 – 1750	
Modern	20th century onwards	

\* Note: The post-medieval and Industrial periods are combined as the postmedieval period on the regional HER, as held by Heneb

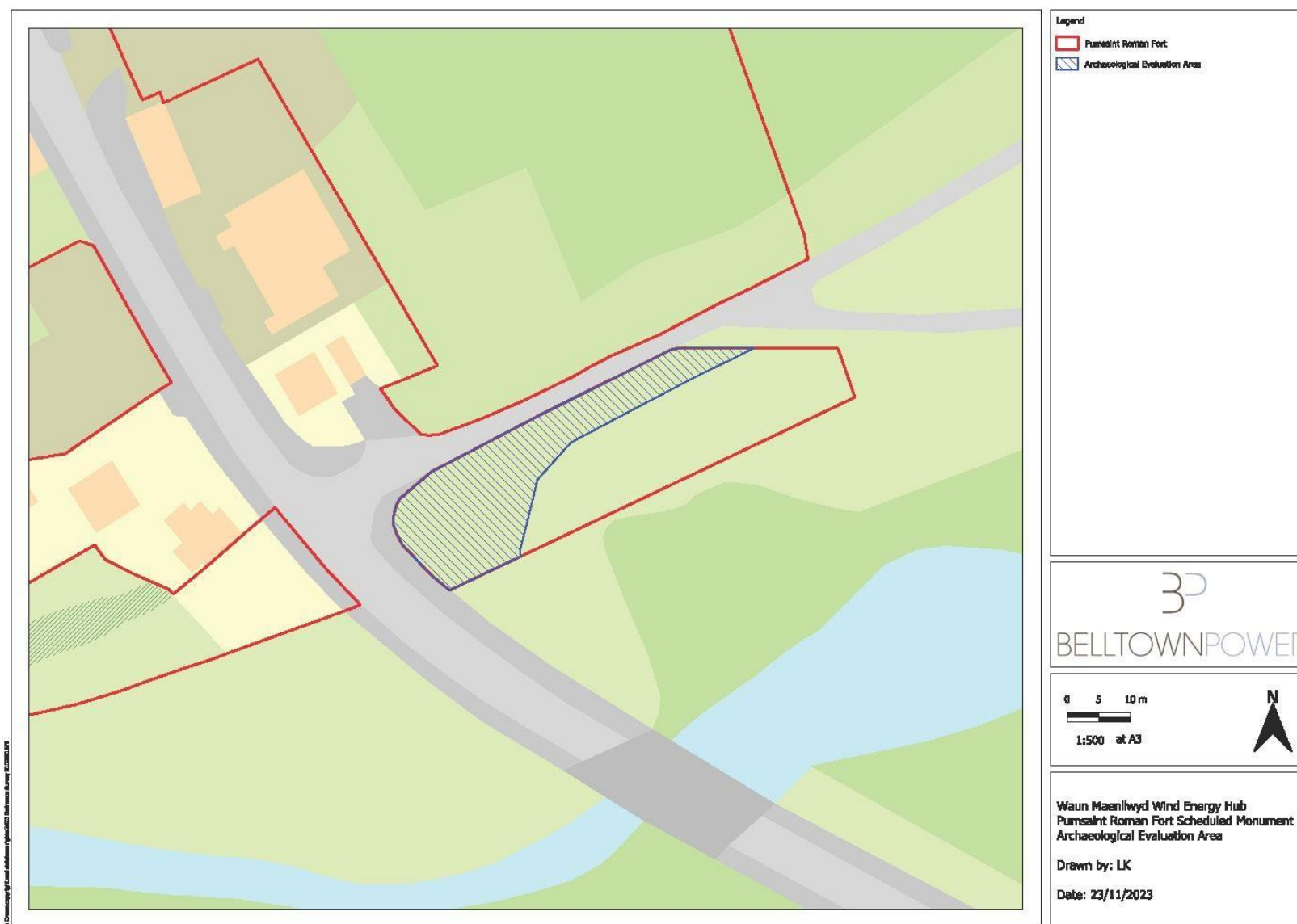


**Figure 1:** Proposed road widening area location marked in red.  
Base map data from OpenStreetMap (OSM) <https://www.openstreetmap.org/copyright> 03/01/23.

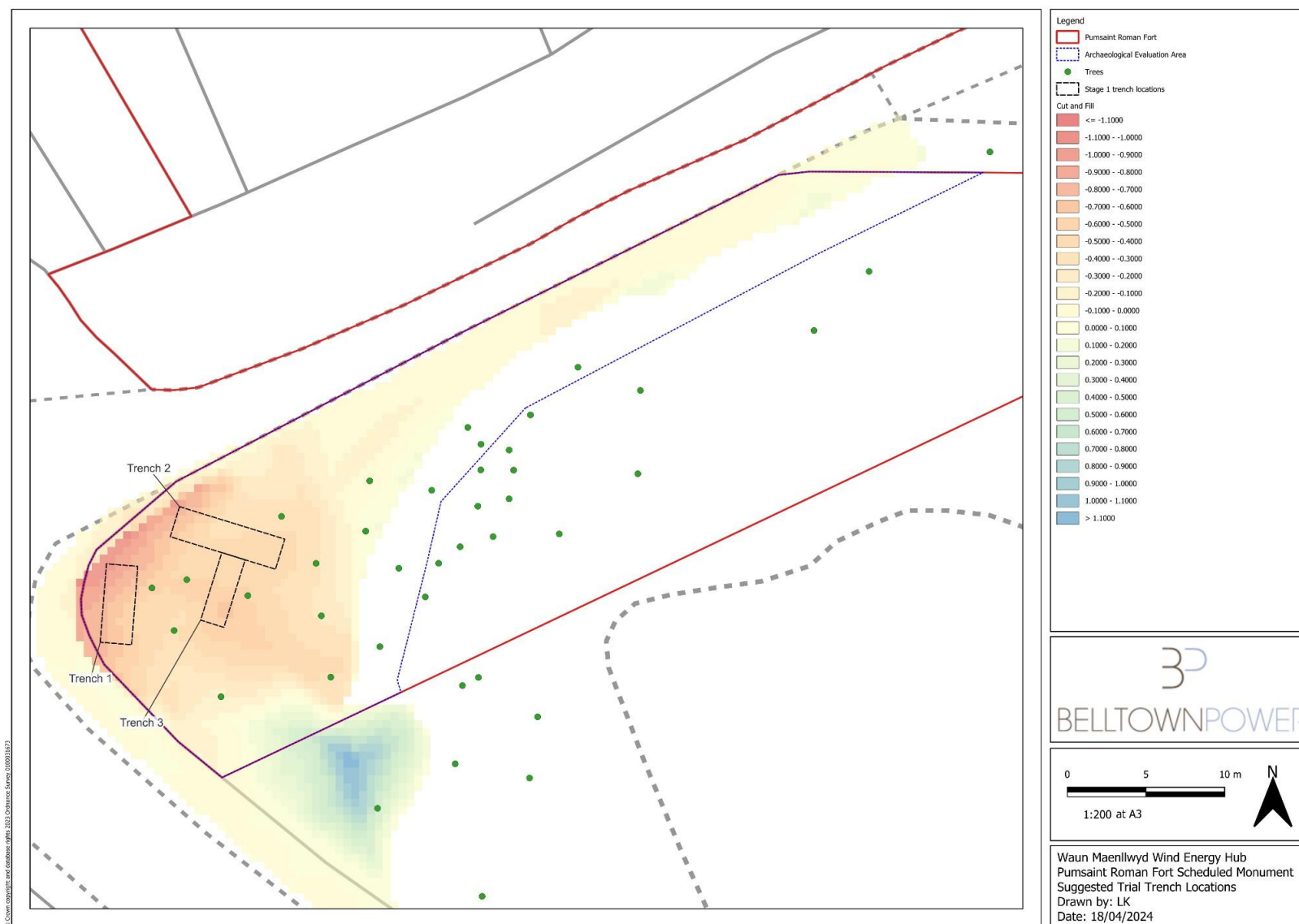


**Figure 2:** The outline of the Scheduled Monument designation area in red, with the location of the road junction highlighted by the dashed blue line.

Map data from OpenStreetMap (OSM) <https://www.openstreetmap.org/copyright> 22/04/24.



**Figure 3:** Proposed archaeological evaluation area at the road junction hatched in blue.  
The red outline indicates the boundary of the Scheduled Monument designation area.  
Plan provided by the client, not reproduced to scale.



## 2 SITE LOCATION

- 2.1 The area of the proposed widening is located at a junction of the A482 and a forestry track which branches eastwards off the main road at the southern end of Pumsaint village (Fig. 2). The nearest towns are Llandovery 12.1km to the southeast and Lampeter 11.6km to the northwest (Figs 1 and 2).
- 2.2 The development area sits within an area of mixed woodland comprising chestnut, beech and sycamore trees (Photo 1). Access to the site is via the small forestry track.
- 2.3 The underlying bedrock geology consists of the Claerwen Group. Mudstone sedimentary bedrock formed between 440.8 and 433.4 million years ago during the Silurian period. The Bedrock is in turn overlain by superficial alluvium, clay, silt, sand and gravel deposited between 11.8 thousand years ago and the present (BGS online).



**Photo 1:** View southwest showing area of woodland where evaluation trenches were located.

## 3. ARCHAEOLOGICAL AND HISTORICAL BACKGROUND (Fig 6, Table 2)

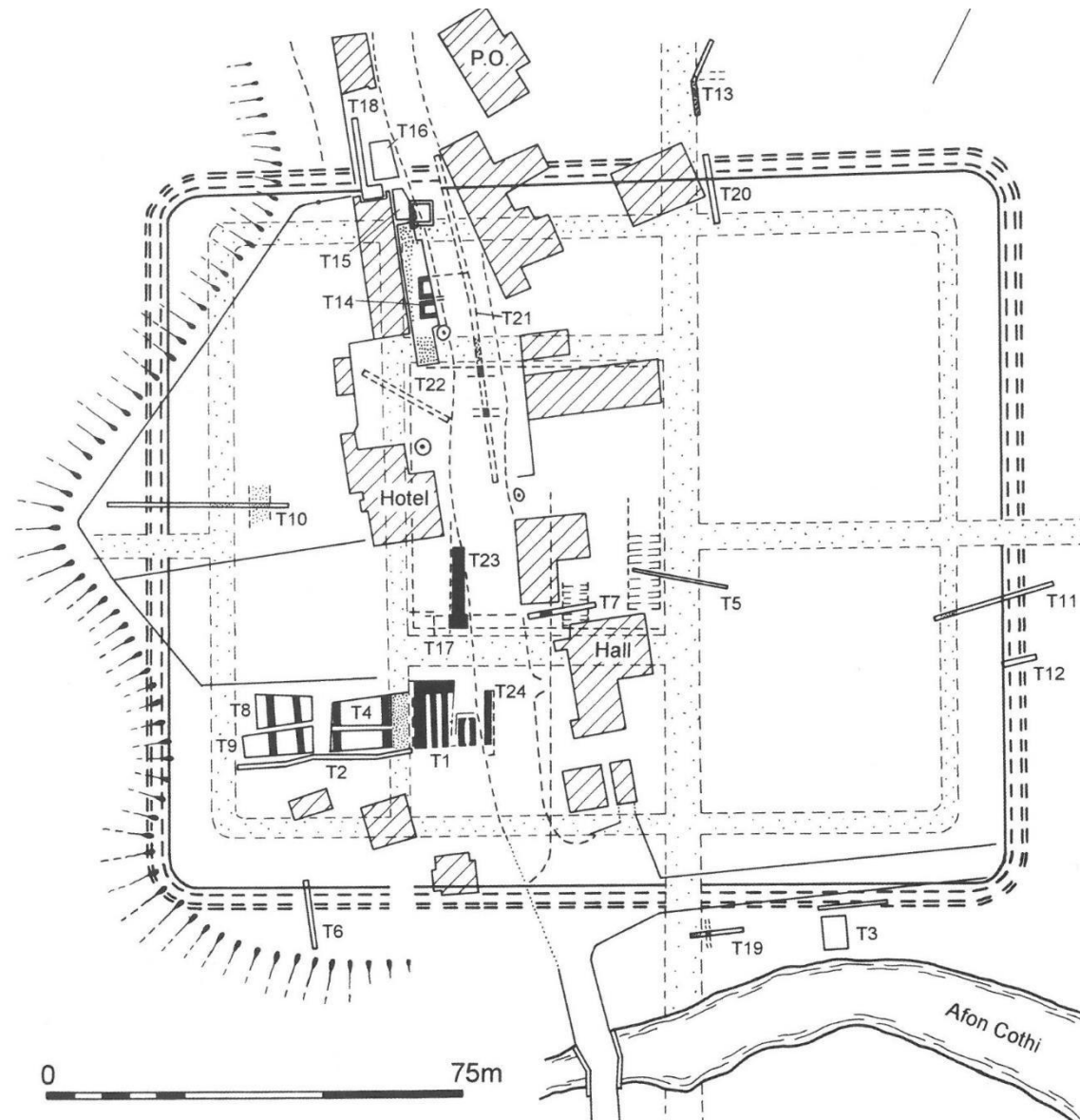
- 3.1 The scheduling summary description of the Pumsaint Roman Fort includes the following:

*The monument comprises buried features and earthworks representing a Roman fort... The fort, originally probably measuring c.150m x 125m, and enclosing 1.9ha, was founded in the mid AD 70s, and was reduced in size to c.0.9ha c. AD 100, before apparently being abandoned by the AD 120s, a fairly typical chronological range. The fort may have had a special function*

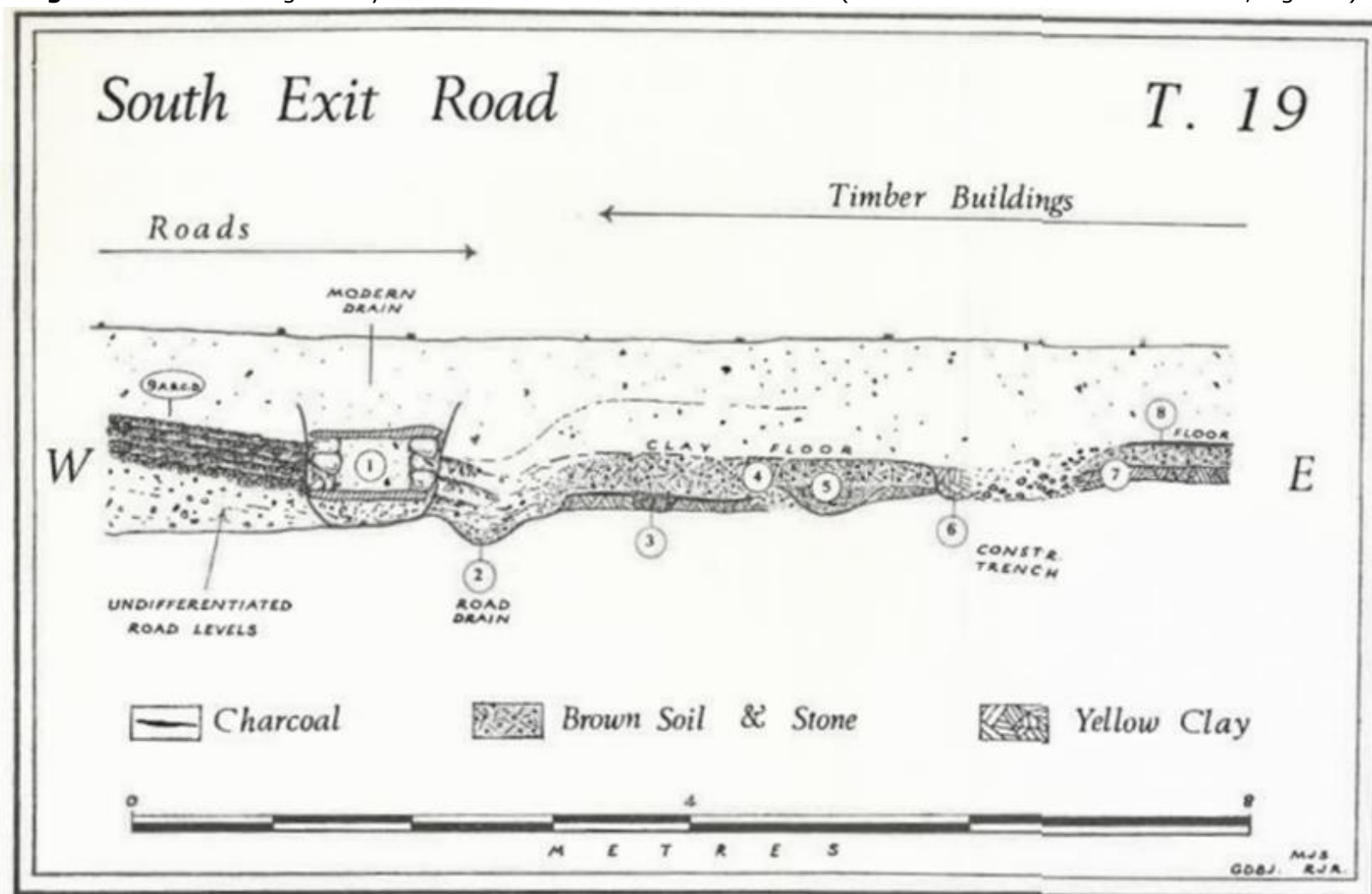
*in relation to the nearby Dolaucothi gold mines. Excavations within the fort, west of the main A482 both north and south of the Dolaucothi Arms, have revealed a number of phases of internal buildings, including a granary, as well as a well/cistern, and a burnt timber structure in a 2m-deep pit which was dated to the later 3rd or early 4th century AD, raising interesting questions about the nature of later Roman occupation on the site, traces of which are otherwise extremely elusive. Geophysical survey in unexcavated areas suggests that further structures, including a probable bath house on the eastern outskirts, remain to be found here. The monument is of national importance for its potential to enhance our knowledge of Roman military organisation. The monument forms an important element within the wider context of the Roman occupation of Wales and the structures may contain well preserved archaeological evidence concerning chronology, layout and building techniques...*

- 3.2 Much of what is known of the fort is from excavations undertaken in and around the fort in the 1970s, 80s and 90s which produced evidence of the layout of the fort and its development (Burnham and Burnham 2004; Jones and Little 1973 and 1974).
- 3.3 In 1995 a watching brief was carried out during the installation of a new water main along the length of the A482 through Pumsaint (Murphy 1995). Approximately 15m northwest of the proposed development area, outside the residential dwelling Y Mans/The Manse, archaeological deposits were noted at approximately 0.5m below the current ground surface which were tentatively interpreted as the remains of ramparts and revetment wall foundations.
- 3.4 In 1973 two trenches were excavated within the area of the proposed widening (Jones and Little 1974, T.19 and T.3, figs 5 and 6). Trench 19 produced evidence of a north-south roadway of four construction phases, and features associated with multiple timber structures including floor surfaces and wall slots running at right angles to the east of the road. These structural features were interpreted as evidence of a vicus (a non-military settlement). The roadway probably formed the main '*via principalis*' of the fort. The deposits were found 0.5m below ground surface. It was noted that heavy root action had probably destroyed evidence of later buildings which may have been closer to the ground surface. The results of the excavation in Trench 3 were not published.
- 3.5 Several metres southeast of the 1973 excavation trenches along the southern boundary of the area of proposed widening, there is a bank section with exposed archaeological material. Approximately 45m long and situated on the northern bank of River Cothi, the bank is prone to frost and river erosion. The section was recorded in the summer of 1985 before any further loss of archaeology occurred (Figs 7 and 8).
- 3.6 The bank section revealed four phases of activity. The earliest layer contained a series of pits and linear features. Overlying this was a deposit of dumped material containing charcoal and burnt clay and daub. It is posited that this was used as levelling material for buildings as elements of timber structures were noted at the western end of the section in the layers above. Pottery

evidence suggests the levelling coincided with the reduction in size of the fort in the early second century AD. As with the 1973 excavation, the top of the archaeologically significant deposits were 0.4-0.5m below the modern ground surface.



**Figure 5:** Plan showing the layout of the fort and excavation trenches (from Burnham and Burnham 1987, Fig. 2.1).

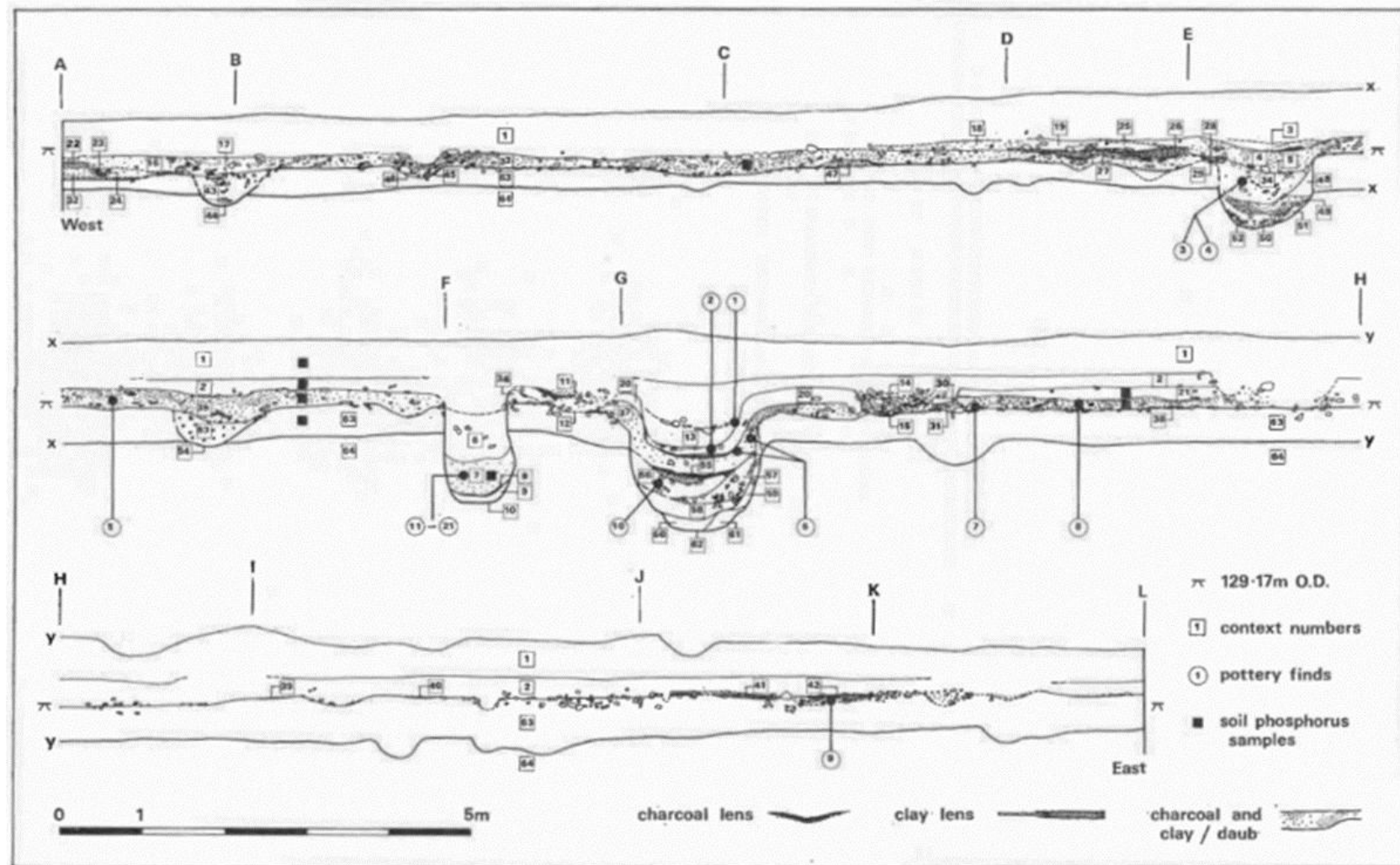


**Figure 6:** Section plan of the features found in Trench 19, which is situated within the area of the proposed road widening (Jones and Little, 1974).



**Figure 7:** The position of the exposed bank section recorded in 1985.  
This sits along the southern edge of the area of the proposed road widening

(Burnham and Burnham 1986)



**Figure 8:** Section drawing of the bank which runs along the southern edge of the area of the proposed road widening. It was cleaned and recorded in 1985 (Taken from Burnham & Burnham, 1986).

## **TRIAL TRENCH EVALUATION METHODOLOGY**

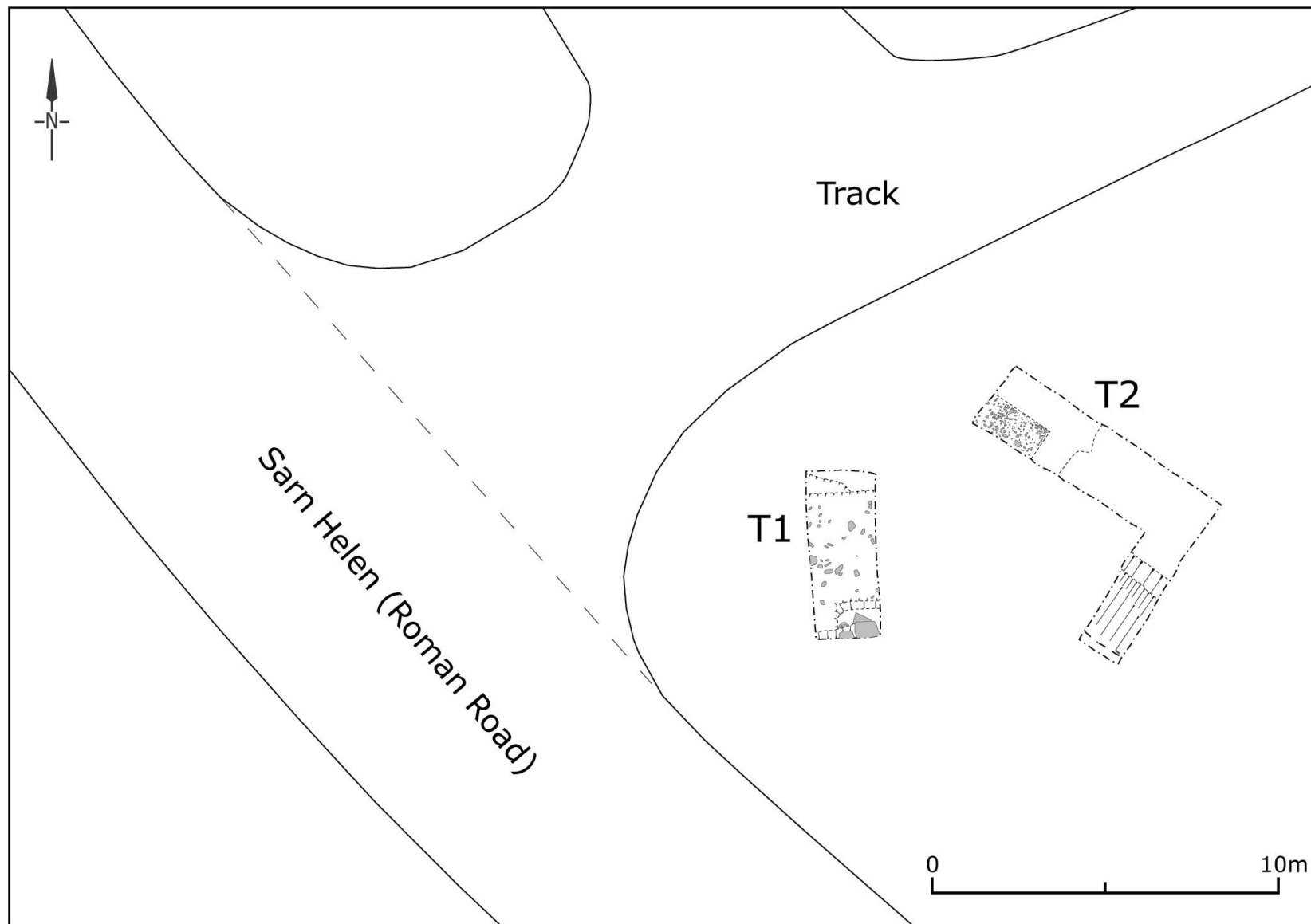
### **4.1 Fieldwork Methodology**

- 4.1.1 To ascertain the significance and state of preservation of potential archaeological features within the area of proposed road widening, two evaluation trenches were excavated (Figs 4 and 9). It was originally intended to excavate three evaluation trenches in total, however, due to the dense tree coverage within the evaluation area, Trenches 2 and 3 were merged to form a single, large L-shaped trench which avoided getting too close to large trees.
- 4.1.2 Both trenches were hand-excavated; all non-archaeologically significant overburden was removed and the trenches excavated to the top of significant archaeological deposits or to the top of geological deposits, whichever came first.
- 4.1.3 Following initial excavation, each trench was cleaned by hand-trowelling to enable identification of the presence or absence of archaeological remains.
- 4.1.4 All deposits were recorded in accordance with the Trust for Welsh Archaeology – Dyfed Region recording system. Trench plans and sections were recorded by means of measured sketches, GPS survey and photography.
- 4.1.5 No deposits for environmental sampling were recovered during the archaeological fieldwork.

### **4.2 Post-Fieldwork Reporting and Archiving**

- 4.2.1 An archive will be prepared as per the requirements of the Trust for Welsh Archaeology – Dyfed Region archive retention policy (2018).
- 4.2.2 The results of the fieldwork have been assessed in local, regional and wider contexts. The report includes a desk-based research element to ensure that the site is placed within its wider archaeological context.





**Figure 9:** Plan showing final trench layout following relocation of Trench 2.



## **5 RESULTS**

### **5.1 Introduction**

- 5.1.1 The evaluation was conducted between the 13<sup>th</sup> and 17<sup>th</sup> of May 2024 by [Redacted – Regulation 13 Personal Data] (archaeologist), [Redacted – Regulation 13 Personal Data] (archaeologist) and [Redacted – Regulation 13 Personal Data] (archaeologist).
- 5.1.2 The two trenches were excavated to the levels of exposed geology or archaeology, whichever came first:
- Trench 1 was a rectangular shaped trench located just inside the revetment wall which enclosed a small patch of woodland on the southeast side of an unnamed trackway. The trench was aligned north/south and measured approximately 5m × 2m.
  - Trench 2 was a L-shaped located just to the south of the southern edge of the Roman fort and just to the north of the top edge of a slope that descended sharply down to the floodplain of the Afon Cothi. The northwest-southeast leg was 7m × 0.80m. The northeast/southwest leg was 3.6m × 1.30m.
- 5.1.3 After they had been hand-dug, each trench was hand-cleaned to identify and enhance visibility of any exposed archaeological features.
- 5.1.4 All trenches were excavated down to the top of significant archaeological deposits or to the top of geological deposits, whichever was reached first, and within safety limits.

### **5.2 Trench 1 (Photos 2-5; Figs 10–11)**

- 5.2.1 The earliest deposit revealed in Trench 1 comprised a mid-brown silty-clay (1006) containing patches of thick whitish clay. The remains of thick patches of whitish clay may have originated from the erosion of an adjacent or nearby defensive bank. A sherd of Roman pottery was found in this deposit. Its upper levels were 1.22m below existing ground level and therefore were not investigated further due to the safe depth limit of the trench being reached. Deposit (1006) could possibly represent the upper fill of a ditch situated outside
- 5.2.2 Overlying (1006) was a mid to light greyish-brown silty-clay (1005), 0.4m thick, that contained sherds of Roman pottery and more recent finds. It is assumed that this deposit may have formed through colluvial action and appeared to have been deposited from a northerly direction.
- 5.2.3 The remains of a buried soil were recorded overlying deposit (1005). This deposit was recorded in both east- and west-facing sections of the trench as a band of blackish brown silty-clay (1004) which varied in depth between 0.2m and 0.06m thick.
- 5.2.4 Within the east facing section of the trench a small patch of pure white lime mortar, 0.10m thick, was revealed overlying the buried topsoil (1004), measuring 1.0m in length.

5.2.5 A significant spread of building demolition (1002) was recorded in the upper levels of the trench, deposited over the buried topsoil (1004). Within it were large pieces of concrete decorative mouldings, 20<sup>th</sup> century pottery and modern glass. This deposit was 0.2m thick.

5.2.6 Topsoil (1001) comprised a blackish-brown silty-clay containing small fragments of coal and mortar; it was between 0.20m and 0.10m thick.



**Photo 2:** View north of Trench 1 cleaned showing deposit (1006). 1m scale.



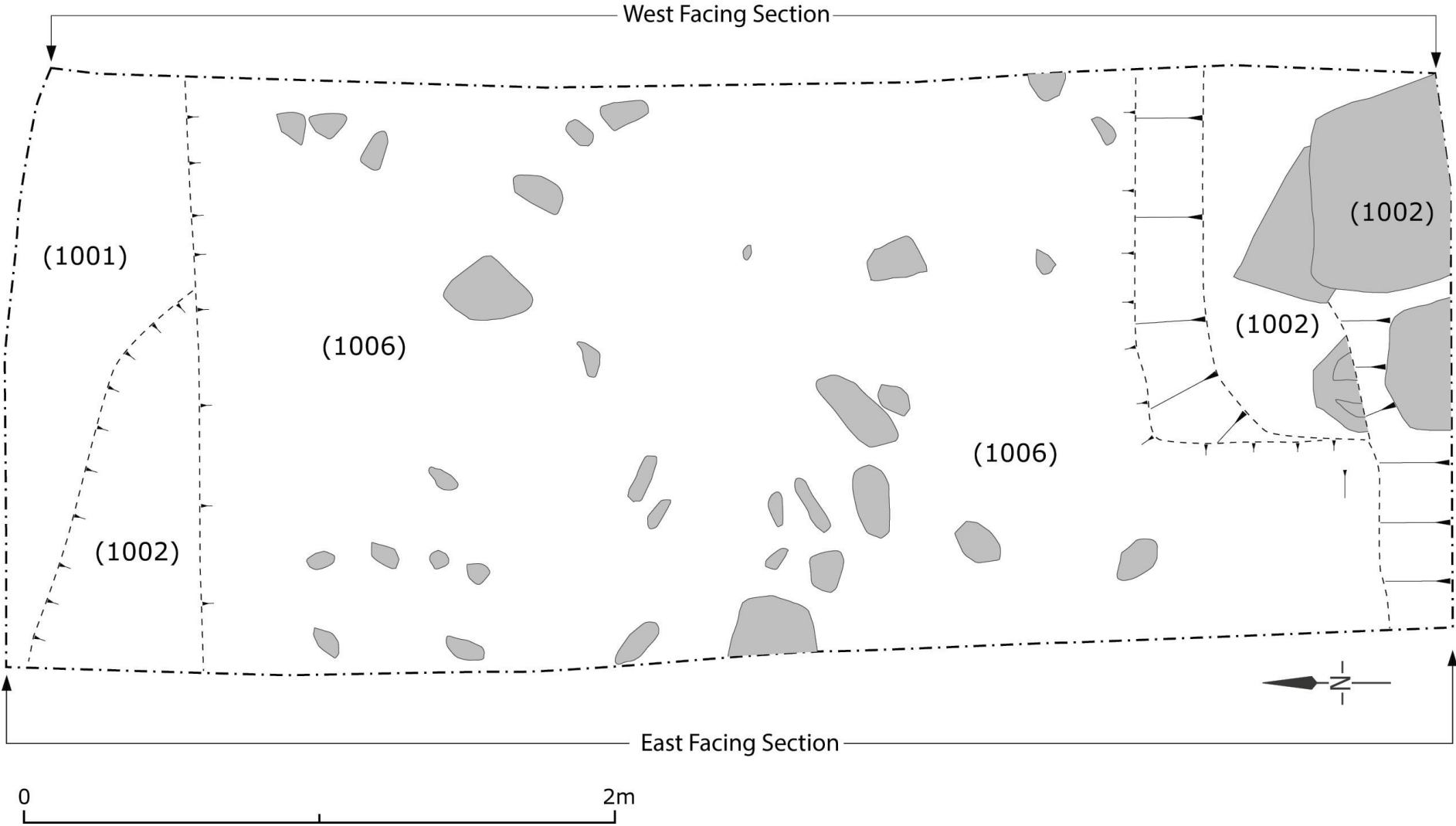
**Photo 3:** View south of Trench 1 cleaned showing deposit (1006). 1m scale



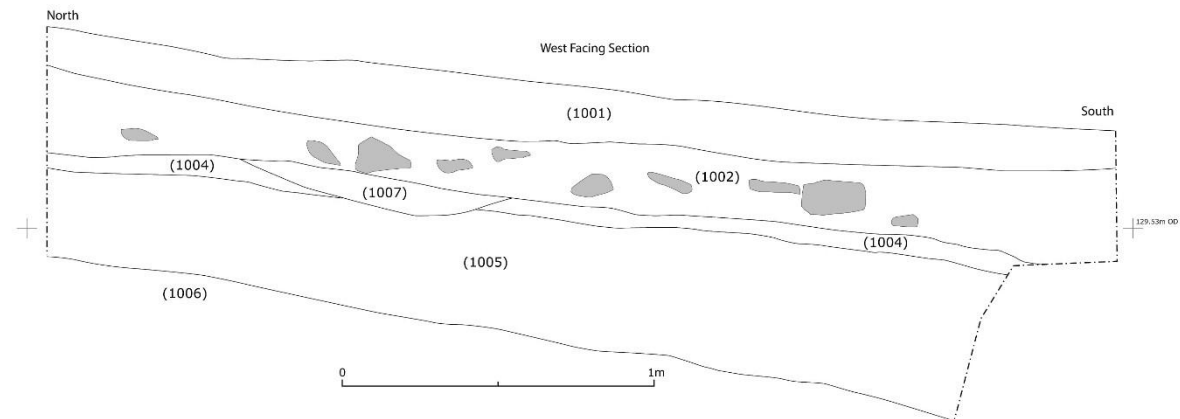
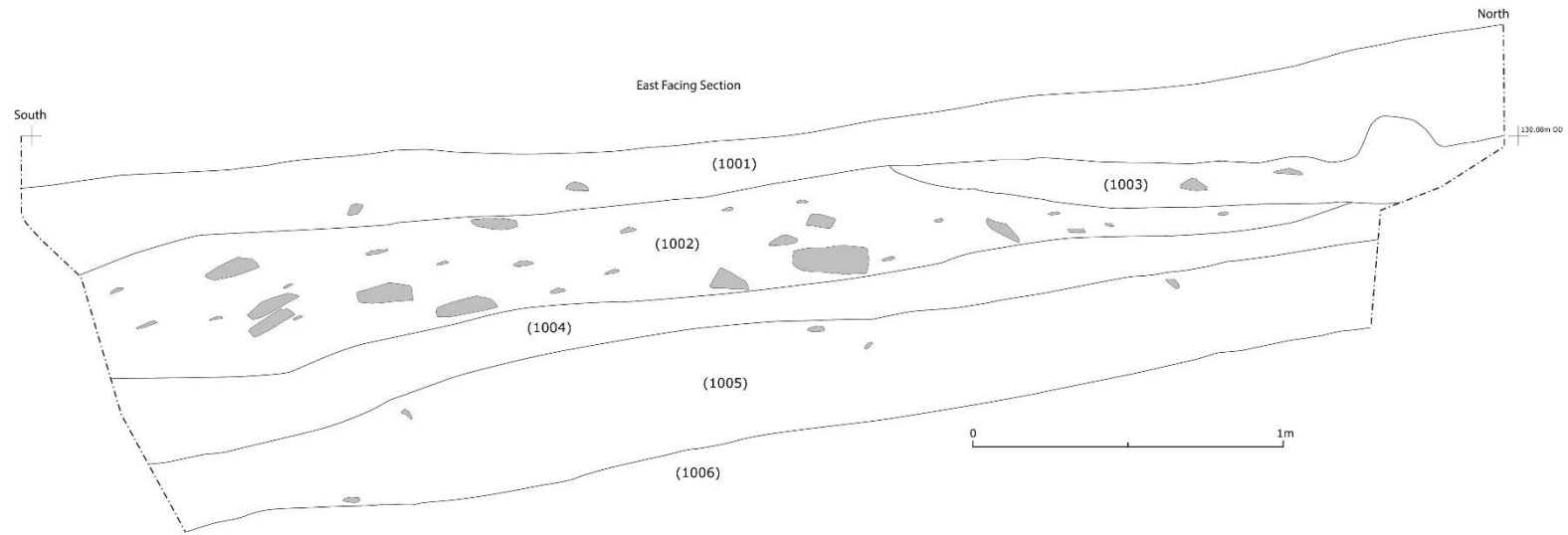
**Photo 4:** View west of east facing section in Trench 1. 1m scale.



**Photo 5:** View east of west facing section in Trench 1. 1m scale.



**Figure 10:** Plan of Trench 1 excavated to final depth.



**Figure 11:** East and west facing sections of Trench 1.

### **5.3 Trench 2 (Photos 6-9; Figs 12-14)**

- 5.3.1 A very compacted stone metalled surface (2002) was revealed in the northwest/southeast leg of Trench 2 at shallow depth. In the northwest corner of the trench, it was c. 0.20m below the existing ground surface. It was generally in good condition, except for areas which had been disturbed by extensive tree roots. Large roots could not be disturbed within the trench but the presence of large, displaced surface cobbles mixed within the areas of rooting evidenced that the road surface continued throughout the entire length of the northwest-southeast leg of the trench. One rectangular sondage was cleared of topsoil at the northwest corner of Trench 2 where there were fewer roots, and this revealed the well-preserved road surface just below the topsoil.
- 5.3.2 At the far southwest end of the northwest/southeast leg of the trench an accumulation of made ground deposits were recorded which overlay a former topsoil (2004); that comprised a mid to dark brown silty clay which sloped sharply downwards towards the southwest. This deposit was not excavated and was first revealed at 0.3m below existing ground level.
- 5.3.3 Overlying the buried topsoil was a large accumulation of dumped landscaping material (2003) which comprised loosely compacted dark greyish-brown silty-clay. A two-pence coin found at the base of this deposit demonstrates that this deposit must have been dumped after the year 2002. This deposit was 0.32m thick.
- 5.3.4 The topsoil in Trench 2 comprised a loosely compacted dark brown silty-clay (2001) which contained a high percentage of rotting leaf matter forming a rich organic woodland soil. This deposit generally tended to be far deeper at the far southwest end of the northeast/southwest arm of the trench, measuring 0.33m in thickness than in the far northwest end of the northwest/southeast leg of the trench where it was between 0.18m and 0.20m. Roman period artefacts comprising pottery and glass were present as well as modern artefacts.



**Photo 6:** View northwest of Trench 2 northwest-southeast leg of trench with metallised surface (2002) in background. 1m scale.



**Photo 7:** View northeast of metallised surface (2002) after cleaning. 1m scale.



**Photo 8:** Detailed view northwest of metallated surface (2002). 0.5m scale.



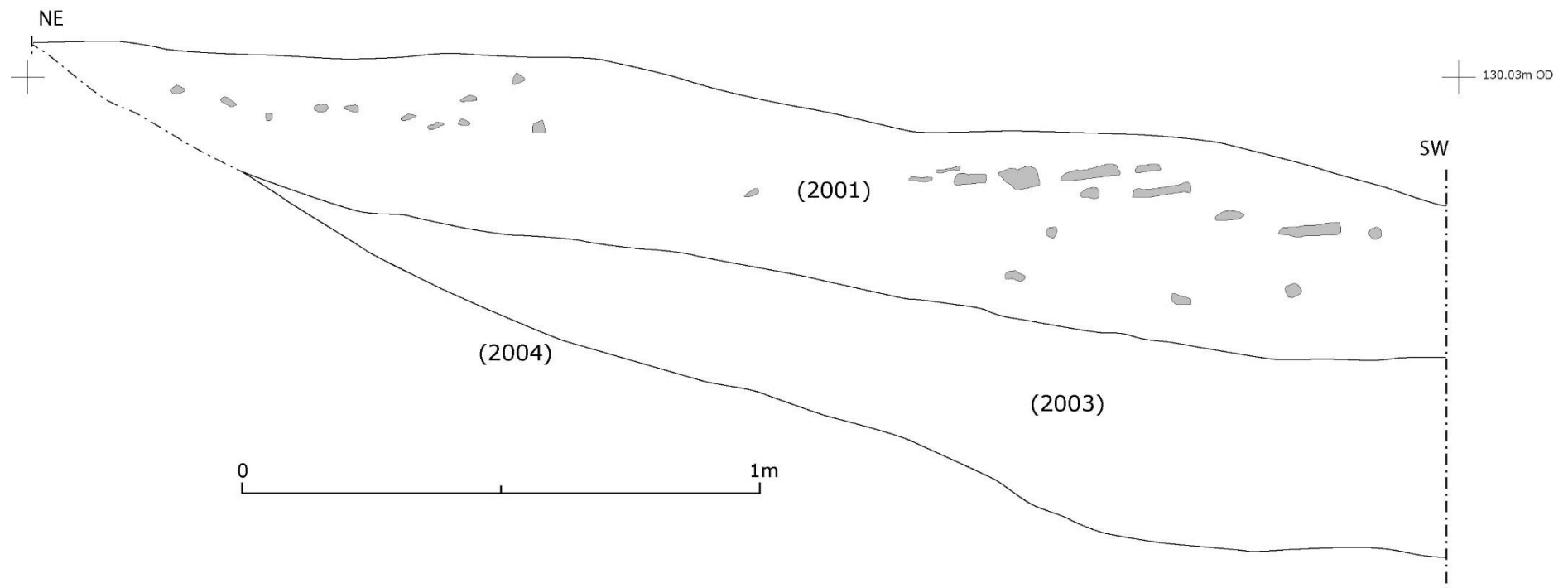
**Photo 9:** View southwest of Trench 2 northeast-southwest leg of trench. 1m scale.



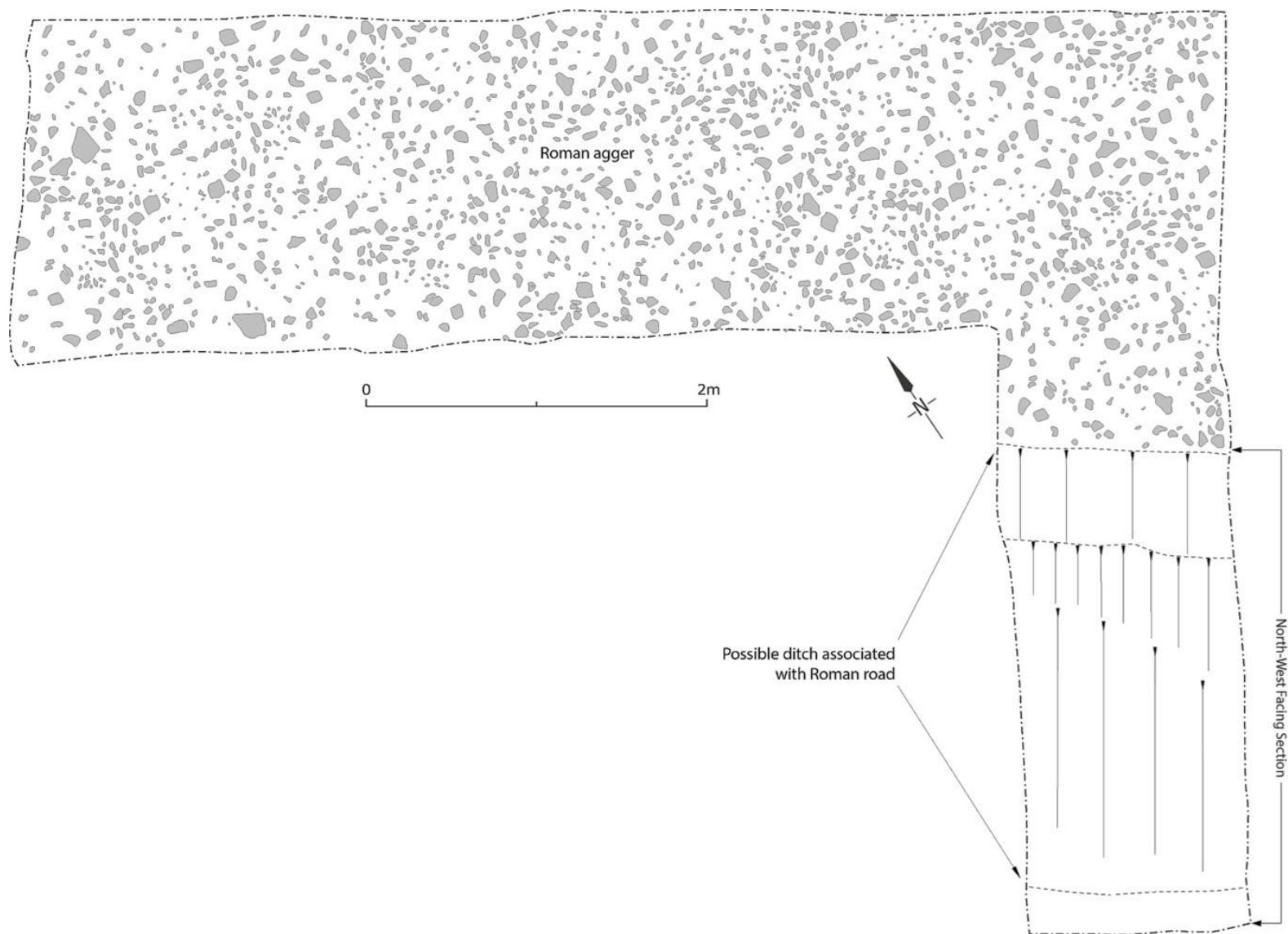
**Photo 10:** View southeast of northwest facing section in Trench 2. 1m scale.



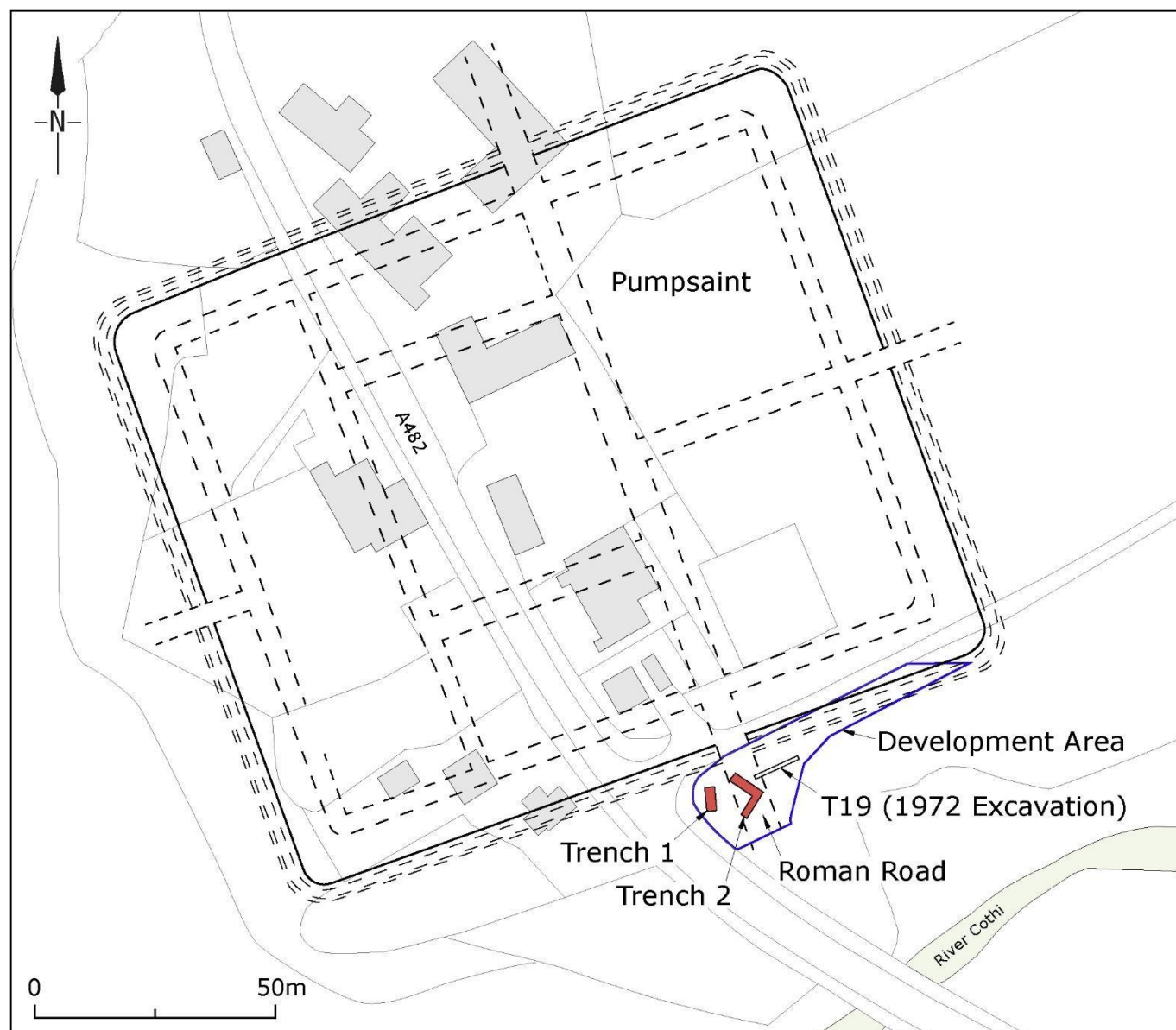
**Figure 12:** Plan of Trench 2 excavated to final depth.



**Figure 13:** Northwest facing section of Trench 2.



**Figure 14:** Interpretive plan of Trench 2.



**Figure 15:** Plan of evaluation trenches in relation to projected fort plan from Burnham and Burnham 1987.

## **5.5 Results – Discussion**

5.5.1 Two archaeological features of probable Roman date were noted during the evaluation:

- the potential Roman deposit (1006) in Trench 1.
- the potential Roman metalled surface (2002) in Trench 2.

5.5.2 The top of a possible Roman deposit (1006) was recorded in Trench 1. It contained a sherd of Roman pottery and could mark the upper horizon of preserved Roman archaeological deposits. Due to the small size of the trench, it was impossible to accurately characterise what the deposit represented but suggestions include the upper fill of a ditch belonging to the southeastern defences of the Roman fort or an earlier external annex sometimes found in association with forts dating to this period. It could also be evidence of more recent episodes of quarrying that have been backfilled over time, as it contained later as well as Roman pottery sherds. Only further archaeological investigation would determine what this deposit represents.

5.5.3 The metalled surface (2002) recorded at shallow depth in Trench 2 was previously revealed during Jones and Little's excavations in 1972 where the eastern edge of the road was recorded. The locations of the evaluation trenches were (as accurately as possible) overlaid on a projected fort plan generated from previous fieldwork (Burnham and Burnham 1987) and the subsequent plan is shown in Figure 15. This shows that the road would appear to be a Roman road which would have run through a gateway in the southeast defences of the fort. Much of the road further south has gone, but it would have continued across the flood plain and crossed the River Cothi on a bridge a little upstream of the modern existing bridge. The metalled surface in Trench 2 appeared to slope gently to the southwest presumably indicating the shape of the 'agger', the embankment on which the Roman road was built.

5.5.4 Following the completion of the evaluation both trenches were backfilled by hand (Photos 11 and 12).



**Photo 11:** View south of Trench 1 after completion of backfilling.



**Photo 12:** View southeast of Trench 2 after completion of backfilling.

## **6. CONCLUSION**

6.1 Road widening has been proposed within the Scheduled Monument of Pumsaint Roman fort. In order to inform a possible planning application and Scheduled Monument Consent application an archaeological evaluation was undertaken consisting of two trenches.

6.2 The archaeological evaluation uncovered the upper surface of a Roman road in one trench and the top of associated Roman date deposits the second trench that could not be clearly characterised. Previous archaeological investigations in and close to the proposed area of road widening revealed stratified archaeological deposits. It is highly likely that similar deposits exist across the whole of the proposed area of road widening.

## **7. FINDS**

### ***Context (1002)***

20<sup>th</sup> century pottery. Stoneware paste container.

19<sup>th</sup>/20<sup>th</sup> century glass. Two small medicine bottles/phials.

One piece of concrete/lime moulding.

### ***Context (1005)***

Roman pottery. Small very eroded small body sherd. Orange fabric (Severn Valley ware).

Possibly Roman pottery. Two small very eroded body sherds. Orange fabric and buff fabric.

Medieval/early modern pottery. Five very eroded small body sherds. Orange fabric.

Modern pottery. Five small sherds of various types of 20<sup>th</sup> century pottery.

Modern glass. Three sherds from different vessels.

Modern metal button.

Three fragments of small iron objects. Modern.

### ***Context (1006)***

Roman pottery. Small eroded rim sherd. Orange/grey fabric.

Medieval/early modern pottery. Six small very eroded body sherds. Orange fabric.

Small iron nodule.

### ***Context (2001)***

Roman pottery. Small body sherd of Samian ware.

Roman pottery. Small very eroded rim sherd. Orange fabric (Severn Valley ware?).

Roman pottery. Small very eroded sherd. Orange-grey fabric.

Modern pottery. Sherd of a plant pot.

Roman glass. Concentrically ribbed base of a large vessel. Pale green

Roman glass. Body sherd of a small vessel. V. pale blue. Roman

glass. Small body sherd. Green. Possibly Roman.

Modern glass. Eight sherds of different vessels/window glass.

Modern iron. Two pieces of wire and a small iron nodule.

Lime mortar. Three small pieces.

## **8. SOURCES**

### **Database**

Regional Historic Environment Record, housed with the Trust for Welsh Archaeology – Dyfed Region, in The Corner House, 6 Carmarthen Street, Llandeilo, Carmarthenshire, SA19 6AE.

### **Published sources**

Burnham B C and Burnham H B, 1987, 'Recent Survey on the fort and vicus at Pumsaint', *Carmarthenshire Antiquary* 22, 3-13.

Burnham B and Burnham H, 2004, *Dolaucothi-Pumsaint* (Oxford: Oxbow Books).

Jones G D B and Little, J H, 1973, 'Excavations on the Roman Fort at Pumsaint, Carmarthenshire: Interim Report 1972', *Carmarthen Antiquary* 9, 3-27.

Jones G D B and Little, J H, 1974, 'Excavations at Pumsaint 1973: Interim Report', *Carmarthen Antiquary* 10, 3-16.

### **Unpublished sources**

Murphy K, 1995, 'Water Mains Renewal at Pumsaint, Carmarthenshire', DAT unpublished report PRN 30673.

### **Online resources**

Archwilio – Historic Environment Records of Wales [online] [Welcome to Archwilio - Archwilio](#)

British Geological Survey [online] <https://geologyviewer.bgs.ac.uk/> Accessed 19/09/2024

National Library Wales - Welsh Tithe Maps [online] [Welsh Tithe Maps - Home \(library.wales\)](#) Accessed 19/09/2024

National Library of Scotland [online] [Map images - National Library of Scotland \(nls.uk\)](#) Accessed 19/09/2024

(OpenMap-Local 2023)

Scheduled Monument - Full Report - HeritageBill Cadw Assets - Reports  
([cadwpublic-api.azurewebsites.net](https://cadwpublic-api.azurewebsites.net)) accessed: 03.01.2024.

## APPENDIX 1



### **PUMSAINT FORT, PUMSAINT, CARMARTHENSHIRE: WRITTEN SCHEME OF INVESTIGATION FOR ARCHAEOLOGICAL EVALUATION**

#### **1 INTRODUCTION**

- 1.1 This Written Scheme of Investigation (WSI) has been prepared by Dyfed Archaeological Services, a contracting arm of Heneb- Dyfed Archaeology to provide a methodology for the archaeological evaluation of land proposed for use in temporary road widening works in Pumsaint, Carmarthenshire (centred on NGR SN 65663 50218, Figure 1).
- 1.2 The widening works are proposed to be carried out at a junction of the A482 and a forestry track which branches eastwards off the main trunk way at the southern end of Pumsaint village (Figure 2).
- 1.3 The road widening works would form part of the Waun Maenllwyd Wind Energy Hub development by Belltown Power UK Ltd, situated 3km southeast of Llanddewi Brefi, Ceredigion. The newly widened junction at Pumsaint would improve access to the forestry track, allowing Abnormal Indivisible Load (AIL) delivery vehicles to carry wind turbine components to the project site.
- 1.4 It is intended to install a temporary 'floating' track solution to widen the junction which would sit above the existing ground surface and would be removed at project completion. Due to the undulating nature of the topography some earthworks would be required behind the junction wall to level the existing ground to facilitate the temporary floating track. The wall itself would not be removed during any stage of the evaluation, unless agreed in advance with Cadw and the National Trust.
- 1.5 The area of land at the road junction sits within the designated Scheduled Monument of Pumsaint Roman Fort (CM226, Figures 2 & 3) and is owned by The National Trust.
- 1.6 The WSI and archaeological works have been commissioned by Waun Maenllwyd Wind Energy Hub Ltd following pre-application advice from Cadw. The results of the investigation would inform the design of the temporary widening of the junction.
- 1.7 Scheduled Monument Consent has been granted by Cadw (04/04/2024) for archaeological evaluation within the development area subject to conditions. One condition states:
  - c) *No works, including site clearance, shall commence until Cadw has been informed in writing of the name of an appropriately qualified archaeologist*

*operating to CIfA published standards and guidance<sup>1</sup> who will carry out an appropriate programme of archaeological investigatory works in accordance with a written scheme of investigation which has been*

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*submitted to, and approved in writing by, Cadw. No work shall commence until Cadw has confirmed in writing that the proposed archaeologist and their written scheme for archaeological evaluation are acceptable;*

d)

1.8 This WSI relates specifically to the archaeological investigatory works (namely an archaeological evaluation) element mentioned in that condition and outlines the methodology through which Dyfed Archaeological Services would undertake the archaeological evaluation.

1.9 Cadw has recommended that archaeological evaluation of 100% of the proposed junction footprint is to be undertaken.

1.10 This WSI describes the first stage of the 100% archaeological evaluation. The results of this initial stage of evaluation would inform how best to approach evaluating the remaining area.

1.11 In this initial stage it is proposed that the following trenches are evaluated as shown in Figure 4:

- **Trench 1** (2 x 5m = 10m<sup>2</sup>) would target the area immediately behind the wall where the most ground reduction would be required. It appears that most of the soil here is build up of leaf mould, rotting vegetation, etc. so a trench here would also test this theory and determine if the wall was originally a retaining wall or not.
- **Trench 2** (2 x 7m = 14m<sup>2</sup>) would straddle the expected location of the old Roman road and also an area of greater ground reduction behind the northern section of the wall.
- **Trench 3** (1.55 x 4.5m = 7m<sup>2</sup>) would extend into the central area between the trees, where there is a natural mound in the ground levels and hence a need for increased ground reduction. This trench could also assess the tree root mat in this central location.

1.12 The aim of the archaeological evaluation is to provide information on the character and significance of any below ground archaeological remains that may be present within the development area. Should any significant archaeological deposits be revealed, then a programme of further mitigation can be formulated and potentially implemented prior to development.

1.13 This WSI details the methodology of the evaluation which would be undertaken by Dyfed Archaeological Services and has been prepared in accordance with the Chartered Institute for Archaeologists (CIfA) Standard and Guidance for Archaeological Field Evaluation (CIfA 2023). A copy would be sent to Cadw and the National Trust for their approval.

1.14 Dyfed Archaeological Services has considerable experience of this type of project and always operates to best professional practice. Heneb-Dyfed Archaeology has its own Health and Safety Policy, and all works are

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<sup>1</sup> Chartered Institute for Archaeologists <https://www.archaeologists.net/codes/cifa> .

covered by appropriate Employer's Liability and Public Liability Insurances. Copies of all are available on request.

1.15 ***Heneb-The Trust for Welsh Archaeology is a CIFA Registered Archaeological Organisation.***

1.16 ***All permanent Dyfed Archaeological Services staff are CSCS <sup>2</sup> certified to work on construction sites.***

## **2 ARCHAEOLOGICAL SUMMARY**

2.1 The scheduling summary description of the Pumsaint Roman Fort includes the following:

*"The monument comprises buried features and earthworks representing a Roman fort... The fort, originally probably measuring c.150m x 125m, and enclosing 1.9ha, was founded in the mid AD 70s, and was reduced in size to c.0.9ha c. AD 100, before apparently being abandoned by the AD 120s, a fairly typical chronological range. The fort may have had a special function in relation to the nearby Dolaucothi gold mines. Excavations within the fort, west of the main A482 both north and south of the Dolaucothi Arms, have revealed a number of phases of internal buildings, including a granary, as well as a well/cistern, and a burnt timber structure in a 2m-deep pit which was dated to the later 3rd or early 4th century AD, raising interesting questions about the nature of later Roman occupation on the site, traces of which are otherwise extremely elusive. Geophysical survey in unexcavated areas suggests that further structures, including a probable bath house on the eastern outskirts, remain to be found here. The monument is of national importance for its potential to enhance our knowledge of Roman military organisation. The monument forms an important element within the wider context of the Roman occupation of Wales and the structures may contain well preserved archaeological evidence concerning chronology, layout and building techniques..."<sup>3</sup>*

2.2 Much of what is known of the fort is from several rescue excavations undertaken within and around the fort in the 1970's, which produced evidence of the layout of the fort and its development over time<sup>4</sup>.

2.3 In 1995 a watching brief was carried out during the installation of a new water main along the length of the A482 through Pumsaint <sup>5</sup> . Approximately 15m northwest of the proposed development area, outside the residential dwelling Y Mans/The Manse, archaeological deposits were noted at approximately 0.5m below the current ground surface which

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<sup>2</sup> 2 Construction Skills Certification Scheme.

<sup>3</sup> [Scheduled Monument - Full Report - HeritageBill Cadw Assets - Reports \(cadwpublic-api.azurewebsites.net\)](#) accessed: 03.01.2024.

<sup>4</sup> Jones, G D.B & Little, J H, 1973, 'Excavations on the Roman Fort at Pumsaint, Carmarthenshire: Interim Report 1972', Carmarthen Antiquary Vol. 9, 3-27; Jones & Little, 1974, 'Excavations at Pumsaint 1973: Interim Report', Carmarthen Antiquary Vol. 10, 3-16

<sup>5</sup> Murphy, K, 1995, Water Mains Renewal at Pumsaint, Carmarthenshire, DAT Unpublished Report PRN 30673

were tentatively interpreted as the remains of ramparts and revetment wall foundations.

2.4 In 1973 two trenches were excavated within the proposed development area itself<sup>6</sup> (T.19 and T.3). Trench 19 produced evidence of a north-south roadway of four construction phases, with features from multiple timber structures including floor surfaces and wall slots running at right angles to the east of the road. These structural features were interpreted as evidence of a Vicus (a non-military settlement). The roadway probably formed the main '*via principalis*' of the fort. The deposits were found 0.5m below the contemporaneous ground surface. It was noted that heavy root action had probably destroyed evidence of any later buildings which may have been closer to the contemporaneous ground surface. The results of the excavation in Trench 3 were not published.

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2.5 Several metres southeast of the 1973 excavation trenches along the southern boundary of the proposed development area, there is an exposed bank section known historically to have contained exposed archaeological material. Approximately 45m long and situated on the northern bank of River Cothi, the bank is prone to frost and river erosion. The section was recorded in the summer of 1985 before any further loss of archaeology occurred<sup>7</sup>.

2.6 The section revealed four phases of activity. The earliest layer contained a series of pits and linear features. Overlying this was a deposit of dumped material containing charcoal and burnt clay and daub. It is posited that this was used as levelling material for buildings as elements of timber structures were noted at the western end of the section in the layers above. Pottery evidence suggests the levelling coincided with the reduction in size of the fort in the early 2<sup>nd</sup> century AD. As with the 1973 excavation, the archaeologically significant deposits were at 0.4-0.5m below the current ground surface.

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<sup>6</sup> Jones & Little, 1974

<sup>7</sup> Burnham, B C & Burnham, H B, 1987, 'Recent Survey on the fort and vicus at Pumsaint', Carmarthenshire Antiquary Vol. 22, 3-13

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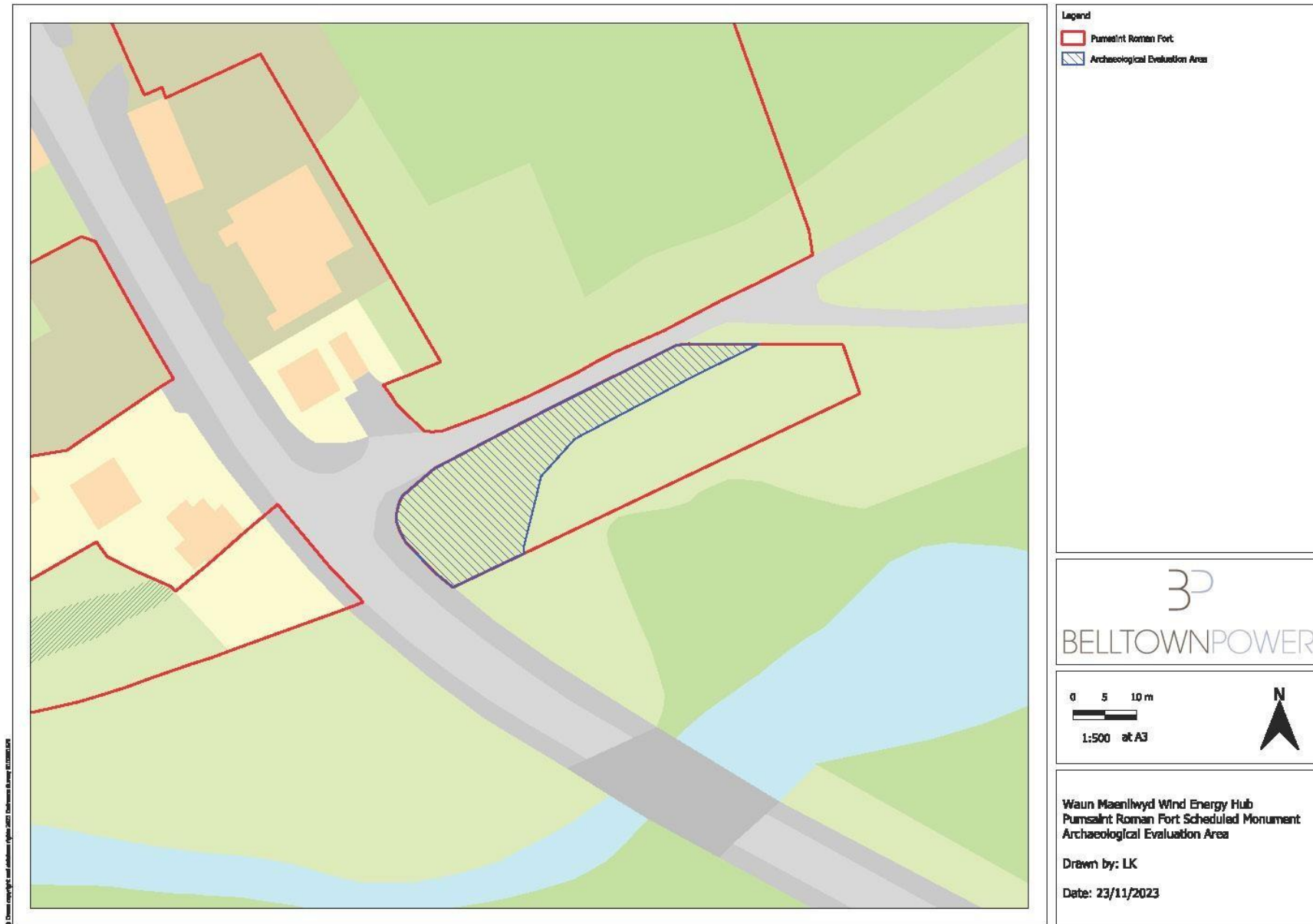


**Figure 1:** Development area location marked in red.

Base map data from OpenStreetMap (OSM) <https://www.openstreetmap.org/copyright> 03/01/23.



**Figure 2:** The outline of the scheduled monument designation area in red, with the location of the road junction highlighted by the dashed blue line.  
Map data from OpenStreetMap (OSM) <https://www.openstreetmap.org/copyright> 22/04/24.



**Figure 3:** Proposed archaeological evaluation area at the road junction hatched in blue.

The red outline indicates the boundary of the Scheduled Monument designation area.

Plan provided by the client, not reproduced to scale.



**Figure 4:** Proposed Stage 1 evaluation trench locations. Plan provided by the client, not to scale.

### 3. AIM OF THE PROJECT

3.1 The definition of an archaeological evaluation taken from the Chartered Institute for Archaeologists Standards and Guidance for Archaeological Field Evaluation (CIfA S&G: AFE 2023) is a limited programme of non-intrusive and/or intrusive fieldwork which determines the presence or absence of archaeological features, structures, deposits, artefacts or ecofacts within a specified area or site on land, inter-tidal zone or underwater. If such archaeological remains are present field evaluation defines their character, extent, quality and preservation, and enables an assessment of their significance in a local, regional, national or international context as appropriate. The programme would result in the preparation of a report and ordered archive.

3.2 The purpose of field evaluation as laid down in the CIfA S&G AFE is:

*to gain information about the archaeological resource within a given area or site (including its presence or absence, character, extent, date, integrity, state of preservation and quality), in order to make an assessment of its merit in the appropriate context, leading to one or more of the following:*

- a. The formulation of a strategy to ensure the recording, preservation or management of the resource*
- b. The formulation of a strategy to mitigate a threat to the archaeological resource*
- c. The formulation of a proposal for further archaeological investigation within a programme of research*

3.3 This document provides a scheme of works for:

**The implementation of a scheme of archaeological evaluation within the development area to inform the design of a proposed widening of the junction of the A482 trunk road and a forestry track which sits south of Pumsaint village. The archaeological field evaluation would determine, as far as is reasonably possible, the nature of the archaeological resource within this specified area using appropriate methods and practices. These would satisfy the stated aims of the project and comply with the code of conduct and other relevant regulations of CIfA.**

**A report shall be prepared on the results of the evaluation and an archive created of all finds, records, photographs and plans created by this mitigation strategy. Further mitigation is possible where significant remains are identified; the scope of which would be determined following this stage of work.**

### 4. PROJECT OBJECTIVES

4.1 Provision of a WSI to outline the methodology by which the archaeological contractor would undertake the archaeological field evaluation.

3.2 To undertake an archaeological field evaluation to identify the presence/absence of any archaeological deposits.

3.3 To establish the character, extent, and date range for any archaeological deposits to be affected by the proposed ground works.

- 3.4 To appropriately investigate and record any archaeological deposits to be affected by the ground works.
- 3.5 To produce an archive and report of any results.

## **5. ARCHAEOLOGICAL EVALUATION METHODOLOGY**

5.1 To better ascertain the significance and state of preservation of the potential archaeology within the development area, it is proposed initially that 3 trial trenches are evaluated (Figure 4).

5.2 The following initial trenches are proposed:

- **Trench 1** (2 x 5m = 10m<sup>2</sup>) will target the area immediately behind the wall where the most ground reduction would be required. It appears that most of the soil here is build up of leaf mould, rotting vegetation, etc. so a trench here would also test this theory and determine if the wall was originally a retaining wall or not.
- **Trench 2** (2 x 7m = 14m<sup>2</sup>) will straddle the expected location of the old Roman road and also an area of greater ground reduction behind the northern section of the wall.
- **Trench 3** (1.55 x 4.5m = 7m<sup>2</sup>) will extend into the central area between the trees, where there is a natural mound in the ground levels and hence a need for increased ground reduction. This trench could also assess the tree root mat in this central location.

5.3 The final positioning of the initial trenches would depend on the advice and instruction from the project ecologists and National Trust's ecologist, following an ecology survey to determine which areas of vegetation could be removed prior to evaluation. The ecologists and archaeologists would agree this on day 1 of the evaluation and remove the necessary vegetation within 24 hours of the ecology survey.

5.4 No tree roots would be disturbed during the evaluation work and if required root protection zones would be marked out by the project ecologists before works commence.

5.5 All non-archaeologically significant deposits would be excavated by hand to the top of archaeological deposits, the top of the tree root mat or the underlying natural substrata (whichever is reached first).

5.6 The trenches will be appropriately hand cleaned to prove the presence or absence, of archaeological features and to determine their significance. The trenches will be surveyed using accurate GPS or Total Station to record the identified features.

5.7 Developer engineers may require a soil sample for compression analysis. If such a sample is required a suitable area for sampling would be agreed by the engineers, archaeologists and Cadw in advance.

5.8 Features containing deposits of environmental significance would be sampled. The quantities and types of sample would be determined by the nature of the deposit and feature, applying Historic England's *Environmental Archaeology: A guide to the theory and practice of methods, from sampling and recovery to post-excavation* (second

edition) 2011. The samples would be retained in stable conditions until analysis can be arranged.

- 5.9 All deposits would be recorded by archaeological context record sheet, scale drawing, photography and site notebooks. All individual deposits would be numbered using the open-ended numbering system in accordance with

Dyfed Archaeological Services Recording Manual<sup>8</sup>. Significant deposits

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<sup>8</sup> Heneb-Dyfed Archaeology uses the Recording Manual developed by English Heritage Centre for Archaeology. A copy would be available for inspection if required.

would be recorded by scale drawing (no less than 1:20); drawn plans would be related to Ordnance Datum and, where possible, known boundaries. A photographic record would be maintained using high resolution digital photography.

- 5.10 All archaeologically significant artefacts, ecofacts and samples would be retained and, where possible, related to the contexts from which they derived. Sensitive material would be stored in appropriately stable conditions. Finds would be temporarily stored by Dyfed Archaeological Services in stable conditions. All finds, except those deemed to be Treasure<sup>8</sup>, would remain the property of the landowner, but it is assumed that permission has been given by the landowner for these to be stored as part of the archive in a suitable repository (ownership would still be with the landowner).

- 5.11 Under the 1996 Treasure Act, "treasure" can be summarised as:

- Any object other than a coin containing at least 10% gold or silver and at least 300 years old;
- Any prehistoric assemblage of base metal;
- Coins found together which contain 10% gold or silver (but no single coins) and groups of at least 10 coins of other metals, provided they are at least 300 years old;
- Any object found associated with treasure except unworked natural objects; and
- Any object which would have been Treasure Trove before the 1996 Act but not covered above.

- 5.12 In the event of the discovery of human remains they would, at this evaluation stage, be left *in situ*. If removal is necessary, it would only take place following the granting of all permissions in writing by the relevant authorities and at a later stage of any necessary archaeological works (the Coroner must be informed and a burial licence granted from the Ministry of Justice).

## **6. POST-FIELDWORK REPORTING AND ARCHIVING**

- 6.1 An archive would be prepared if it meets the requirements of the HenebDyfed Archaeology retention policy (2018). If it does, then data recovered during

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<sup>8</sup> If any material deemed to be Treasure is found, the Coroner must be informed

the watching brief would be collated into a site archive structured in accordance with the specifications in Archaeological Archives: a guide to best practice in creation, compilation, transfer and curation (Brown 2011), and the procedures recommended by the National Monuments Record, Aberystwyth. The National Standards for Wales for Collecting and Depositing Archaeological Archives produced by the Federation of Museums and Art Galleries of Wales would also be adhered to. Digital archives would be collated using the Royal Commission on the Ancient and Historical Monuments of Wales (RCAHMW) systems 2015 and deposited with the RCAHMW. The Guidance for the Submission of Data to the Welsh Historic Environment Records (HERs) should be followed.

- 6.2 A Data Management Plan (DMP) for this project (Appendix I) has been produced in accordance with the Standard and guidance for the creation,

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compilation, transfer and deposition of archaeological archives (CIfA 2014, updated 2020).

- 6.3 The results of the fieldwork would be assessed in local, regional and wider contexts.
- 6.4 The results would be used to inform the developer's subsequent design considerations of the proposed development so that they can avoid unacceptable impacts upon any archaeological remains or that further archaeological mitigation can be implemented if any remains might be disturbed.
- 6.5 The project archive, including all significant artefacts and ecofacts (excepting those which may be deemed to be Treasure) would be deposited with Carmarthenshire Museum following agreement with the National Trust as landowner (if retained and containing more than just digital information).
- 6.6 Dyfed Archaeological Services would arrange for the deposition of finds, and ascertain the costs of storage and deposition, with an approved body before the project commences and inform the curator of the arrangement which has been made.
- 6.7 A summary of the project results, excluding any confidential information, may be prepared for wider dissemination (e.g. Archaeology in Wales and special interest and period-specific journals).
- 6.8 The report would be prepared to follow the Standard and Guidance for Archaeological Watching Briefs (CIfA S&G: AWB 2014).
- 6.9 Digital copies of the report would be provided to the client, as well as Cadw and the National Trust.
- 6.10 The digital archive relating to the project would be deposited with the National Monuments Record (NMR), held and maintained by the RCAHMW, Aberystwyth and would be created in accordance with their practices.
- 6.11 The final report would be submitted to the regional Historic Environment Record (HER) in PDF format, along with any additional information they require.
- 6.12 Appropriate specialists to be used by Dyfed Archaeological Services include:

- Animal Bones – Worcester Archaeology
- Conservation - [Redacted – Regulation 13 Personal Data] (Cardiff University)
- Environmental / Pollen analysis – Worcester Archaeology or AOC Archaeology
- Fish bones – [Redacted – Regulation 13 Personal Data] (University of Leicester Archaeological Services)
- Geophysics – [Redacted – Regulation 13 Personal Data] (Heneb)
- Human Remains – [Redacted – Regulation 13 Personal Data] (UCL University)
- Industrial Archaeology – [Redacted – Regulation 13 Personal Data], Principal Curator – Industry, National Waterfront Museum, Swansea
- Metallurgical analysis - [Redacted – Regulation 13 Personal Data] (Geoarch)
- Post-medieval / medieval pottery – [Redacted – Regulation 13 Personal Data] (local independent specialist)
- Prehistoric Pottery – [Redacted – Regulation 13 Personal Data] (formerly of University of Bradford / now independent pottery specialist)
- Prehistoric Flint – [Redacted – Regulation 13 Personal Data] (formerly of English Heritage, now independent lithics specialist)
- Radiocarbon Dating - Beta Analytic
- Roman Glass – [Redacted – Regulation 13 Personal Data] (Heneb)
- Roman Pottery – [Redacted – Regulation 13 Personal Data] (Freelance)

## **7. STAFF**

7.1 The project would be managed by [Redacted – Regulation 13 Personal Data], Head of Dyfed Archaeological Services.

7.2 The on-site works would be undertaken by experienced members of Dyfed Archaeological Services.

## **8. MONITORING**

8.1 The fieldwork may need to be monitored by Cadw who should be provided access to the site at any time during the evaluation works. The Head of Dyfed Archaeological Services may also monitor the on-site works intermittently.

## **9. HEALTH AND SAFETY**

- 9.1 All permanent members of Dyfed Archaeological Services staff are CSCS registered.
- 9.2 Dyfed Archaeological Services would carry out a health and safety risk assessment to ensure that all potential risks are minimised.
- 9.3 The project risk assessment details the precautions put in place to reduce the spread of Covid-19 Coronavirus during fieldwork.
- 9.4 Trenches would be fenced whilst they are open with a mix of orange Netlon fencing and hazard tape to create a visible barrier between the trenches and surrounding land. This would avoid accidental egress into the trenches preventing trips or falls. The archaeological trenches would be around 1.6m in width and unlikely to be of any significant depth (they are unlike geotechnical test pits as they look at archaeology below the topsoil as opposed to looking at geological levels at depth).
- 9.5 Arisings from the trenches would be stored adjacent to the trenches at a safe distance to avoid material dropping back into the trenches. The spoil heaps are unlikely to exceed 1m in height.
- 9.6 Public conveniences, including toilets and hand washing facilities, are available in Pumsaint adjacent to the evaluation site. Other welfare facilities would be provided by site vehicles.
- 9.7 All site inductions, H&S procedures, H&S constraints and site rules of the client or any on-site contractor would be made known to Dyfed Archaeological Services staff at the start of the works.
- 9.8 Service information would be provided to Dyfed Archaeological Services and evaluation works would only start if the information shows no known services within the development area.
- 9.9 Safety helmets, high visibility vests and boots would be used by all site personnel as necessary. The developer would make all site staff aware of any other PPE that may be required.
- 9.10 The site staff would go through the risk assessment prior to the works commencing and all site staff must sign the document to confirm that they have read, understood and would comply with the document.

## **10. QUALITY ASSURANCE**

- 10.1 Dyfed Archaeological Services has considerable experience of undertaking all categories of archaeological fieldwork and always operates to best professional practice; adhering to CIfA guidelines where appropriate. Heneb-Dyfed Archaeology is a Registered Organisation with CIfA and all staff abide by their code of conduct and adhere to their relevant standards and guidance.
- 10.2 Dyfed Archaeological Services operates robust internal monitoring procedures that ensure that the standard of each project is maintained from commencement to completion.

## **11. ARBITRATION**

- 11.1 Any dispute or disagreement arising out of a contract in relation to this work would be referred for a decision to the Chartered Institute of Archaeologist's arbitration scheme.

## APPENDIX I:

### DATA MANAGEMENT PLAN

This Data Management Plan (DMP) is produced in accordance with the *Standard and guidance for the creation, compilation, transfer and deposition of archaeological archives* (Chartered Institute for Archaeologists 2014, updated 2020). The table below is based on the Work Digital / Think Archive guidance for digital archives prepared by DigVentures, on behalf of Archaeological Archives Forum and in partnership with the Chartered Institute for Archaeologists. The project was funded by Historic England (Project No. 7796).

The Data Management Plan, Selection Strategy and Archive Content List would be updated following completion of the fieldwork.

#### Section 1: Project Administration

Project Ref. No and name
FS12-057 Pumsaint Fort
PRN (if known)
130801
Project Type
Evaluation
Client
Waun Maenllwyd Wind Energy Hub Ltd
Project Manager / Data Contact
[Redacted – Regulation 13 Personal Data]
Principal Archaeologist on site
[Redacted – Regulation 13 Personal Data]
Date DMP created
12/04/2024
Date DMP last updated
21/10/2024
Related data management policies
Written Scheme of Investigation Chartered Institute for Archaeologists (CIfA) <i>Standards &amp; Guidance</i> Heneb-Dyfed Archaeology, 2018, archive retention policy Brown 2011, Archaeological Archives: a guide to best practice in creation, compilation, transfer and curation NPAAW, 2017, The National Standard and Guidance to Best Practice for Collecting and Depositing Archaeological Archives in Wales 2017 RCAHMW, 2015, RCAHMW guidelines for Digital Archives, Version 1 WAT, 2018, Guidance for the Submission of Data to the Welsh Historic Environment Records (HERs)

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## Section 2: Data Collection

Data Type (Delete as appropriate)
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**Documents**

Written Scheme of Investigation, Risk Assessment – Word doc & PDFs

Context sheets, site registers, site notes - paper copies, scanned and saved as PDFs. Site plans – permatrace, scanned and saved as PDFs.

Final report – Word doc & PDF

Illustrations – Adobe Illustrator/Affinity Designer files, PDFs

Specialist assessments (Finds, Environmental etc) – Word doc, PDF, Excel Spreadsheet

**Images**

Site photographs – Jpeg & Tiff (for archive)

Other collected data (scans, archive material, social media images etc) – Jpegs

**Survey**

In house surveys - .dxf files, GIS files (see below)

External surveys – Dependent on external contractor, eg .dxf, .dwg, .rwv etc

**GIS**

Mapinfo files, Esri Shapefiles.

Data acquisition
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All data would be collected as per the methodologies and guidance stated in the WSI (Fieldwork / Methodology).

## Section 3: Documentation and metadata

Documentation and metadata accompanying the data
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All data recovered would be archived in accordance with the guidance stated in the WSI (Post Fieldwork Reporting & Archiving)

## Section 4: Ethics and legal compliance

Management of any ethical, copyright and Intellectual Property Rights (IPR) issues
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All personal data collected during the course of the project would be handled in accordance with Heneb-Dyfed Archaeology *Personal Data Protection Policy* (2018, revised 2020) and current *Code of Practice*.

Licence agreements would be established, and Copyright permissions would be sought as appropriate (eg reproduced mapping extracts, archive material, specialist reports) prior to the submission of the data and/or inclusion in the publication of the project results.

#### Section 5: Data Security: Storage and Backup

##### Data storage, accessibility, and safety during research

All site-produced data would be stored digitally at the first available opportunity. All digital information is stored on the Heneb-Dyfed Archaeology server, accessible by members of the staff. This would be checked regularly by the Project Manager. All digital data on the server is backed-up at regular intervals. The server contains ample capacity for all anticipated site data, and appropriate protocols are in place to manage any potential digital malfunction or cyber attack.

#### Section 6: Selection and Preservation

##### Data retention, sharing, and preservation

Data would be retained as per Heneb-Dyfed Archaeology's *Archive Retention Policy* (2018).

##### Data selection

To be updated following fieldwork.

##### Long-term preservation plan for the dataset

The digital archive relating to the project would be deposited with the NMR, held and maintained by the RCAHMW, Aberystwyth and would be created in accordance with their practices.

The final report would be submitted to the regional Historic Environment Record in PDF format, along with any additional information they require.

If a different digital repository to the NMR is used, their own procedures would be established at the outset of a project and followed.

If a project includes artefacts to be deposited at a museum, arrangements would be made prior to the commencement of the project, and a copy of the digital archive would be sent with the artefacts.

Archiving costs are included within the project budget.

#### Section 7: Data Sharing

##### Sharing and accessibility

The dissemination of data is detailed in the WSI (Post-Fieldwork Report and Archiving).

#### Section 8: Responsibilities

##### Responsibilities

Data collection, storage and manipulation would be carried out by the site team. The Project Manager would be responsible for the implementation of the data management plan.





**Heneb**