



**ARCHAEOLOGICAL
DESK BASED
ASSESSMENT**

**MODEL FARM
RHOOSE
VALE OF GLAMORGAN**

**Revision: MAY 2019
Original: JUNE 2018**

**Local Planning Authority:
VALE OF GLAMORGAN
COUNCIL**

**Site centred at:
ST 07860, 67510**

**Author:
PHILIP BETHELL BA (Hons)
MCIfA**

**Approved by:
NICK COOKE BA (Hons) PhD FSA
MCIfA**

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N.B. The illustrations are not to scale

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Executive Summary

This archaeological desk-based assessment considers the potential impacts on the historic environment of a proposed development at Model Farm, Rhoose, Vale of Glamorgan (the study site) which is being considered for mixed development. In accordance with government policy (Planning Policy Wales and TAN24), and the adopted Vale of Glamorgan Council Local development Plan, this assessment draws together the available archaeological, historic, topographic and land-use information in order to clarify the heritage significance and archaeological potential of the study site.

The assessment has established that there are no designated archaeological assets present within the study site.

While there are non-designated archaeological heritage assets recorded within the study site, there is no evidence for any activity other than agriculture before the Post-Medieval period. A single unstratified Prehistoric find is believed to be wrongly located within the study site. A single sherd of Roman pottery associated with iron slag fragments has previously been interpreted as indicative of Roman settlement. Medieval evidence consists of pottery spread across the eastern parts of the study site by manuring practices, a practice which continued into the Post-Medieval period. Other than pottery sherds, a single house platform represents the known Post-Medieval archaeological resource within the study site. There is evidence of Industrial period activity in the form of quarry pits and a short-lived railway branch line. There is also evidence of temporary accommodation and service buildings relating to the nearby World War II RAF Rhoose airfield. None of these activities is likely to have left more than ephemeral traces.

The proposed development could potentially have a below-ground impact on any buried archaeological remains if any are present, although the potential for hitherto unknown archaeological remains from any period is considered to be low (possibly low to moderate for the late Prehistoric/Roman periods). Any such impact could be destructive of any buried remains, but it is considered that any archaeological remains present in the study site are unlikely to be of more than local significance. The proposed development is therefore not considered likely to have any significant effect on the buried archaeological element of the historic environment.

While there are three designated archaeological heritage assets within 1km of the study site, it is considered that any development within the study site is unlikely to

have any impact on the settings or significance of any of these monuments. This is primarily due to the tree belt along the railway line to the south of the study site which curtails views further south, where all three of the scheduled monuments lie. Furthermore, the designated assets are all further screened by dense woodland to the south of the railway line.

The ten designated archaeological heritage assets which lie between 1km and 3km of the study site are unlikely to suffer any impact on their settings or significances. While there is no intervisibility between the study site and most of these assets, some may require further assessment as the study site lies within views out from the monuments, with the study site forming part of extensive settings with views across wide areas of the landscape.

It is considered that overall there is a low potential for any significant impacts to occur on the settings of any designated archaeological heritage assets as a result of the proposed development.

Given the overall low archaeological potential, it is considered that the archaeological interest of the site could be secured via a suitably worded planning condition. In terms of any potential impacts on the settings of designated archaeological heritage assets within the wider landscape, Cadw may request a more detailed assessment of any such impacts when a detailed masterplan has been presented.

The assessment has established that there are a significant number of extant boundaries which are shown on the tithe map and earlier estate/regional maps which can be considered important under the Hedgerow Regulations, and recommend that a more detailed consideration of these is also undertaken as part of the masterplanning process.

1.0 INTRODUCTION AND SCOPE OF STUDY

1.1 Introduction

1.1.1 This archaeological desk-based assessment (DBA) has been researched and prepared by Philip Bethell and Jason White of CgMs Limited (part of RPS) on behalf of L & G.

1.1.2 The assessment is made on agricultural land at Model Farm, Rhose, immediately to the east of Cardiff Airport, and referred to in this report as the study site. The study site is to be the subject of a planning application to Vale of Glamorgan Council. The study site is proposed for mixed development including business, commercial and industrial, to be known as Parc Busnes Porth Cymru.

1.1.3 This desk-based assessment is designed to provide the baseline information to enable informed decisions about managing any impact on the archaeology of the site. This report assesses the potential for encountering below-ground archaeology during the course of the development, and for any impacts on the settings of designated archaeological heritage assets. The potential impacts on the above-ground built heritage will be considered against a future detailed masterplan, and are not covered by this assessment.

1.1.4 The assessment considers the full extent of the study site as shown in Figure 1 outlined in red. The study area also includes additional land in the same ownership which is not proposed for development at this time, outlined in blue. The area of the study site is approximately 77ha in extent. The study site is centred at grid reference ST 07860, 67510.

1.1.5 It is a revision of a version issued in June 2018. Following correspondence with Cadw, (with Moira Richards and Neil Maylan in March 2019), this version of the DBA has been revised to include an initial assessment of potential impacts on designated archaeological heritage assets within 3km of the study site. The original DBA included assessment of impacts on settings of such assets only within 1km of the study site.

1.2 Scope

1.2.1 In accordance with government policy (Planning Policy Wales and TAN24), this assessment draws together the available archaeological, historic, topographic and

land-use information in order to clarify the heritage significance and archaeological potential of the study site.

- 1.2.2 Additionally, in accordance with the *Standard and Guidance for Historic Environment Desk Based Assessments* (Chartered Institute for Archaeologists 2017) and 'Notes for archaeologists undertaking desk-based studies in South-East Wales' issued by Glamorgan-Gwent Archaeological Trust (GGAT), the assessment includes the results of a site inspection, an examination of published and unpublished records and charts historic land-use through a map regression exercise.
- 1.2.3 As a result, the assessment enables relevant parties to assess the significance of archaeological heritage assets on and close to the study site and assesses the potential for hitherto undiscovered archaeological heritage assets, thus enabling potential impacts on such assets to be identified along with the need for design, civil engineering or archaeological solutions.
- 1.2.4 This report identifies the presence of designated built heritage assets in or close to the study site, but does not assess the potential impact on the settings of any designated built heritage assets.
- 1.2.5 Correspondence with Cadw in March 2019 on the earlier version of this DBA have resulted in the acceptance of the assessment of the three Scheduled Monuments within 1km of the study site as sufficient, but requested the additional assessment of all designated archaeological heritage assets within 3km of the study site.
- 1.2.6 Using current Cadw guidance, as set out in *Setting of Historic Assets in Wales* (Cadw 2017), the potential for impacts on the settings of designated archaeological heritage assets within 3km of the site has been assessed to Stage 1. Those within 1km of the study site have been assessed to Stage 3.

2.0 PLANNING BACKGROUND AND DEVELOPMENT PLAN FRAMEWORK

2.1 Statutory Framework

i) Ancient Monuments & Archaeological Areas Act 1979

- 2.1.1 The Ancient Monuments & Archaeological Areas Act 1979 (as amended) protects the fabric of Scheduled Monuments, but does not afford statutory protection to their settings. Relevant policies relating to the protection of the setting of scheduled monuments are contained within national and local development plan policy.

ii) Well-being of Future Generations (Wales) Act 2015

- 2.1.2 This Act places duties on public bodies requiring them to act in accordance with the 'sustainable development principle'. The Act also establishes well-being goals which include achieving 'a Wales of vibrant culture and Welsh language', described as 'a society that promotes and protects culture, heritage and the Welsh language'. The Act lays down the principle that a properly protected, conserved and enhanced historic environment can improve the quality of life and well-being for everyone.

iii) Historic Environment (Wales) Act 2016

- 2.1.3 The Historic Environment (Wales) Act was given Royal Assent in March 2016. This Act provides the legislative framework for managing the historic environment in Wales. Accompanying the Act is new policy and guidance in the form of a Technical Advice Note (TAN) specific to the Historic Environment (TAN24, see below), and changes to Planning Policy Wales (PPW) Chapter 6 – Conserving the Historic Environment. This legislation and guidance supersedes the previous Welsh Office Circulars which formed the basis of historic environment policy in Wales.

2.2 Planning Policy Wales

- 2.2.1 The Welsh Government has published Planning Policy Wales (PPW), currently updated to Version 10 from December 2018 (PPW10). This sets out the land use planning policies of the Welsh Government. It is supplemented by a series of Technical Advice Notes (TANs). Procedural advice is given in circulars and policy clarification letters.

2.2.2 Chapter 6 of PPW10, entitled 'Distinctive and Natural Places', has a section entitled 'The Historic Environment' (section 6.1 - pp. 123-128) which provides policy for planning authorities, property owners, developers and others on the conservation and investigation of heritage assets. Overall, the objectives of Section 6.1 in relation to the historic environment can be summarised as seeking to:

- protect the Outstanding Universal Value of the World Heritage Sites;
- conserve archaeological remains, both for their own sake and for their role in education, leisure and the economy;
- safeguard the character of historic buildings and manage change so that their special architectural and historic interest is preserved;
- preserve or enhance the character or appearance of conservation areas, whilst the same time helping them remain vibrant and prosperous;
- preserve the special interest of sites on the register of historic parks and gardens; and protect areas on the register of historic landscapes in Wales.

2.2.3 Section 6.1 of PPW10 describes the historic environment as comprising all the surviving physical elements of previous human activity and illustrates how past generations have shaped the world around us. The historic environment is made up of individual historic features, archaeological sites, historic buildings and historic parks, gardens, townscapes and landscapes, collectively known as historic assets.

2.2.4 Welsh planning legislation and policy guidance outlines that the conservation of archaeological remains and their settings is a material consideration in the determination of a planning application, whether those remains are scheduled or not (PPW10 Para. 6.1.23). In order to take account of archaeological considerations and deal with them from the beginning of the development control process, Local Planning Authorities in Wales need to be fully informed about the nature and importance of archaeological remains, and their setting, and the likely impact of any proposed development upon them.

2.2.5 Paragraphs 6.1.26 of PPW10 states that where archaeological remains are known to exist or there is a potential for them to survive, an application should be accompanied by sufficient information, through desk-based assessment and/or field evaluation, to allow a full understanding of the impact of the proposal on the

significance of the remains. The needs of archaeology and development may be reconciled, and potential conflict very much reduced, through early discussion and assessment.

- 2.2.6 Paragraph 6.1.27 of PPW10 states that if the planning authority is minded to approve an application and where archaeological remains are affected by proposals that alter or destroy them, the planning authority must be satisfied that the developer has secured appropriate and satisfactory provision for their recording and investigation, followed by the analysis and publication of the results and the deposition of the resulting archive in an approved repository. On occasions, unforeseen archaeological remains may still be discovered during the course of a development. A written scheme of investigation should consider how to react to such circumstances or it can be covered through an appropriate condition for a watching brief.

2.3 **Hedgerow Regulations**

- 2.3.1 Under the Hedgerow Regulations 1997, hedgerows are deemed to be historically Important if they are more than 20m long and over 30 years old and if they meet at least one of these criteria:

- they mark all or part of a parish boundary that existed before 1850
- they mark an archaeological feature of a site that is a scheduled monument or noted on the Historic Environment Record;
- they mark the boundary of an estate or manor or looks to be related to any building or other feature that's part of the estate or manor that existed before 1600
- they are part of a field system or looks to be related to any building or other feature associated with the field system that existed before the Inclosure Acts (that is before 1845)

- 2.3.2 In practice (and following case law) hedgerows are deemed Important under the above regulations if they can be demonstrated to exist on the appropriate pre-1845 parish tithe or enclosure map.

2.4 **Local Planning Policy**

- 2.4.1 The local plan framework is provided by the Vale of Glamorgan Council and the Local Development Plan (LDP) was adopted in June 2017, to cover the period 2011-2026.

2.4.2 The LDP contains the following strategic objective relating to the historic environment:

LDP OBJECTIVE 4 – To protect and enhance the Vale of Glamorgan's historic, built, and natural environment.

2.4.3 Chapter 5 of the LDP contains the following policies relating to the historic environment within the county, which are relevant to this assessment:

Policy SP1 – Delivering the Strategy

6. Protecting and enhancing the built, natural and coastal environment.

Policy SP10 – Built and Natural Environment

Development proposals must preserve and where appropriate enhance the rich and diverse built and natural environment and heritage of the Vale of Glamorgan including:

- 1. The architectural and / or historic qualities of buildings or conservation areas, including locally listed buildings;**
- 2. Historic landscapes, parks and gardens;**
- 3. Special landscape areas;**
- 4. The Glamorgan Heritage Coast;**
- 5. Sites designated for their local, national and European nature conservation importance; and**
- 6. Important archaeological and geological features.**

2.4.4 Chapter 7 of the LDP contains the following policy relating to the historic environment:

Policy MD8 – Historic Environment

Development proposals must protect the qualities of the built and historic environment of the Vale of Glamorgan, specifically:

- 1. Within conservation areas, development proposals must preserve or enhance the character or appearance of the area;**

- 2. For listed and locally listed buildings, development proposals must preserve or enhance the building, its setting and any features of significance it possesses;**
- 3. Within designated landscapes, historic parks and gardens, and battlefields, development proposals must respect the special historic character and quality of these areas, their settings or historic views or vistas;**
- 4. For sites of archaeological interest, development proposals must preserve or enhance archaeological remains and where appropriate their settings.**

2.4.5 This assessment therefore seeks to establish whether the proposed development will have a significant effect on the historic environment, either through direct impacts on below-ground archaeological remains, or indirect effects on designated heritage assets, within the scope of policies contained within PPW9 and the adopted Vale of Glamorgan Local Development Plan (2011-2026).

2.5 **Definitions and Guidance**

2.5.1 The ‘*Conservation Principles, Policies and Guidance for the Sustainable Management of the Historic Environment in Wales*’ published by Cadw in March 2011 provides the basic principles under which all subsequent guidance has evolved. The six principles expressed are:

- Historic assets will be managed to sustain their values.
- Understanding the significance of historic assets is vital .
- The historic environment is a shared resource.
- Everyone will be able to participate in sustaining the historic environment.
- Decisions about change must be reasonable, transparent and consistent.
- Documenting and learning from decisions is essential.K

Definition of the historic environment

2.5.2 The historic environment is defined in TAN 24 (at para. 1.7) as:

“All aspects of the environment resulting from the interaction between people and places through time, including all surviving physical remains of past human

activity, whether visible, buried or submerged, and deliberately planted or managed.”

Definition of Heritage Assets

2.5.3 Heritage assets are defined by Cadw (March 2011) and TAN 24 (2017) as:

“An identifiable component of the historic environment. It may consist or be a combination of an archaeological site, an historic building or area, historic park and garden or a parcel of historic landscape. Nationally important historic assets will normally be designated.”

2.5.4 A Designated Heritage Asset is considered to be a: World Heritage Site, Scheduled Monument, Listed Building, Protected Wreck Site, Registered Park and Garden, Registered Battlefield or Conservation Area. In Wales areas of landscape have been designated and included in the non-statutory Register of Landscapes of Historic Interest in Wales.

Significance

2.5.5 Significance in relation to heritage policy considerations is defined as:

- The sum of the cultural heritage values (Cadw 2011).

2.5.6 The ‘*Guide to Good Practice on Using the Register of Landscapes of Historic Interest in Wales in the Planning and Development Process, (Revised Edition 2007)*’ (Cadw/CCW 2007) outlines Categories A – U which are used to place historic environment assets in order of relative importance.

Setting

2.5.7 Guidance on the assessments of impact on the settings of heritage assets is provided by Cadw in ‘*Setting of Historic Assets in Wales*’ (May 2017). This provides a 4-stage process for determining if any impact on the settings of historic assets would arise from a proposed development, and how it could be mitigated if impacts are identified.

3.0 GEOLOGY AND TOPOGRAPHY

3.1 Geology

- 3.1.1 The solid geology of the study site is composed of a series of Jurassic rocks, primarily interbedded limestone and mudstone of the Porthkerry Member. This formation underlies nearly all of the site, except where the Bullhouse Brook has partially eroded it in a small area of the south-western part of the study site to reveal other underlying Jurassic mudstones.
- 3.1.2 Across the majority of the study site, no superficial deposits were recorded. Some alluvial deposits are present in the valley of the Bullhouse Brook (British Geological Survey on-line viewer 2018).

3.2 Topography

- 3.2.1 The Bullhouse Brook rises close to the southern boundary of the study site, at a spring called Bullhouse Well. The brook has formed a small valley running south-east from the study site. The site has a more general, gentle slope downwards from north-east to south-west, from c. 70m Above Ordnance Datum (AOD) to 63m AOD at the south-west boundary. There is a dry north-south valley which runs down towards Bullhouse Well and roughly bisects the site. In this dry valley bottom the land drops to 58m AOD.
- 3.2.2 The study site also slopes more generally downwards to the south-east, from c. 60m AOD in the centre of the northern boundary, to 50m AOD at its southern boundary.
- 3.2.3 Apart from the watercourse of the Bullhouse Brook running south from the study site, its eastern boundary is formed by the Whitelands Brook which runs south-west and joins the Bullhouse Brook 250m south of the study site. The shore of the Bristol Channel lies 1.2km south of the study site.

4.0 ARCHAEOLOGICAL, HISTORICAL BACKGROUND AND ASSESSMENT OF SIGNIFICANCE

Timescales used in this report.

Prehistoric

Palaeolithic	c. 800,000 - 10,000 BC
Mesolithic	c. 10,000 - 4,400 BC
Neolithic	c. 4,400 - 2,300 BC
Bronze Age	c. 2,300 - 700 BC
Iron Age	c. 700 - AD 43

Historic

Roman (Romano-British) Period	AD 43 - AD 410
Post-Roman/Early Medieval Period	AD 410 - AD 1066
Medieval Period	AD 1066 - AD 1536
Post Medieval Period	AD 1536 - AD 1750
Industrial	AD 1750 - AD 1899
Modern	20 th century onwards

4.1 Introduction

- 4.1.1 This assessment is based on a consideration of evidence in the Vale of Glamorgan Historic Environment Record (HER) held by GGAT for the study site and for a 1km radius around the study site centre (the study area). Data held by The National Monuments Record (NMR), part of the Royal Commission on the Ancient and Historical Monuments of Wales (RCAHMW) was also consulted.
- 4.1.2 Historic maps in the Glamorgan Archives were examined, as well as historic Ordnance Survey maps from open/commercial sources.
- 4.1.3 Aerial Photographs from the Central Register of Aerial Photographs in Wales were also reviewed. No hitherto unidentified archaeological heritage assets were noted from the aerial photographs studied. Clear evidence of crop marks associated with Prehistoric settlement and field systems can be seen to the north of the north-western corner of the study site and to the immediate east of the study site (02925s). Possible evidence for crop marks of archaeological origin may also be seen to the south of Model Farm, but these coincide with Modern temporary structures

seen on maps (see below). Areas of former quarry activity can be clearly seen on the aerial photographs.

4.1.4 LiDAR data available on-line from Natural Resources Wales was examined. Only data logged at 2m intervals (both DTM and DSM) was available, and no hitherto unknown potential archaeological features were identified from the surveys.

4.1.5 Within a 1km radius of the study site centre as mapped in Appendix 1, there are no designated archaeological heritage assets present.

4.1.6 There are, however, scheduled monuments within 1km of the site boundaries:

- The Bulwarks Camp Hillfort (GM029), 800m south of the study site;
- Site of Medieval Mill and Mille Leat, Cliffwood (GM446), 700m south of the study site;
- Westward Corner Round Barrow (GM360), 800m south-east of the study site;

4.1.7 There are two other scheduled monuments in the wider landscape:

- Moulton Roman Site (GM253) 2km north of the study site;
- Penmark Castle (GM229), 2km north-west of the study site;

4.1.8 There are a number of undesignated archaeological heritage assets both within the study site and beyond the study site but within the search area, which are discussed in the relevant sections below.

4.1.9 This chapter reviews existing archaeological evidence for the study site and the archaeological/historical background of the general area, and, in accordance with Planning Policy Wales and TAN24, considers the potential for as yet undiscovered archaeological evidence on the study site.

4.1.10 Chapter 5 subsequently considers the study site conditions and whether the theoretical potential identified in this chapter is likely to survive.

4.2 **Previous Archaeological Investigations**

4.2.1 A previous desk-based assessment (DBA) undertaken in 2009 (CgMs 2009) included the study site in an assessment of the entire area in L&G ownership (see Figure 1). This DBA concluded that the majority of the study site has been agricultural land, and as such had a low archaeological potential. The potential for some Roman and

Medieval settlement was identified in the central and southern parts of the larger area assessed, but this evidence mostly lies to the south of the current study site.

4.2.2 The study site has been included in wider surveys, and has been subject in part to archaeological field walking survey, earthwork survey and aerial photographic review (GGAT 2001 and Driver 2005). These non-intrusive investigations were carried out as part of GGAT's Romano-British southeast Wales settlement survey (2001).

4.2.3 The following relevant archaeological interventions are recorded in the HER from within the 1km search area, none of them lying within the study site itself:

E000912, E000858: Field observation (1982) and salvage excavation at Lower Porthkerry Farm (1993), 50m south of the study site. No artefacts were recorded.

E000757: Excavation at unnamed site (1963), 400m south of the study site. No artefacts were recorded.

E00879: Desk-based assessment at Tredogan (1991), 750m north-west of the study site.

E003900: field evaluation (1991) at British Airways training school, 400m north-west of the study site. Results of 11 trial trenches suggested little significant archaeological activity. Flint flakes and Medieval pottery attested to some activity in the area.

E003236: Building recording at Welford Farm, 200m north-east of the study site.

4.3 **Prehistoric (Palaeolithic - Iron Age)**

4.3.1 One archaeological heritage assets from the Prehistoric period(s) is recorded within the study site in the HER, a Neolithic axe (HER 02517s) located in the western end of the study site. However, this is recorded as being 'found in the river Waycock', which lies to the north of the study site, so it is likely this is not accurately located in the HER.

4.3.2 Within the wider study area, there are other Prehistoric finds recorded. A possible Mesolithic flint was recorded 400m north-west of the study site (HER 01731s). There are finds of 'pot boilers' 400m to the north of the study site (HER 03326s), which are usually dated to the Bronze Age. A similar find in the form of a burnt mound is recorded 500m south of the study site (HER 03446s).

- 4.3.3 There are Iron Age features interpreted as field systems 250m north of the study site (HER 02944s), and also 500m to the east (HER 02925s).
- 4.3.4 There is an Iron Age hillfort, The Bulwarks Camp (HER 00523s, SM GM029) 800m south of the study site. This is a large multivallate hillfort, and dates to the late Iron Age.
- 4.3.5 The Prehistoric evidence recorded within the study site is limited to a poorly located flint axe. There is, however, a background 'noise' of evidence from the Bronze Age and Iron Age. The presence of the hillfort to the south, and fields systems which are most likely contemporary with this site, to the north and east of the study site, suggests that the wider area including the study site was an active farming landscape in the late Prehistoric period.
- 4.3.6 The available evidence indicates that the study site has a low to moderate potential for the presence of hitherto unknown Prehistoric finds and features. Any such features are likely, however, to be indicative of Iron Age agricultural activity, and as such would not be of more than local significance.

4.4 **Roman**

- 4.4.1 One archaeological heritage asset dating to the Roman period is recorded within the study site. This consists of a single sherd of pottery and some slag (HER 03433s) which has been interpreted as a likely indicator of Roman settlement by the HER. This is, however, considered as limited evidence for settlement.
- 4.4.2 There is, however, much firmer evidence for Roman settlement in the wider study area. Finds of pottery and associated building debris (in the form of roof tile fragments) have been interpreted as evidence of settlement (HER 00532s, 400m south-east of the study site). A tile fragment was also recovered 500m east of the study site (HER 03327s), associated with a metal detector find of a bronze brooch. This is not any certain evidence of settlement.
- 4.4.3 The late Prehistoric field systems mentioned above are considered to have continued into the Roman period (HER 02925s to the east of the study site, and 02944s to the north-west). There is also good evidence of continuity of activity in The Bulwarks hillfort (HER 00523s), in the form of buildings dating from the late 1st century to the 4th century. There is also evidence of Roman settlement just to the north of the hillfort (HER 03295s) and immediately south of Porthkerry village, 450m south of the

study site. This is recorded from geophysical survey and metal detector finds, and is interpreted as an enclosed settlement.

- 4.4.4 There is no evidence to suggest the study site was the focus for any significant activity during the Roman period, but there is evidence of Roman period settlement and agricultural activity in the surrounding area. As a result, it is considered there is a low to moderate potential for the presence of any hitherto unknown significant archaeological finds or features from the Roman period within the study site. Any such features are likely to be indicative of agricultural activity, and as such would be of no more than local significance.

4.5 **Early-Medieval / Medieval**

- 4.5.1 No known archaeological heritage assets are recorded in the HER or NMR relating specifically to the Early Medieval period within the study site.
- 4.5.2 There are Medieval pottery sherds recorded from fieldwalking within the north-east corner of the study site (HER 03357s, 03431s). These sherds were probably deposited during manuring, and need not be indicative of settlement. This type of deposit is found in several parts of the study area, including HER 03359s (250m south-east of the study site), HER 03355s and 03356s 400m south-east of the study site.
- 4.5.3 There is other evidence related to Medieval settlement within the study area, which primarily relates to shrunken settlements which diminished in size due to factors such as the 14th-century plague epidemic. To the east of the study site, the site of a former chapel (HER 00528s, 800m east) relates to the shrunken settlement of Cwmcidy. This was a separate parish in the Medieval period. Other earthworks west of Porthkerry village (HER 03309s), 800m south of the study site, are also considered to be possibly Medieval. A further shrunken hamlet is recorded at Tredogan, 500m north-west of the study site (HER 02090s). The site of a Medieval long hut is recorded 150m south-west of the study site (HER 01911s).
- 4.5.4 There is good archaeological evidence of Medieval settlement in several locations around the study site, which is largely associated with surviving settlement. The lack of such evidence within the study site suggests that there was no settlement within the study site during this period. The only Medieval evidence is pottery interpreted as arising from manuring deposits.

4.5.5 As a result, it is considered that there is a low potential for the presence of hitherto unknown significant archaeological heritage assets from the Early-Medieval or Medieval periods within the study site. Any such remains present are likely to be solely related to the agricultural use of the land.

4.6 **Post-Medieval to Modern**

4.6.1 There are several non-designated Post-Medieval archaeological heritage assets located within the study site. These consist of former quarry pits (HER 03430s, 04422s, and 03422sm, distributed across the northern end of the study site), pottery sherds deposited during manuring (HER 03358s, 03432s, 03434s all in the north-eastern part of the study site), and a single house platform (HER 03436s in the centre of the study site).

4.6.2 In terms of more significant Post-Medieval assets in the study area, the farmhouses at Lower Porthkerry Farm (HER 01484s, 01814s, Grade II listed ID19576) 30m from the south-west point of the study site), and Upper Porthkerry Farm (HER 01438s, Grade II listed ID13621, 100m from the south-west point of the study site) are important examples of local vernacular buildings, reflected in their listed status and association with other buildings in the original farmsteads such as a thatched stable (HER 01813s) at Upper Porthkerry Farm. Some elements of these farms date to the 16th and 17th centuries.

4.6.3 The Post-Medieval settlement pattern of isolated farmsteads across the wider area is reflected in houses and other farm buildings (both surviving and destroyed): farmhouse and associated buildings at Welford 200m north-east of the study site (HER 01807s); farmhouse at Whitelands, 100 south-east of the study site (HER 01809s); cottage and garden and barn complex immediately west of Upper Porthkerry Farm (HER 02752s, 02753s); house platform and earthworks immediately east of Upper Porthkerry Farm (HER 03426s, 03425s); house platform 50m south of the study site (HER 03427s).

4.6.4 Other Post-Medieval/Industrial evidence is indicative of localised industries, such as quarries: HER 02756s, 50m north-west of the study site; HER 02755s, 600m north-west of the study site; HER 03945s, 150m east of the study site; HER 03948s, 400m north-east of the study site. Lime-kilns are also recorded: HER 02757s, 300m north-west of the study site; HER 03947s, 400m north-east of the study site.

- 4.6.5 Evidence of agricultural practices comes from pottery sherds recovered during fieldwalking, which are indicative of manure spreading (HER 03360s, 350m east of the study site).
- 4.6.6 Other Post-Medieval/Industrial period assets recorded in the study area include the Porthkerry Viaduct, a late-19th century railway construction 650m south of the study site (HER 01634s, Grade II listed building ID13620). A stretch of canalised waterway is recorded 400m south of the study site (HER 02767s).
- 4.6.7 In terms of Modern archaeological heritage assets recorded in the HER, there are 4 within the study area that relate to the use of the current Cardiff Airport as an RAF base during World War II. An RAF picket point is located just on the western boundary of the study site (HER 02768s); the location of some dispersed temporary accommodation lies just to the north of the study site (HER 04422s); a series of anti-landing trenches are recorded 450m south of the study site (HER 04478s), at the southern end of the RAF base. A crash site dating to April 1940 is recorded on the northern boundary of the study site.
- 4.6.8 Archaeological evidence from these periods is enhanced by cartographic and documentary evidence. The earliest map seen for this study is from a 1624 plan of the Manor of Penmark (Figure 2), which shows the study site divided into numerous small plots, including long narrow plots which are likely to be vestiges of Medieval strip cultivation. It was clearly agricultural land at this time. There are trackways shown on this map that are no longer present.
- 4.6.9 Another estate survey of 1812 (Figure 3) shows the study site as agricultural land. The study site lies mostly within Penmark parish, and the 1841 tithe map (Figure 5) shows a much reduced number of field divisions, indicative of enclosure of the earlier Post-Medieval field pattern. There are no historic field names in the tithe apportionment, a further indication that these were all recently created. The south-west corner of the study site lies in Porthkerry parish (Figure 4).
- 4.6.10 Later 19th century mapping shows the site as blank of any settlement in 1871 (Figure 6), with the main roads that form the northern and western boundaries of the study site were established. The 1st edition Ordnance Survey 1:10,560 of 1885 (Figure 7) gives more detail of the study site. The number of internal field divisions had further decreased, but the study site continued in agricultural use. T
- 4.6.11 This picture is broadly the same on the 1900/01 map (Figure 8), with one major change. The main Vale of Glamorgan railway and the Porthkerry Viaduct (HER

01634s) had been built by this time, lying 600m to the south of the study site at its closest. A looping branch of the railway, however, is shown passing through the study site from its eastern boundary to its western boundary and was presumably built to transport quarried stone from the active quarries within the study site. This railway loop line is not recorded in the HER. By the time of the 1921 OS mapping (Figure 9), the loop line had disappeared completely, and there was no further development within the study site.

- 4.6.12 During World War II RAF Rhoose was developed as a satellite airfield of RAF Llandow. The main airfield buildings and runways lay to the north-west of the study site, west of Tredogan. The 1938/1947 map (Figure 10) and a 1947 aerial photograph (Figure 11) show the temporary RAF buildings along the western boundary of the study site (HER 02768s). Other developments within the study site include the construction of Model Farm on the northern boundary of the study site. There are also some other buildings shown on this map, namely a house (?) and outbuilding 200m to the south-west of Model Farm, and some small, square (presumably agricultural) structures in the centre of the study site, 200m south of Model Farm.
- 4.6.13 Apart from Model Farm, none of these structures is shown on the 1965 map (Figure 12), and all are assumed to have been demolished. Subsequent mapping (Figures 12 to 16) continues to show the study site as undeveloped agricultural land, although development has taken place in the surrounding countryside. Cardiff Airport has been extended and its southern part now lies immediately west of the study site. The Old Rectory, 400m south of the study site, has been developed as a hotel, and there is another hotel and campsite north of Model Farm.
- 4.6.14 In summary, the study site has been agricultural land throughout the Post-Medieval, Industrial and Modern periods. The only development which has taken place within the study site is either related to Post-Medieval/Industrial quarrying and transport infrastructure (in the form of the railway loop), or temporary wartime structures associated with the RAF Rhoose airfield.
- 4.6.15 All of this development has been short-lived, and apart from the quarrying is unlikely to have left much in the way of archaeological evidence. Therefore it is considered that the potential for finding hitherto unknown significant archaeological heritage assets dating from these periods is low. Any archaeological remains that are present will be related to the agricultural use of the land, or to the temporary developments which have taken place in the late 19th century and during World War II, and are unlikely to be of more than local significance.

4.6.16 In addition to the above, the cartographic evidence shows that there are a significant number of extant field boundaries which are shown on the tithe maps and earlier estate/regional maps which could be considered important under the Hedgerow Regulations. These are shown on Figure 17.

4.7 **Designated Archaeological Heritage Assets**

4.7.1 There are no designated archaeological heritage assets within the study site.

4.7.2 Within the search area as mapped in Appendix 1 (a 1km radius from the study site centre), there are no designated archaeological heritage assets. There are, however, three designated archaeological heritage assets within 1km of the study site boundary. All are Scheduled Monuments:

- The Bulwarks Camp Hillfort (GM029), 800m south of the study site;
- Site of Medieval Mill and Mille Leat, Cliffwood (GM446), 700m south of the study site;
- Westward Corner Round Barrow (GM360), 800m south-east of the study site;

4.7.3 There are a further 10 designated archaeological heritage assets within 3km of the study site boundary. Of these, 7 are Scheduled Monuments and 3 Registered Parks and Gardens, as follows:

- Castle Ditches (GM071), 3km north-west of the study site;
- Barry Castle (GM135), 1.8km south-east of the study site;
- Penmark Castle (GM229), 2.1km north-west of the study site;
- Moulton Roman Site (GM253), 1.8km north of the study site;
- Highlight Medieval House Site (GM301), 2.4km north-east of the study site;
- Highlight Church, Remains of (GM344), 2.4km north-east of the study site;
- Knap Roman Site (GM419), 1.9km south-east of the site;
- PGW (Gm) 39(GLA) Fonmon Castle (grade II), 2.5km west of the study site;
- PGW (Gm) 58(GLA) Barry:Cold Knap Park (grade II), 2km south-east of the study site;
- PGW (Gm) 63(GLA) Barry:Romilly Park (grade II), 2km south-east of the study site.

4.7.4 Potential impacts from the proposed development on designated built heritage assets are the subject of a separate report.

4.8 **Assessment of Significance**

- 4.8.1 The thirteen designated archaeological heritage assets within 3km of the study site boundary are of national importance.
- 4.8.2 The evidence for any activity other than agriculture within the study site before the Medieval period is limited. A single unstratified Prehistoric find (HER 02517s) is believed to be wrongly located within the study site. A single sherd of Roman pottery associated with iron slag fragments has been interpreted as indicative of Roman settlement. Medieval evidence consists of pottery spread across the eastern parts of the study site by manuring practices. A single house platform represents the known Post-Medieval archaeological resource within the study site. There is evidence of Industrial period activity in the form of quarry pits and a short-lived railway branch line. There is also evidence of temporary accommodation and service buildings relating to the World War II RAF Rhoose airfield to the north-west of the study site. None of these activities is likely to have left more than ephemeral traces.
- 4.8.3 The use of the site for arable agriculture since World War II is also likely to have further reduced the potential for survival of any earlier archaeological remains through truncation and erosion.
- 4.8.4 Any remains that may be present within the site are therefore, based on available evidence, likely to be of no more than local significance.
- 4.8.5 The overall archaeological potential of the site, in the sense of finding significant archaeological remains from any period other than the late Prehistoric/Roman period, is identified as low based on current evidence. Given the background of late Prehistoric and Roman evidence across the surrounding area, the potential for archaeological remains from this period may be considered as low to moderate, but any such remains are still unlikely to be of any more than local significance.

5.0 SITE CONDITIONS, THE PROPOSED DEVELOPMENT AND IMPACTS ON HERITAGE ASSETS

5.1 Site Conditions

5.1.1 A site visit was carried out on 27th April 2018 to inform the desk-based assessment (see Plates 1-8).

5.1.2 The study site consists of agricultural fields given over primarily to arable farming. There is Cardiff Airport lying to the west, and the northern edge is bounded by Port Road. Other agricultural fields and small areas of woodland lie to the south.

5.1.3 No earthworks or vestigial structures were noted during the site visit that would indicate the presence of hitherto unrecorded archaeological features.

5.2 The Proposed Development

5.2.1 The proposal as understood would comprise the construction of an extensive mixed-use development across the study site.

5.3 Impacts and Effects on Archaeological Heritage Assets

5.3.1 The proposed new build could potentially have a below-ground impact on any buried archaeological remains if any are present, although the potential for hitherto unknown archaeological remains from any period to be present is considered to be low, (possibly low to moderate for the late Prehistoric/Roman periods). Any such impact could be destructive of any buried remains, but it is considered that any archaeological remains present in the study site are unlikely to be of more than local significance. The proposed development is therefore not considered likely to have any significant effect on the buried archaeological element of the historic environment.

5.3.2 The proposed development has the potential for effects on the settings of designated archaeological heritage assets in the wider area. The preliminary assessment below has used the 4-step process outlined in Cadw's settings guidance (Cadw 2017). The three Scheduled Monuments within 1km of the study site boundary have been assessed using Stages 1-3.

The Bulwarks Camp Hillfort (GM029), 800m south of the study site.

- 5.3.3 This is a large multivallate hillfort with an area of about 4ha. It lies on a low spur the southern end of which is now on the shore of the Bristol Channel. The original three circuits of closely-set ditches and banks are now largely overgrown. It is dated to the late Iron Age, with occupation continuing throughout the Roman period.
- 5.3.4 The central area is given over to agriculture, but the monument is surrounded and enclosed by dense woodland. The woodland forms the entire setting of the monument, and prevents any visual interaction with the surrounding landscape: the mature tree belt along the railway line to the north of the monument further serves to make a strong barrier to any intervisibility with the study site. The monument has no known historical association with the study site. The study site is likely, however, to have formed part of the wider contemporary (Prehistoric and Roman) hinterland of the enclosure, and in that sense could be considered to contribute to its setting. The significance of the monument is vested in its surviving earthworks and any archaeology which survives within its area, and therefore the setting of the monument makes a limited contribution to its significance.
- 5.3.5 As a component of the wider setting, the proposed development within the study site can be considered to have a potential impact on the setting of the monument. It is considered, however, that this impact will be very limited, and the effect on the overall significance of the monument will be negligible.

Site of Medieval Mill and Mille Leat, Cliffwood (GM446), 700m south of the study site

- 5.3.6 This monument consists of the site of a probable Medieval mill and its leat. The probable mill is visible as a depression in the ground adjacent to an embanked pond. The leat extends to the north-west along a small valley for 400m.
- 5.3.7 The mill and leat are set in a landscape of open grassland enclosed by dense woodland belts, which serve to restrict any visual interaction with the surrounding landscape, and the mature tree belt along the railway line to the north of the monument further serves to make a strong barrier to any intervisibility with the study site. The significance of the monument is vested in its surviving earthworks and any archaeology which survives within its area, and therefore the setting of the monument makes a limited contribution to its significance. There is no known historical association between the monument and the study site, other than that the

study site was part of the wider agricultural hinterland around the mill in the Medieval period.

- 5.3.8 It is considered that the study site does not make any meaningful contribution to the setting of the monument, on the grounds of distance and lack of any intervisibility, and therefore any development within the study site would have no impact on the setting or significance of the mill and leat.

Westward Corner Round Barrow (GM360), 800m south-east of the study site

- 5.3.9 This monument comprises the (possible) remains of a Bronze Age barrow, approximately 9m in diameter and 1.8m high.
- 5.3.10 The barrow is now preserved in an area of Modern housing, and its setting is enclosed on all sides by this housing with no visual connection to the wider landscape. There is a dense woodland belt to the north which completely prevents even glimpsed views towards or from) the study site.
- 5.3.11 It is therefore considered that the study site does not contribute to the setting of the monument, on the grounds of distance and complete lack of intervisibility, as well as lack of any evidence of Bronze Age activity within the study site. As a result, it is considered that any development within the study site would have no impact on the setting or significance of this monument.
- 5.3.12 Plates 6 and 7 illustrate the how the tree belt along the main railway line which lies between all three of these monuments and the study site serves to curtail any views between the study site and the monuments, and effectively forms the 'horizon' in terms of views southwards from the study site.
- 5.3.13 The 10 designated archaeological heritage assets situated between 1km and 3km from the study site boundary have been assessed to Stage 1 only. This assessment is as follows:

Scheduled Monuments

- **Castle Ditches (GM071)** – possible need for assessment - 3km north-west of the study site – the study site lies within very wide views from the monument across the landscape which includes the airport.
- **Barry Castle (GM135)** - not requiring further assessment – 1.8km south-east of the study site – the castle remains are completely enclosed within the urban area of Barry, and have no visual interaction with the study site.

- **Penmark Castle (GM229)** – not requiring further assessment – 2.1km north-west of the study site - the castle ruins are shielded by the church and adjacent housing from any views to the south-west towards the study site.
- **Moulton Roman Site (GM253)** – possible need for assessment - 1.8km north of the study site – the study site lies within very wide views from the monument across the landscape which includes the airport.
- **Highlight Medieval House Site (GM301)** – not requiring further assessment - 2.4km north-east of the study site - the monument is surrounded by and enclosed within woodland, and has almost no visual interaction with the study site.
- **Highlight Church, Remains of (GM344)** - not requiring further assessment - 2.4km north-east of the study site - the monument is surrounded by and enclosed within woodland, and has almost no visual interaction with the study site.
- **Knap Roman Site (GM419)** – not requiring further assessment – 1.9km south-east of the study site – The Knap Roman site is enclosed on three sides by modern housing, and has no visual interaction with the wider landscape except to the south-west towards the sea. It has no interaction with the study site.

Registered Parks and Gardens

- **PGW (Gm) 39(GLA) Fonmon Castle (grade II)** - not requiring further assessment – 2.5km west of the study site – largely enclosed by woodland, has the whole of Cardiff Airport lying between the study site and the RPG.
- **PGW (Gm) 58(GLA) Barry: Cold Knap Park (grade II)** – possible need for assessment - 2km south-east of the study site – the RPG lies within very wide views across the landscape which includes the airport.
- **PGW (Gm) 63(GLA) Barry: Romilly Park (grade II)** – not requiring further assessment - 2km south-east of the study site – largely surrounded by trees and the urban extent of Barry, this RPG has little interaction with the surrounding landscape.

5.3.14 None of the Scheduled Monuments between 1km and 3km from the study site boundary has any obvious associative relationship with the site, and where there is any visual connection the site forms part of a very wide landscape setting which also includes the existing airport and Barry town.

- 5.3.15 None of the Registered Parks and Gardens assessed has any obvious associative relationship with the study site, and where there is any visual connection the study site forms part of a very wide landscape setting which also includes the existing airport and Barry town.

6.0 SUMMARY AND CONCLUSIONS

- 6.1 This desk-based assessment has established that there are no designated archaeological assets present within the study site.
- 6.2 While there are non-designated archaeological heritage assets recorded within the study site, there is no evidence for any activity other than agriculture within the study site before the Post-Medieval period. A single unstratified Prehistoric find (HER 02517s) is believed to be wrongly located within the study site. A single sherd of Roman pottery associated with iron slag fragments has been interpreted as indicative of Roman settlement. Medieval evidence consists of pottery spread across the eastern parts of the study site by manuring practices, a practice which continued into the Post-Medieval period. Other than pottery sherds, a single house platform represents the known Post-Medieval archaeological resource within the study site. There is evidence of Industrial period activity in the form of quarry pits and a short-lived railway branch line. There is also evidence of temporary accommodation and service buildings relating to the World War II RAF Rhoose airfield to the north-west of the study site. None of these activities is likely to have left more than ephemeral traces.
- 6.3 The proposed development could potentially have a below-ground impact on any buried archaeological remains if any are present, although the potential for hitherto unknown archaeological remains from any period to be present is considered to be low (possibly low to moderate for the late Prehistoric/Roman periods). Any such impact could be destructive of any buried remains, but it is considered that any archaeological remains present in the study site are unlikely to be of more than local significance. The proposed development is therefore not considered likely to have any significant effect on the buried archaeological element of the historic environment.
- 6.4 While there are three designated archaeological heritage assets within 1km of the study site, it is considered that any development within the study site is unlikely to have any impact on the settings or significance of any of these monuments. This is primarily due to the tree belt along the railway line to the south of the study site which curtails views further south, where all three of the scheduled monuments lie. Furthermore, the designated assets are all further screened by dense woodland to the south of the railway line.

- 6.5 The ten designated archaeological heritage assets which lie between 1km and 3km of the study site are unlikely to suffer any impact on their settings or significances. While there is no intervisibility between the study site and most of these assets, some may require further assessment as the study site lies within views out from the monuments, with the study site forming part of extensive settings with views across wide areas of the landscape.
- 6.6 It is considered that overall there is a low potential for any significant impacts to occur on the settings of any designated archaeological heritage assets as a result of the proposed development.
- 6.7 Given the overall low archaeological potential, it is considered that the archaeological interest of the site could be secured via a suitably worded planning condition. In terms of any potential impacts on the settings of designated archaeological heritage assets within the wider landscape, Cadw may request a more detailed assessment of any such impacts when a detailed Masterplan has been presented.
- 6.8 The assessment has established that there are a significant number of extant boundaries which are shown on the tithe map and earlier estate/regional maps which can be considered important under the Hedgerow Regulations, and recommend that a more detailed consideration of these is also undertaken as part of the masterplanning process.

SOURCES CONSULTED

General

Glamorgan Gwent Archaeological Trust HER
National Monuments Record for Wales
Central Register of Aerial Photographs in Wales

Bibliographic

Cadw (2011) *Conservation Principles for the Sustainable Management of the Historic Environment in Wales.*

Cadw (2017) *Setting of Historic Assets in Wales.*

CgMs (2009) *Archaeological Desk-Based Assessment: Land at Model Farm, Cardiff Airport.*
Unpublished report, CgMs ref. GP/HH/11200

Davies, M. (1955-6) *Field Patterns in the Vale of Glamorgan.* Transactions of the Cardiff Naturalists' Society. Volume 84

Driver, T. (1995) *New Cropmark Sites at Aberthaw, South Glamorgan.*
Archaeology in Wales 35, 3-9

Evans, E.M (2001) *Romano-British south east Wales settlement survey: final report.*
GGAT unpublished report no.2001/023

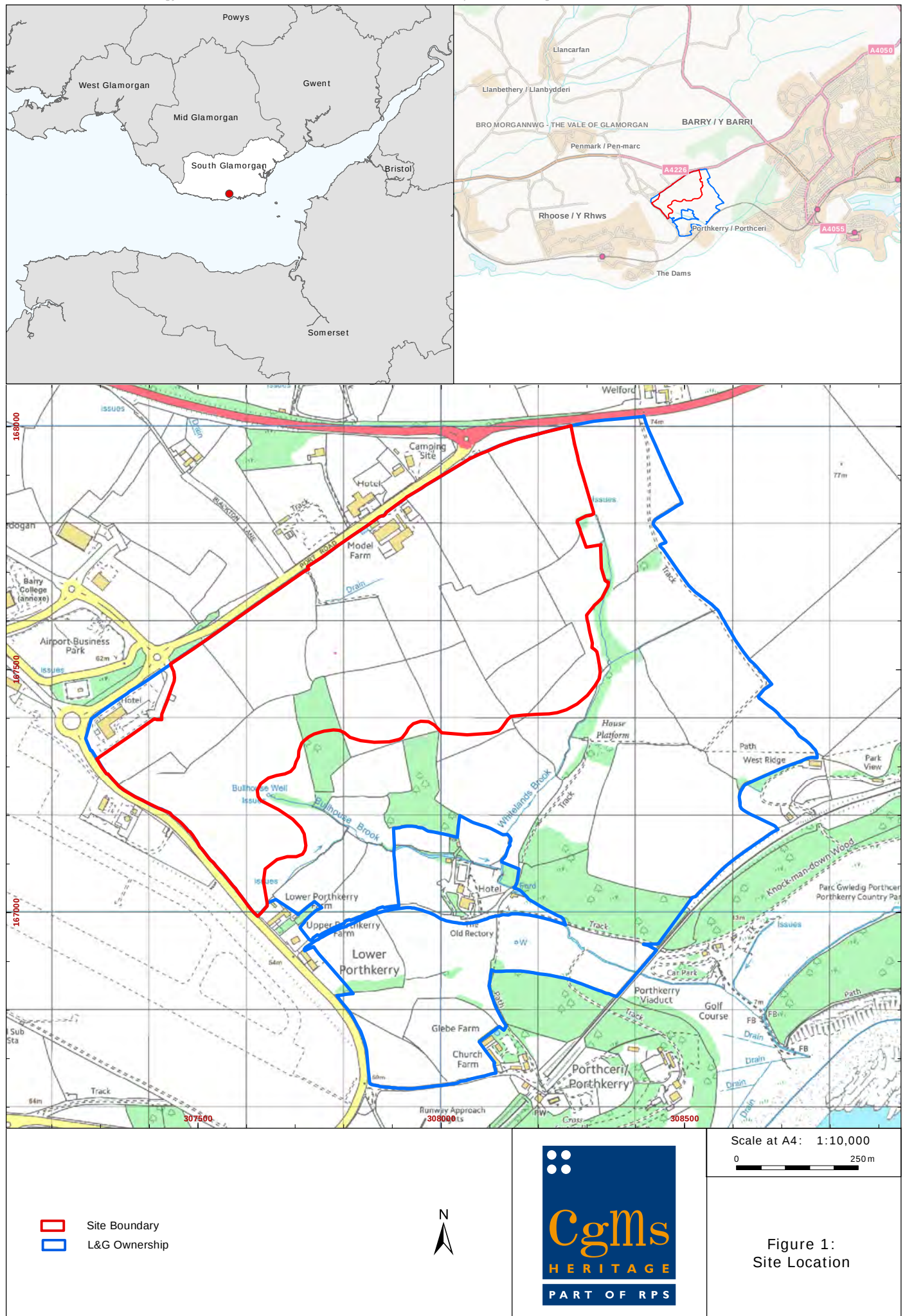
Glamorgan County History (1982) Glamorgan County History, The Middle Ages, Vol. LBIII

Cartographic and illustrative

1624 Penmark Manorial map
1745 Ash Hall Estate map
1799 Yates's Map
1805 and 1812 Romilly Estate Maps
1828 Greenwood's map of Glamorgan
1839 Porthkerry Tithe map
1841 Penmark Tithe map
1871 Annotated Ordnance Survey drawing

Ordnance Survey 1:10,560/1:10,000: 1885, 1900, 1921, 1937-47, 1964, 1969, 1975, 1984, 1990, 1999, 2006, 2009;

Ordnance Survey 1:2500: 1878, 1899, 1919, 1943, 1971-72, 1973, 1980-88, 1987, 1993, 1994.





Legend

- Approximate Site Boundary
- L & G Ownership



Not to Scale:
Illustrative Only

Figure 2:
1624 Plan of the Manor
of Penmark



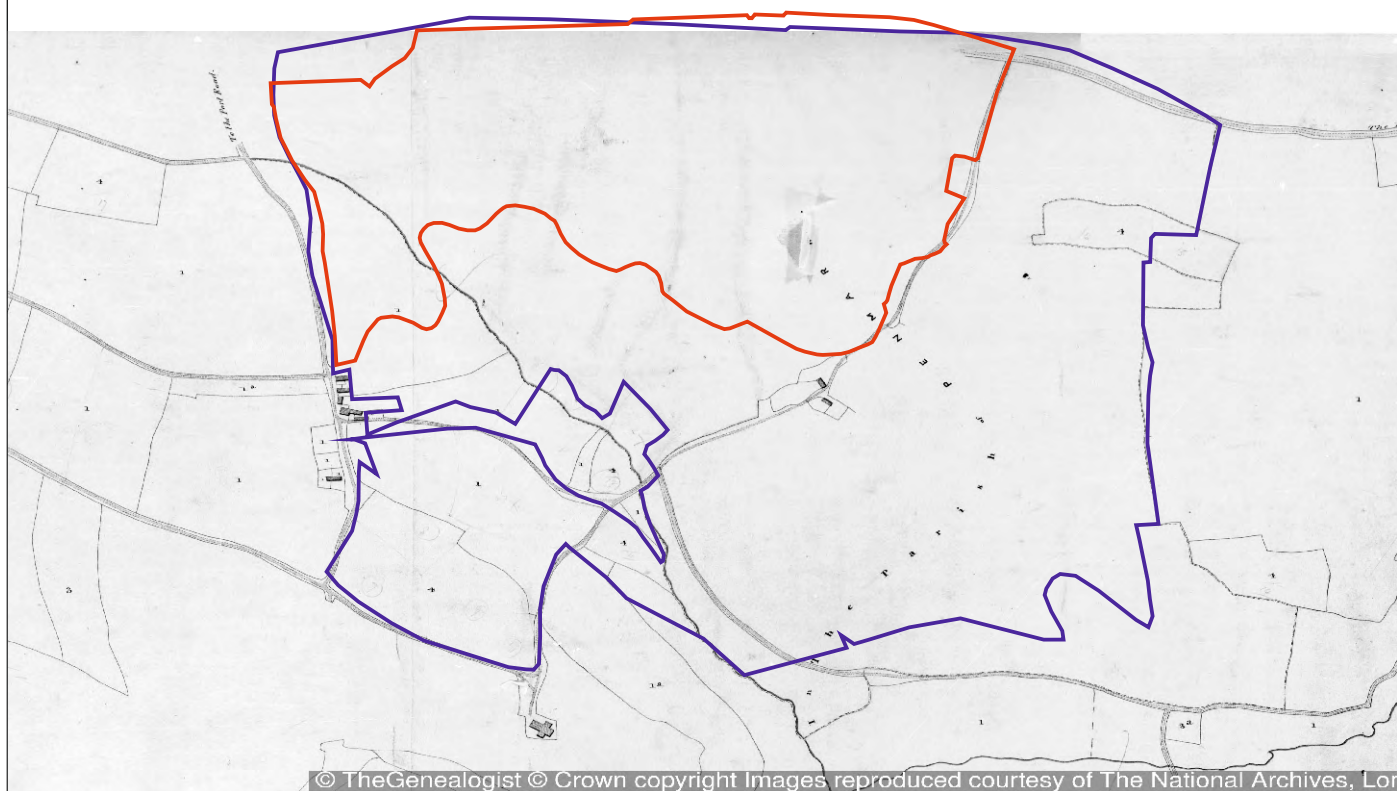
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- Approximate Site Boundary
- L & G Ownership



Not to Scale:
Illustrative Only

Figure 3:
1812 Survey of Romilly Estate



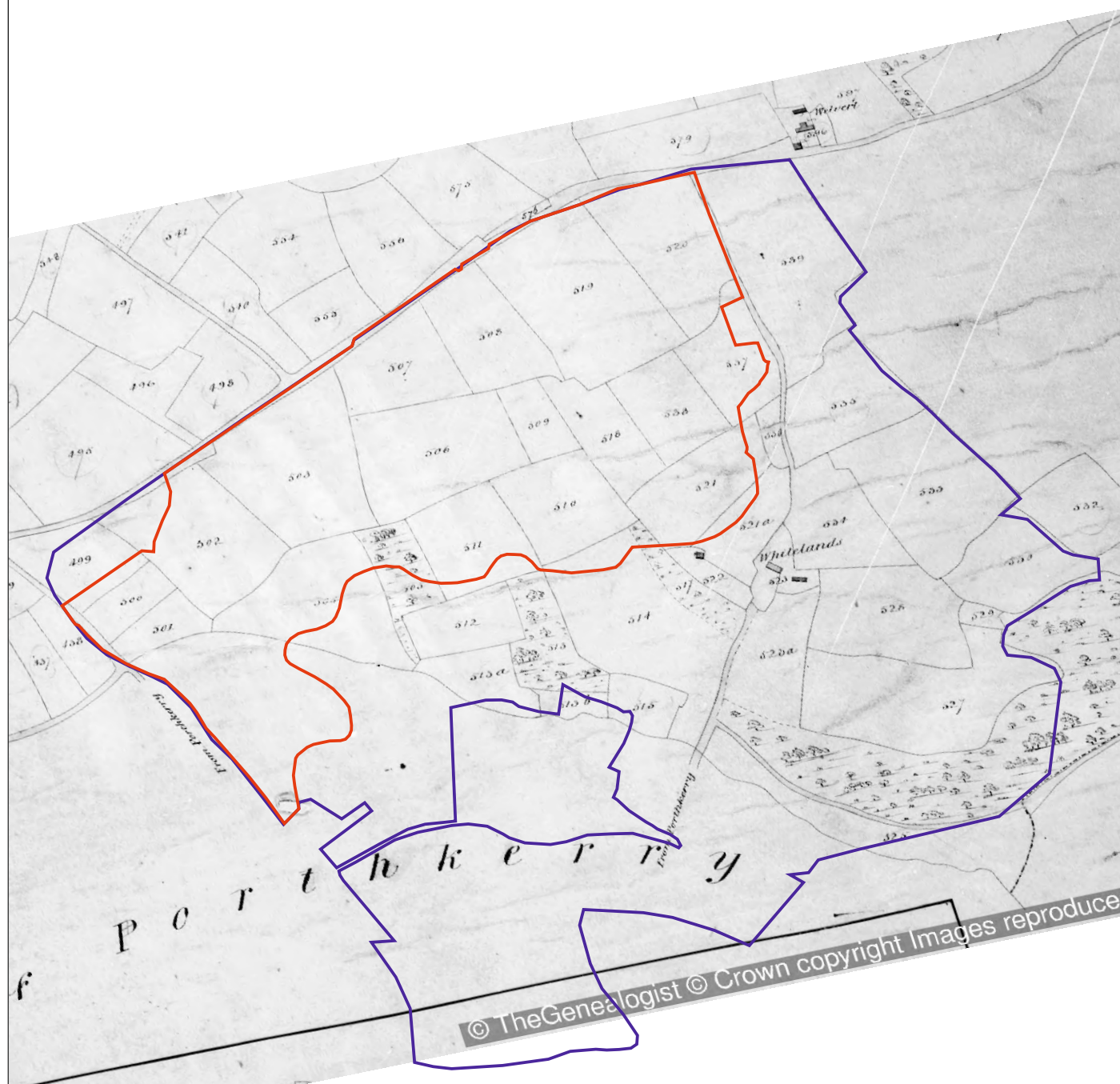
Legend

- Approximate Site Boundary
- L & G Ownership



Not to Scale:
Illustrative Only

Figure 4:
1838 Tithe map of
Porthkerry Parish



Legend

- Approximate Site Boundary
- L & G Ownership



Not to Scale:
Illustrative Only

Figure 5:
1841 Tithe map of
Penmark Parish



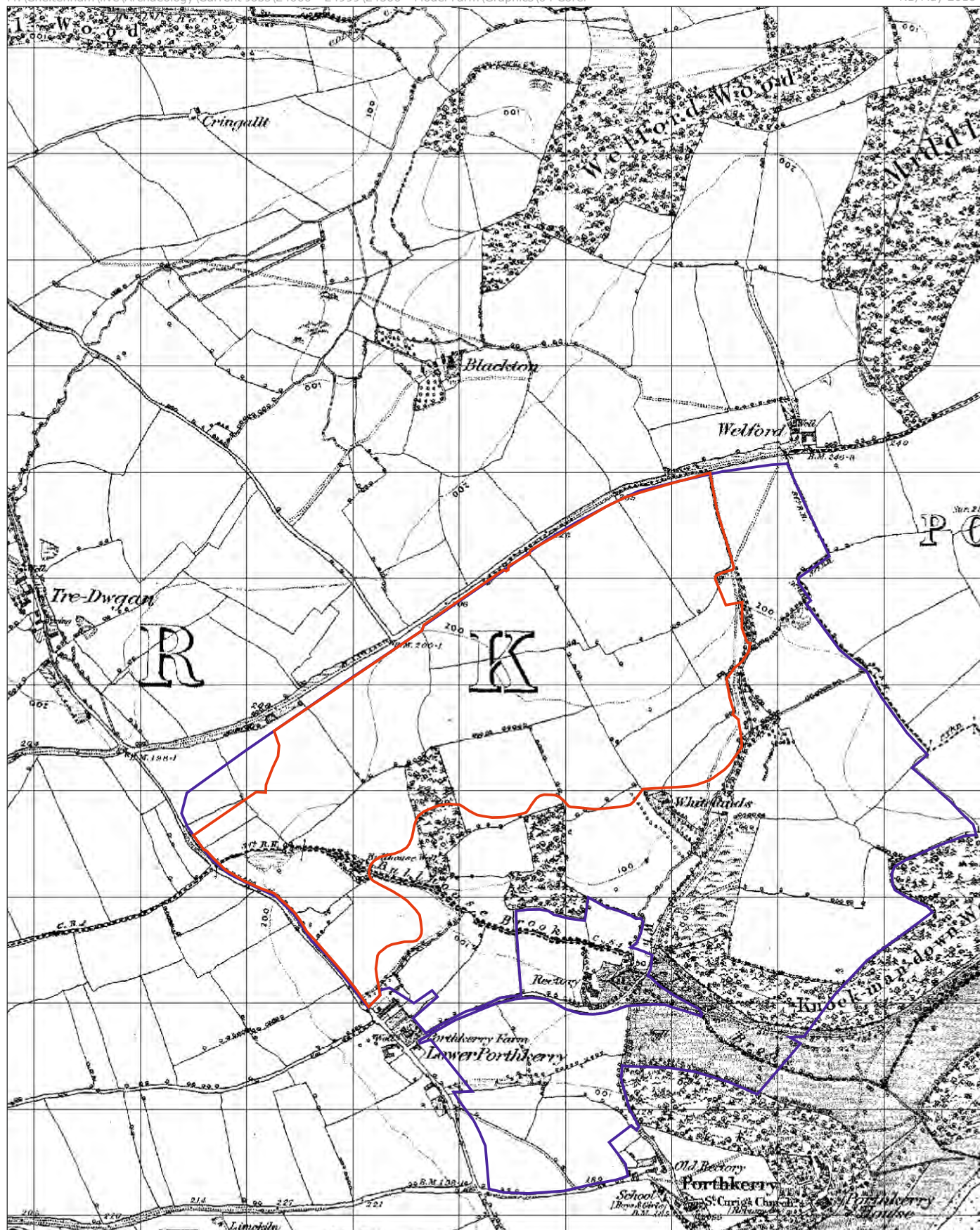
Legend

- Approximate Site Boundary
- L & G Ownership



Not to Scale:
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Figure 6:
1871 Ordnance Survey
drawing annotated with
local lordships



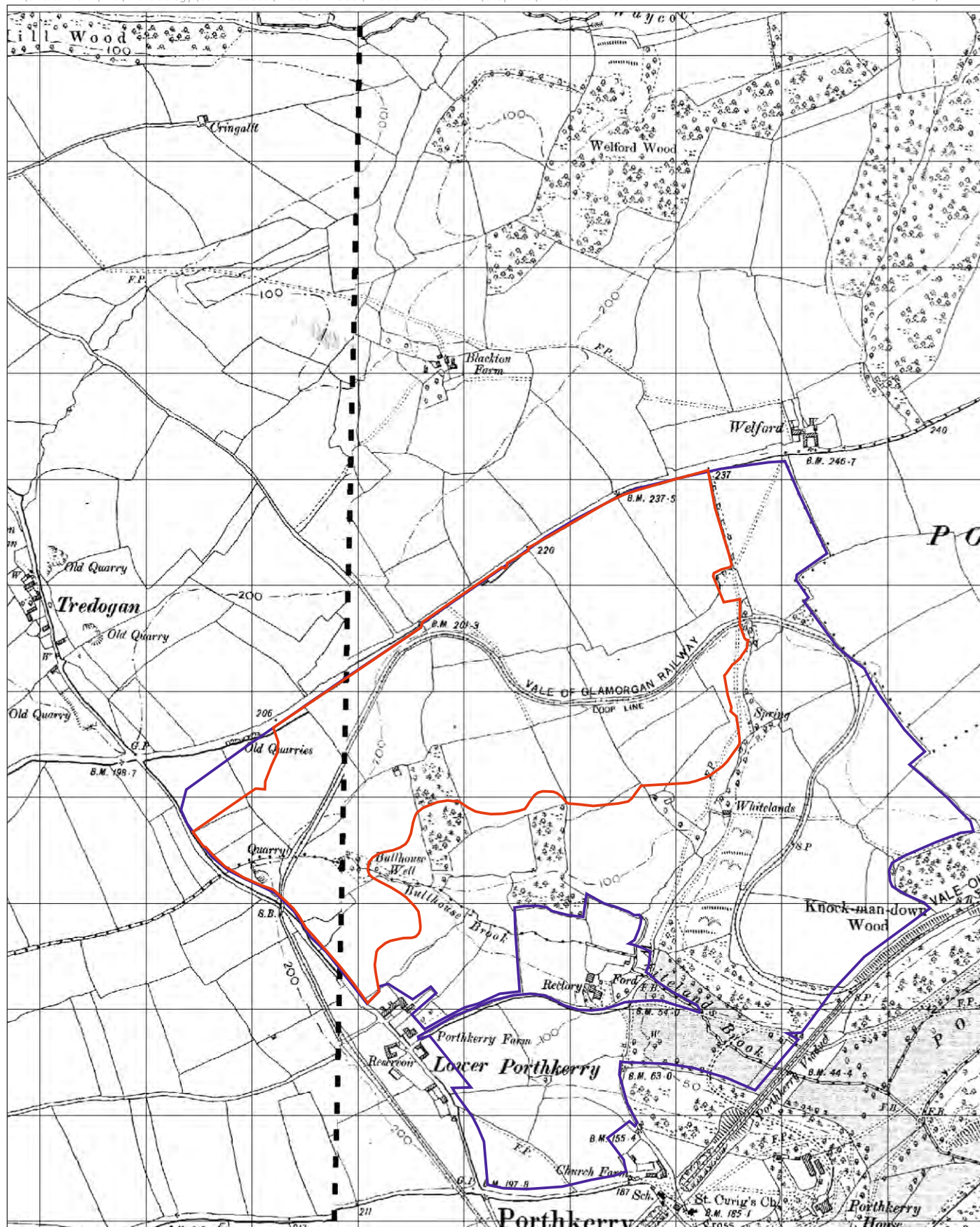
Legend

- Site Boundary
- L & G Ownership



Not to Scale:
Illustrative Only

Figure 7:
1885 Ordnance Survey
Map



Legend

- Site Boundary
- L & G Ownership



Not to Scale:
Illustrative Only

Figure 8:
1900-1901 Ordnance
Survey Map