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Desk-based Assessment:

**Land at Pancross, Redlands and Oaklands
Farm, near Bonvilston, Vale of Glamorgan**

January 2021 (Updated August 2022)



Report No. 1900

By


James Evans



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January 2021 (Updated August 2022)

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Prepared for Sirius Planning Ltd

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Report No.1900



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- Appendix I Gazetteer of sites recorded on the Regional HER
- Appendix II Gazetteer of new sites
- Appendix III Written Scheme of Investigation

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Non-Technical Summary

In December 2020 Archaeology Wales was commissioned by Sirius Planning to carry out an archaeological desk-based assessment to determine the archaeological potential of land 750m to the south of Bonvilston and 5km to the north of Cardiff Airport, Vale of Glamorgan, centred on NGR ST 07000 72770. The assessment has been undertaken in advance of the submission of a planning application for a solar farm and battery storage development.

There are 136 previously recorded sites of archaeological interest within a 1km study area, and this includes eight Scheduled Monuments and ten Listed Buildings. This assessment has determined that fourteen of these sites are located within the proposed development area. Two of these sites comprise of cropmarks of an enclosure and field system within Area 1 (GGAT03998s; NPRN 309275 & NPRN 309284). This assessment has identified three new sites of archaeological interest within Area 1: a structure (OFV01), an old quarry/limekiln (OFV02), and a further old quarry (OFV03). However, subsequent studies of historic mapping, aerial photography and a site visit established that OFV03 was outside the development area. The remaining previously recorded sites are located within Area 2, and these are made up of industrial and agricultural post-medieval sites.

No Conservation Area, Registered Historic Park & Garden or Listed Building will be directly impacted by the proposed development, but they have the potential to be indirectly (visually) impacted by it. Bonvilston Conservation Area and the five Listed Buildings located within it are visible from the site, but they are at some distance away and the development will have a Minor indirect impact upon them. The Registered Historic Parks & Gardens of Dyffryn Gardens (GM32), Llantrithyd Place (GM43), Coedarhydyglyn (GM40), and Wenvoe Castle (GM33) lie within a 3km study area, but the indirect impact will be Negligible due to the intervening built landscape and topography.

The Registered Historic Landscape of Lancarfan (HLW (SG) 1) will be directly and indirectly affected by the proposed development. The western extent of Area 1 of the development site lies partially within the historic landscape and any construction within it will create a direct impact and will have an indirect (visual) impact on the remainder of the landscape. The overall impact on the landscape will be Moderate.

No Scheduled Monument will be directly impacted by the proposed development, but there is the potential for three to be indirectly (visually) impacted. Castle Ringwork 850m ENE of Ty'n-y-Coed (GM613) and Coed y Cwm Ringwork (GM117) are located in close proximity of the proposed development site, and the potential indirect impact upon these monuments will be Moderate. The potential indirect impact on Castell Moel hillfort (GM298) will be Minor due to the distance between the monument and the site.

Fourteen specific recorded sites of archaeological interest have been identified within the proposed development boundary, alongside OFV01 and OFV02 that this assessment has identified. There is also a Medium potential for further unrecorded activity spanning from the prehistoric to the post-medieval period. Two of the specific recorded sites include the cropmarks of an enclosure (GGAT03998s; NPRN 309275), and a field system (NPRN 309284). These could possibly date to the prehistoric or medieval period. Given their potential date, these are features of Medium archaeological value, and development on this site may have a Major direct impact upon them. There is the potential for groundworks at these locations and they may have a Major direct impact upon these sites. All of the other sites of archaeological

interest are industrial and agricultural sites from the post-medieval period. These sites are of Low archaeological value.

It is recommended that the potential direct and visual impacts on the Registered Historic Landscape of Lancarfan should be taken into consideration during the creation of the final design scheme. To minimise the direct impacts on the landscape, construction and any ground disturbance works should be kept to a minimum in this area. To mitigate any visual indirect impacts upon the landscape current field and wooded boundaries should be maintained. This is particularly true for Castle Ringwork 850m ENE of Ty'n-y-Coed (GM613) and Coed y Cwm Ringwork (GM117) as these will be the most affected designated assets due to the proposed development.

It is further suggested that a geophysical survey may provide important information across the western and central part of Area 1, and throughout the entirety of Area 2 due to the significant number of archaeological sites in this area, and the close proximity to prehistoric and medieval Scheduled Monuments. This could help inform the final design scheme and/or the need for further mitigation. An archaeological watching brief may also be considered appropriate mitigation to mitigate against any potential loss of the archaeological features discussed in this assessment.

Crynodeb

Ym mis Rhagfyr 2020, comisiynwyd Archaeology Cymru gan Sirius Planning i gynnal asesiad desg archeolegol i bennu potensial archeolegol tir 750 km i'r de o Dresimwn a 5km i'r gorllewedd Awyr Caerdydd, Bro Morgannwg, y mae canol y safle wedi'i leoli yn NGR ST 07000 72770. Cynhaliwyd yr asesiad cyn cyflwyno cais cynllunio ar gyfer fferm solar.

Mae 136 o safleoedd o ddiddordeb archeolegol a gofnodwyd yn flaenorol o fewn ardal astudiaeth o 1km, ac mae hyn yn cynnwys wyth o Henebion Cofrestredig a deg o Adeiladau Rhestredig. Mae un deg pedwar o safleoedd o ddiddordeb archeolegol a gofnodwyd yn flaenorol o fewn ardal ddatblygu. Mae dau o'r safleoedd hyn yn cwmpasu olion cnydau ardal gaeëdig a system gaeau o fewn yr ardal ddatblygu arfaethedig (GGAT03998s; NPRN 309275 & NPRN 309284). Mae safle arall yn cynnwys olion ymddangosiadol o dyn galch Ôl-Ganoloesol (GGAT02617s), ond mae'r asesiad hwn yn taflu amheuaeth ar gywirdeb lleoliad y safle. Mae'r asesiad hwn wedi nodi tri safle newydd o ddiddordeb archeolegol; strwythur (OFV01), hen chwarel/odyn galch (OFV02), a hen chwarel arall (OFV03). Fodd bynnag, gwnaeth astudiaethau dilynol o waith mapio hanesyddol, lluniau o'r awyr ac ymweliad â'r safle sefydlu bod OFV03 y tu allan i'r ardal ddatblygu. Mae'r gweddill o safleoedd a gofnodwyd o'r blaen wedi'u lleoli yn Ardal Dau, ac mae'r rhain yn cynnwys safleoedd ôl-ganoloesol diwydiannol ac amaethyddol.

Ni fydd unrhyw Ardal Gadwraeth, Parc a Gardd Hanesyddol Cofrestredig nac Adeilad Rhestredig yn cael ei effeithio'n uniongyrchol gan y datblygiad arfaethedig, ond mae potensial iddynt gael eu heffeithio'n anuniongyrchol (yn weledol) ganddo. Mae Ardal Gadwraeth Tresimwn a'r pum Adeilad Rhestredig sydd wedi'u lleoli oddi mewn iddo i'w gweld o'r safle, ond maent gryn bellter i ffwrdd a bydd y datblygiad yn cael effaith anuniongyrchol Bychan. Mae Parc a Gerddi Hanesyddol Cofrestredig Plas Llantrithyd (GM43), Gerddi Dyffryn (GM32), Coedarhydyglyn (GM40) a Castell Wenvoe (GM33) yn gorwedd o fewn ardal astudiaeth 3km,

ond bydd yr effaith anuniongyrchol yn Ddibwys yn unig oherwydd y dirwedd a'r tirffurfiau adeiledig rhyngddynt.

Bydd y Dirwedd Hanesyddol Gofrestredig yn Llancarfan (HLW (SG) 1) yn cael ei heffeithio'n uniongyrchol ac yn anuniongyrchol gan y datblygiad arfaethedig. Mae'r maint gorllewinol Ardal Un o'r safle datblygu'n gorwedd yn rhannol o fewn y dirwedd hanesyddol a bydd unrhyw adeilad o fewn iddo'n cael effaith uniongyrchol ac effaith (weledol) anuniongyrchol ar weddill y dirwedd. Bydd yr effaith gyffredinol ar y dirwedd yn Gymedrol.

Ni fydd unrhyw Heneb Gofrestredig yn cael ei heffeithio'n uniongyrchol gan y datblygiad arfaethedig, ond mae potensial i ddwy gael eu heffeithio'n anuniongyrchol (yn weledol). Amddiffynfa gylch castell 850m i'r dwyrain gogledd-ddwyrain o Ty'n-y-Coed (GM613) a Amddiffynfa Coed y Cwm (GM117) yw'r Henebion Gofrestredig agosaf i'r safle a gellir ei gweld yn glir o ardal ogleddol y safle. Mae'r effaith anuniongyrchol ar yr heneb hon yn Gymedrol, oherwydd agosatrwydd y safle datblygu i'r heneb. Bydd yr effaith weledol ar fryngaer Castell Moel (GM298) wedi'i chyfyngu oherwydd y pellter, a bydd yr effaith anuniongyrchol yn Fach.

Mae pedwar ar ddeg o safleoedd penodol o ddiddordeb archeolegol wedi'u nodi o fewn y datblygiad arfaethedig, ochr yn ochr ag OFV01 ac OFV02 y mae'r asesiad hwn wedi'u nodi. Mae yna Ganolig hefyd potensial cymedrol am weithgaredd ddigofnod arall yn cwmpasu'r cyfnod Cynhanesyddol hyd at y cyfnod Ôl-Ganoloesol. Mae dau o'r safleoedd penodol yn cynnwys olion cnydau mewn ardal gaeëdig (GGAT03998s; NPRN 309275) a olion cnydau system gaeau (NPRN 309284). Mae'n bosibl bod yr ardal gaeëdig a'r system gaeau yn dyddio o'r cyfnod Cynhanesyddol neu Ôl-ganoloesol. Ar sail ei dyddiad posibl, mae hon yn nodwedd o werth archeolegol Cymedrol, ac mae'n bosibl y bydd gwaith datblygu ar y safle hwn yn cael effaith uniongyrchol Mawr. Mae pob un o'r safleoedd eraill o ddiddordeb archeolegol yn safleoedd diwydiannol ac amaethyddol o'r cyfnod ôl-ganoloesol. Mae'r safleoedd hyn o werth archeolegol Isel.

Argymhellir y dylid ystyried yr effeithiau uniongyrchol a gweledol posibl ar Dirwedd Hanesyddol Gofrestredig Llancarfan yn ystod y broses o lunio'r cynllun dylunio terfynol. Er mwyn lleihau'r effeithiau uniongyrchol ar y dirwedd, dylid lleihau'r gwaith adeiladu ac unrhyw waith tir aflonyddu gymaint â phosibl yn yr ardal hon. Er mwyn lliniaru unrhyw effeithiau anuniongyrchol gweledol ar y dirwedd, dylid cadw ffiniau presennol y caeau a'r coedwigoedd. Mae hyn yn arbennig o wir am yr Amddiffynfa Gylch Castell 850m i'r dwyrain gogledd-ddwyrain o Ty'n-y-Coed (GM613) a Amddiffynfa Coed y Cwm (GM117) gan mai dyma fydd yr ased dynodedig yr effeithir arno fwyaf gan y datblygiad arfaethedig.

Awgrymir ymhellach y gallai arolwg geoffisegol ddarparu gwybodaeth bwysig ar draws rhan orllewinol a chanolog Ardal Un, a thrwy Ardal gyfan Dau oherwydd y nifer sylweddol o safleoedd archeolegol yn yr ardal hon, a'r agosrwydd at Henebion Cofrestredig cynhanesyddol a chanoloesol. Gallai hyn helpu i lywio'r cynllun dylunio terfynol a / neu'r angen am liniaru pellach. Gellir hefyd ystyried briff gwylio archeolegol yn lliniaru priodol i liniaru yn erbyn unrhyw golled bosibl o'r nodweddion archeolegol a drafodir yn yr asesiad hwn.

1. Introduction

- 1.1.1 In December 2020 Archaeology Wales (henceforth – AW) was commissioned by Sirius Planning to carry out an archaeological desk-based assessment (henceforth – DBA) ahead of the proposed construction of a solar farm and battery storage units with ancillary infrastructure on land at Pancross and Oaklands Farm, near Bonvilston, Vale of Glamorgan, centred on NGR ST 07000 72770.
- 1.1.2 In April 2020 AW completed a DBA of the site (Evans 2020), however, the site boundary has been changed and enlarged. This has subsequently led to the production of this current assessment.
- 1.1.3 The purpose of the DBA, which is detailed in the following report, is to provide Glamorgan-Gwent Archaeological Trust Archaeological Planning Management (henceforth – GGAT-APM), advisors to the local planning authority (Vale of Glamorgan Council), with the information they are likely to request in respect of the proposed development, the requirements for which are set out in *Planning Policy Wales* (revised edition 11, 2021), Section 6 and *Technical Advice Note (TAN) 24: The Historic Environment* (2017). The work is to highlight and assess the impact upon standing and buried remains of potential archaeological interest and to ensure that they are fully investigated and recorded if they are disturbed or revealed as a result of subsequent activities associated with the development.
- 1.1.4 All work conforms to the *Standard and guidance for an archaeological desk based assessment* (CIfA update 2020) and was undertaken by suitably qualified staff to the highest professional standards. AW is a Registered Organisation with the CIfA.

2. Site Description

- 2.1.1 The proposed development site is located approximately 750m to the south of Bonvilston and 5km to the north of Cardiff Airport, Vale of Glamorgan, centred on NGR ST 07000 72770 (henceforth – the site). The site is currently made up of 127 hectares of enclosed agricultural fields. The site comprises of three areas. Area 1 is bounded to the north and south by enclosed fields, the east by the A4226, and to the west by a single tracked road. Area 2 is situated to the east of Area One and it is bounded to the north-west by enclosed fields, to the north-east, east and the south by woodland, and to the west by the A4226. Area 3 is situated to the south of Area 1 and it is bounded to the north by enclosed fields, and to the east, south, and west by woodland (Figure 1).
- 2.1.2 The geology beneath the site varies between Mary's Well Bay Member (interbedded limestone and mudstone) formed approximately 199 to 210 million years ago in the Jurassic and Triassic Periods, Penarth Group (interbedded mudstone and limestone) formed approximately 201 to 210 million years ago in the Triassic Period, and Lavernock Shales Member (mudstone) formed approximately 199 to 201 million years

ago in the Jurassic Period. No superficial deposits are recorded throughout the site (BGS 2021).

3. Methodology

- 3.1.1 The primary objective of this DBA is to assess the potential impact of the development proposals on the historic environment. This will help inform future decision making, design solutions and potential mitigation strategies. The aim is to make full and effective use of existing information in establishing the archaeological significance of the site, to elucidate the presence or absence of archaeological material, its character, distribution, extent, condition, and relative significance.
- 3.1.2 The work includes a comprehensive assessment of regional context within which the archaeological evidence rests and aims to highlight any relevant research issues within national and regional research frameworks.
- 3.1.3 This report provides information of sufficient detail to allow informed planning decisions to be made which can safeguard the archaeological resource. Preservation in situ has been advocated where at all possible, but where engineering or other factors could result in the loss of archaeological deposits, preservation by record has been recommended.
- 3.1.4 This assessment considers the following:
- a) The nature, extent, and degree of survival of archaeological sites, structures, deposits, and landscapes within the study area through assessment of various readily available primary sources:
 - Collation and assessment of all relevant information held in the regional HER at the Glamorgan-Gwent Archaeological Trust in Swansea, within a 1km buffer zone around the proposed development area.
 - Collation and assessment of the impact on all Designated archaeological sites (Scheduled Ancient Monuments, Listed Buildings, Historic Parks & Gardens, landscapes, Conservation Areas) within 3km buffer zone around the proposed development area.
 - Assessment of all available excavation reports and archives including unpublished and unprocessed material affecting the site and its setting.
 - Assessment of aerial photographic (AP) and satellite imagery evidence.
 - Assessment of archive records held at the County Archive, the National Library of Wales (NLW) and the Royal Commission on Ancient and Historical Monuments in Wales (RCAHMW). However, due to the ongoing Covid-19 global pandemic these sites remain closed and will not re-open for the foreseeable future.
 - Records held by the developer e.g., bore-hole logs, geological/geomorphological information, aerial photographs, maps, plans.
 - Map regression analysis using all relevant cartographic sources e.g., all editions of the Ordnance Survey County Series, Tithe, and early estate maps

(as available).

- Place-name evidence.
 - Historic documents (e.g., charters, registers, estate papers).
- b) The significance of any remains in their context both regionally and nationally and in light of the findings of the desk-based study.
- c) The history of the site.
- d) The potential impact of any proposed development on the setting of known sites of archaeological importance.
- e) The potential for further archaeological remains to be present, which have not been identified in pre-existing archaeological records.
- f) The potential for further work, with recommendations where appropriate for a suitable investigative and/or mitigation methodology.

3.1.5 In assessing the value of archaeological assets, and the potential impacts upon them by the proposed development, the terms and guidance used in *the Design Manual for Roads and Bridges, Volume 11, Section 3* (Highways England 2007) has been utilised. Values are given as:

- Very High (World Heritage Sites and other sites of international importance).
- High (Scheduled Monuments, undesignated assets of schedulable quality, assets of National importance that can contribute significantly to acknowledged national research objectives).
- Medium (Designated or undesignated assets of Regional importance that contribute to regional research objectives).
- Low (assets of local importance, assets compromised by poor preservation or poor survival of contextual associations).
- Negligible (assets with little or no surviving archaeological interest).
- Unknown (the importance of the resource has not been ascertained).

3.1.6 The magnitude of the potential impact on the archaeological assets (which can be either positive or negative), is given as:

- Major (change to most or all key archaeological materials, such that the resource is totally altered; comprehensive changes to setting).
- Moderate (changes to many key archaeological materials, such that the resource is clearly modified; considerable changes to setting that affect the character of the asset).
- Minor (changes to key archaeological materials, such that the asset is slightly altered; slight changes to setting).
- Negligible (very minor changes to archaeological materials or setting).

- No Change.

3.1.7 This work conforms to the *Standard and guidance for an archaeological desk based assessment*, as produced by the Chartered Institute for Archaeologists (CIfA update 2020).

4. Archaeological and Historical Background

4.1 Previous Archaeological Studies

4.1.1 There are fifty-eight previous archaeological investigations recorded on the regional Historic Environment Record (HER) within a 1km study area around the proposed development area.

4.1.2 Excavations were conducted at Tinkinswood Chambered Cairn (GM009; GGAT00374s; GGAT02432s; NPRN 94510) by John Ward in 1914 (GGATE000740 & GGATE000741). No details of the excavation or its findings are provided.

4.1.3 In 1934, W.F. Grimes partially excavated at Cottrell Park Standing Stone (GGAT00372s). Again, there are no details of the excavation or its findings (GGATE000739).

4.1.4 Three excavations were carried out at Coed-Y-Cwm Chambered Cairn (GM116; GGAT00369s; NPRN 275858): in 1936 (GGATE000738); 1963 (GGATE000737); and 1964 (GGATE000900). There are no details of the excavations themselves.

4.1.5 There are nine records for field visits conducted at Tinkinswood Chambered Cairn (GM009; GGAT00374s; GGAT02432s; NPRN 94510). These visits date from 1950 to 2004 (GGATE001895, GGATE001896, GGATE001897, GGATE001898, GGATE001899, GGATE001900, GGATE001901, GGATE001902, GGATE001903).

4.1.6 There are also two records for field visits to Tinkinswood Standing Stones (GGAT02433s; GGAT02434s; NPRN 307726) in 1950 and 2003. (GGATE001824 and GGATE001825).

4.1.7 Three site visits have taken place at Redland Standing Stone (GGAT00370s): W. Jack in 1950 (GGATE001962), MHB in 1970 (GGATE001963), and Glamorgan-Gwent Archaeological Trust (GGAT) in 2003 (GGATE001953).

4.1.8 The Royal Commission on the Ancient and Historical Monuments of Wales (RCAHMW) undertook a field survey c. 1977 at Castell Moel (GM298; GGAT00359s; GGAT02234s).

4.1.9 Several field visits of Leige Castle Chapel connected to Greendown (GGAT00362s) have taken place over the decades: N.V. Quinnell in 1956, MHB in 1970 (GGATE002063), APS in 1982 (GGATE002064), and GGAT in 2001 (GGATE002061) and 2011 (GGATE002106).

- 4.1.10 In 1989, Access Archaeology carried out a preliminary desk-based study of HER information in relation to a proposed development in the Bonvilston and St Nicholas area. The assessment concluded that the proposed development area was a region of archaeological interest (GGATE001481).
- 4.1.11 In 1992, Arbour International undertook a DBA on the archaeology extant in Dyffryn Parc prior to its proposed development. It contains a fairly detailed description of the numerous sites dating from the Neolithic to Medieval and later. The report does not make any assessment of the impact of the proposed development on the archaeology existing on the site. It concludes that further exploration of the area's archaeology would be required before future development was undertaken (GGATE003774).
- 4.1.12 In 1994, M. Ponsford undertook a field evaluation at Walterston Farm, Llancarfan. An archaeological evaluation was done at this site because it was considered as an area of archaeological potential as it is near a small ringwork castle of medieval date. Two trenches were excavated and finds included pottery dating to the 12th century and a demolished limekiln dated to the 16th to 17th century.
- 4.1.13 M. Ponsford undertook a watching brief at above location in 1995 (GGATE004304). Two linear features and a stone-built drain were recorded. One of the linear features was identified as a 12th century ringwork defensive ditch, and the other linear feature was identified as a possible defensive feature. The drain was dated to between the 13th and 17th centuries.
- 4.1.14 In 1995, GGAT were commissioned to conduct an archaeological watching brief on land adjacent to The Manor House, St Nicholas (GGATE004333). No finds or features of archaeological significance were encountered.
- 4.1.15 GGAT undertook a DBA in 1996 ahead of the construction of a gas pipeline between Whitton Mawr and Sully Moors (GGATE002203). As a result of the above DBA, in 1997 GGAT also undertook a watching brief at the site (GGATE002204). However, no archaeological features were recorded.
- 4.1.16 In 1998, GGAT undertook an archaeological watching brief during road widening works at Duffryn Lane, St. Nicholas (GGATE004359). Only fragments of 19th/20th century pottery and glass was recovered, and little of archaeological interest was noted.
- 4.1.17 Cambrian Archaeological Projects (CAP) undertook a watching brief (GGATE002542) and a field evaluation (GGATE002560) in 2001. No archaeological features were recorded.
- 4.1.18 In September 2002, CAP were commissioned to undertake the excavation of two water features in the Walled Garden at Dyffryn Gardens, and the excavation of several trial trenches to establish the nature and orientation of former paths crossing the Walled Garden (GGATE004744). Both water features were found to be in a good state

of preservation, and it was judged that sufficient detail survived to enable them to be rebuilt. Three phases of activity were recorded throughout the Walled Garden, with no evidence uncovered which pre-dated the 19th century.

- 4.1.19 In 2002, GGAT undertook a field visit at Maendy Farm on behalf of the Countryside Council for Wales as part of the Tir Gofal scheme (whole farm agri-environment scheme for Wales which encouraged farmers to maintain and enhance the agricultural landscape) (GGATE005974).
- 4.1.20 CAP conducted a watching brief at North Park in Dyffryn Gardens in 2005 (GGATE005350). No finds or features of archaeological significance were recorded.
- 4.1.21 A field visit at Greendown cropmark (GGAT03996s) was undertaken by GGAT in 2006 (GGATE001601) as well as Ty'n-y-Coed cropmark (PRN 03998s). These visits were a part of the trust's Prehistoric Defended Enclosures of Glamorgan project (GGAT78).
- 4.1.22 In 2006, Border Archaeology (BA) undertook a watching brief during groundworks associated with the Cardiff Downs Water Network Scheme (GGATE005738). No finds or features of archaeological significance were recorded.
- 4.1.23 In 2007, BA undertook another watching brief as part of the Vale of Glamorgan Mains Refurbishment Scheme Phase (GGATE005811). Again, no finds or features of archaeological significance were recorded.
- 4.1.24 Cardiff Archaeological Consultants (CAC) undertook a watching brief at Walterston Farm, Llancarfan in 2010 (GGATE003315). No archaeological features were recorded.
- 4.1.25 CAC undertook another watching brief in 2010 at watching brief at Woodlands Lodge, Bonvilston (GGATE003082). A circular feature was recorded measuring 1.75m diameter and contained stone, slate, domestic pottery sherds and animal bones. It was identified as a possible 19th century rubbish pit or a soak away. A cobbled path was also recorded.
- 4.1.26 A further watching brief (GGATE003320) in 2010 was undertaken by CAC at Bonvilston Reading Room recorded no archaeological features. However, several sherds of medieval pottery, a sherd of a possible 13th/14th century jug, post-medieval pottery sherds, and modern pottery were recovered.
- 4.1.27 GSB Prospection (Geophysical Surveys of Bradford) commissioned to undertake a geophysical survey on land to the east of the A4226 (Five Mile Lane Improvements) in 2010. Two ring ditches, a third smaller ring, an increase in magnetic levels in the southern half of the field (perhaps due to ploughing), and a rectilinear pattern possibly indicating Romano-British features were recorded (GGATE003309).
- 4.1.28 Andrew Seaman undertook a study in the Vale of Glamorgan in 2010, designed to work towards the development of a predictive model of early medieval settlement location

in Wales in order to identify new settlement sites. The study mapped the distribution of Romano-British and medieval settlement evidence in relation to the landscape characteristics of the area and divided the study area into zones reflecting past settlement intensity (GGATE005443).

- 4.1.29 Cardiff Archaeological Unit (CAU) conducted a watching brief during the excavation of foundation trenches for a new wall at Great House, Bonvilston in 2011 (GGATE003638). No archaeological features or artefacts were uncovered.
- 4.1.30 The CAU were commissioned to carry out a watching brief at The Old Vicarage, Bonvilston in 2012 (GGATE004544). Two square cut linear ditches were recorded in the north-west corner of the foundation excavations running south-west/north-east which lay under a cobbled surface. This was likely to be of late 18th century origin. No significant artefacts were recovered apart from some residual 19th/20th century blue and white pottery fragments.
- 4.1.31 Cotswold Archaeology (CA) carried out a DBA in 2013 at Whitton Mawr, Dyffryn (GGATE006047). It was concluded that the impact on known heritage sites would be low (and visual only) to none. There was also the possibility of encountering prehistoric, Roman, and industrial remains during potential groundworks.
- 4.1.32 In 2014 CA undertook a field evaluation on land to the east of St Nicholas (GGATE006502). The evaluation did not encounter any finds, and the only feature recorded was a single east-west furrow.
- 4.1.33 Between 2014 and 2015 CAU undertook a watching brief at Tinkinswood Farm, Duffryn Lane, St Nicholas (GGATE006493). No finds or features of archaeological significance were recorded.
- 4.1.34 Wardell Armstrong (WA) carried out a field evaluation on land at Sycamore Cross, Bonvilston in 2015 (GGATE006519). Seven 30m x 1.80m trenches were excavated, but the only feature was a single, small, pit.
- 4.1.35 The Rural Settlement of Roman Britain project that was undertaken by Reading University and Cotswold Archaeology, on behalf of Historic England and the Leverhulme Trust. The project was undertaken in 2015 and the objective of the project was to create a resource that brings together the excavated evidence for the rural settlement of Roman Britain with the over-arching aim to inform a comprehensive reassessment of the countryside of Roman Britain. In 2015 Welsh settlement data was used to compliment the data from England (GGATE005431).
- 4.1.36 In 2018 a Level 1 photographic survey (GGATE006152) was undertaken of a Coach House at Llaineinydd, St Nicholas in relation to the conversion of the building to a dwelling.
- 4.1.37 In addition to the previous investigations recorded on the HER, in 2011, Cadw and

Archaeology Wales carried out excavations as part of the Cadw funded Tinkinswood and St. Lythans Community Archaeology Project (Pannett, 2012). The excavations near Tinkinswood Chambered Tomb investigated two possible Neolithic cromlechs and a possible quarry. It found one of the possible cromlechs was the result of post-medieval field clearance while the second was the remains of a Bronze Age burial mound. No evidence was discovered to indicate prehistoric use of the quarry.

4.1.38 Between 2017 and 2018, Red River Archaeology Group conducted excavations as part of the A4226 Five Mile Lane Improvement Scheme (Morgan, 2022). The excavations were over a 1.5km long area that followed the roughly north – south route of the A4226. The northernmost extent of the area lies 300m to the south of Area 2 and east of Area 3. Archaeological remains from the Bronze Age through to the Second World War were discovered during the excavations. The closest sites to the proposed development area include a Bronze Age roundhouse at the northern end of the route, an Iron Age settlement 400m to the south-east of Area 3, and a Bronze Age burial mound reused for burial in the medieval period 900m to the south of the development area.

4.2 Identified Sites of Archaeological Interest

4.2.1 There are 143 previously recorded sites of archaeological interest within the 1km study area (Table 1). These include eight Scheduled Monuments, ten Listed Buildings, and one SSSI. The remaining sites are non-designated assets, and fifteen of these lie within the proposed development area (GGAT02617s, GGAT03873s, GGAT03874s, GGAT03877s, NPRN 15270, GGAT03884s, GGAT03879s, GGAT03880s, GGAT03881s, NPRN 414419, GGAT03878s, NPRN 422326, GGAT03872s, NPRN 309275, and GGAT03998s; NPRN 309284).

Table 1. Sites of archaeological interest within the 1km study area

Reference Number	Name	NGR	Period	Type	Condition	Status
NPRN 309284	Cropmarks SE of Ty'n-Y-Coed	ST06777295	Unknown	Field System	Not Known	N/A
NPRN 418652	St Nicholas, Field System	ST08957403	Prehistoric/medieval	Field System	Unknown	N/A
NPRN 422326	Brook Wood Parchmark Enclosures	ST0835073210	Post-medieval	Cropmark	Unknown	N/A
GGAT02433s; GGAT02434s; NPRN 307726	Tinkinswood, Stones	ST09287328	Prehistoric/Neolithic	Archaeological Feature	Unknown	N/A
NPRN 309866	The Cwm	ST08667385	Post-medieval	Enclosure	Unknown	N/A
GM116; GGAT00369s; NPRN 275858	Coed-Y-Cwm Chambered Cairn	ST08117378	Prehistoric	Chambered Tomb	Unknown	Scheduled Monument
GM117; GGAT00368s; NPRN 301256	Coed-Y-Cwm, Enclosure	ST08277367	Medieval	Defended Enclosure	Unknown	Scheduled Monument
GM009; GGAT00374s; GGAT02432s; NPRN 94510	Tinkinswood Chambered Cairn	ST09217330	Neolithic	Chambered Tomb	Unknown	Scheduled Monument
NPRN 15270	Coed-Y-Cwm, S.E. of	ST085736	Post-medieval	Settlement	Unknown	N/A
NPRN 414419	Brook	ST08777321	Post-medieval	Barn	Unknown	N/A
NPRN 422327	Curvilinear Parchmarks at Liege Manor	ST06037337	Unknown	Cropmark	Unknown	N/A
GGAT03998s; NPRN 309284	Ty'n-Y-Coed, Cropmarks SE of	ST06777295	Unknown	Field System	Unknown	N/A
NPRN 309275	Ty'n-Y-Coed, Cropmark SE of	ST06777295	Unknown	Enclosure	Unknown	N/A
NPRN 309018	Green Down, Cropmark	ST06047227	Unknown	Enclosure	Unknown	N/A
GGAT00360s; NPRN 308331	Bonvilston House/Cottage	ST0650074130	Post-medieval	Domestic	Unknown	N/A
NPRN 41558	Whitewell - Outbuildings	ST06097281	Post-medieval	Outbuilding	Unknown	N/A

Reference Number	Name	NGR	Period	Type	Condition	Status
NPRN 41546	Village Farm - Outbuildings	ST0680074000	Post-Medieval	Outbuilding	Unknown	N/A
GGAT02058s; NPRN 19617	Pencarreg	ST06187297	Post-Medieval	Dwelling	Intact	N/A
GGAT01495s; NPRN 28027	Whitehall; Whitewell	ST06077280	Post-Medieval	House	Unknown	N/A
GM613; GGAT00696s; GGAT03830s; NPRN 227997	Castle Ringwork 850m ENE Of Ty'n-Y-Coed; Bonvilston Ring; Soldiers' Grave	ST07057334	Medieval	Motte and Bailey	Unknown	Scheduled Monument
LB 13602; GGAT00364s; NPRN 153	St Mary The Virgin's Church	ST0645674019	Medieval/Post-medieval	Religious, Ritual and Funerary	Altered	Listed Building
LB 13603; GGAT02057s; NPRN 18843	Ty Mawr - Great House	ST0646773981	Post-medieval	House	Unknown	Listed Building
GGAT01496s; NPRN 18309	Church Cottage	ST0645073980	Post-Medieval	House	Unknown	N/A
NPRN 401327	Leech Castle Farm Chapel	ST05667299	Medieval	Chapel	Unknown	N/A
GGAT05088s; NPRN 409886	The Old Vicarage, Bonvilston	ST0621073945	Post-Medieval	Vicarage	Destroyed	N/A
GGAT00389s; NPRN 307716	Ffynnon Dyfrig	ST0642071790	Medieval	Holy Well	Unknown	SSSI
NPRN 411491	Whitton Bush Farm	ST0751971609	Post-Medieval	Farmhouse	Unknown	N/A
GM298; GGAT00359s; GGAT02234s	Castell Moel Hillfort, Llancafarn	ST054734	Iron Age	Hillfort	Near Destroyed	Scheduled Monument
GGAT00361s	Inhumation	ST06057353	Unknown	Religious, Ritual, And Funerary	Not known	N/A
GGAT00362s	Leige Castle Chapel connected to Greendown Grange	ST05677297	Medieval	Religious, Ritual and Funerary	Near Destroyed	N/A
LB 16320; GGAT00363s	Bonvilston Churchyard Cross	ST0646374010	Medieval	Religious, Ritual and Funerary	Not known	Listed Building
GGAT00365s	Findspot	ST0674	Bronze Age	Object	Damaged	N/A
GM364; GGAT00366s	Cottrell Castle Motte	ST08097450	Medieval	Defence	Damaged	Scheduled Monument
GGAT00370s	Redland Standing Stone	ST07817382	Bronze Age	Religious, Ritual, And Funerary	Damaged	N/A
GGAT00372s	Cottrell Park Standing Stone	ST0804574124	Bronze Age	Religious, Ritual, And Funerary	Moved	N/A
GGAT00373s	Findspot	ST07787418	Post-medieval	Object	Not known	N/A
LB 13636; GGAT00375s	St Nicholas' Church at St Nicholas	ST09027436	Medieval	Religious, Ritual and Funerary	Not known	Listed Building

Reference Number	Name	NGR	Period	Type	Condition	Status
GM009; GGAT00376s	Chambered Tomb, Tinkinswood	ST09267328	Neolithic	Religious, Ritual and Funerary	Near destroyed	Scheduled Monument
GGAT00380s	Inhumation	ST08007177	Unknown	Religious, Ritual and Funerary	Not known	N/A
GM251; GGAT00390s; GGAT02470s	Waterston Earthwork, Llancarfan	ST06797122	Medieval	Defence	Not known	Scheduled Monument
GGAT00643s	Bonvilston	ST0674	Roman	Object	Not known	N/A
GGAT00697s	Liege Castle	ST045734	Medieval	Domestic	Not known	N/A
LB 16321; GGAT00700s	Village Farmhouse	ST06747406	Post-medieval	Domestic	Restored	Listed Building
GGAT00798s	Greendown Grange	ST07067336	Medieval	Agriculture and Subsistence	Not known	N/A
GGAT00932s	House	ST085738	Post-medieval	Domestic	Destroyed	N/A
GGAT00933s	House	ST058717	Medieval	Domestic	Not known	N/A
GGAT00934s	St Nicholas Chambered Tomb	ST06287331	Bronze Age	Religious, Ritual, And Funerary	Near intact	N/A
GGAT00938s	Walter Villa	ST06797122	Medieval	Domestic	Not known	N/A
GGAT01434s	Hearth at Whitton	ST083719	Roman	Unassigned	Not known	N/A
GGAT01439s	House	ST09017435	Post-medieval	Domestic	Not known	N/A
GGAT01497s	Hill Farmhouse	ST08457423	Post-medieval	Domestic	Near intact	N/A
GGAT01573s	Rectangular Mortared Building	ST06797122	Medieval	Unassigned	Destroyed	N/A
LB 13367; GGAT01975s	Three Tuns	ST09177433	Post-medieval	Civil	Not known	Listed Building
GGAT02056s	Church Cottage	ST06427398	Post-medieval	-	Not known	N/A
LB 13463; GGAT02256s	St Nicholas' Church Hall	ST0902774200	Post-medieval	Religious, Ritual and Funerary	Intact	Listed Building
GGAT02349s	Llancarfan	ST05407302	Medieval	Object	Not known	N/A
GGAT02431s	Quarry, Tinkinswood	ST09327330	Unknown	Industrial	Not known	N/A
GGAT02565s	Lime Kiln	ST05807220	Post-medieval	Industrial	Not known	N/A
GGAT02617s	Lime Kiln	ST06207290	Post-medieval	Industrial	Not known	N/A
GGAT02618s	Lime Kiln, St. Nicholas and Bonvilston	ST06207320	Post-medieval	Industrial	Not known	N/A
GGAT02619s	Lime Kiln	ST06207340	Post-medieval	Industrial	Not known	N/A

Reference Number	Name	NGR	Period	Type	Condition	Status
GGAT02620s	Lime Kiln	ST06107230	Post-medieval	Industrial	Not known	N/A
GGAT02621s	Lime Kiln	ST06107290	Post-medieval	Industrial	Not known	N/A
GGAT02622s	Lime Kiln	ST05807220	Post-medieval	Industrial	Not known	N/A
GGAT02624s	Lime Kiln	ST07707170	Post-medieval	Industrial	Not known	N/A
GGAT02625s	Lime Kiln	ST07707180	Post-medieval	Industrial	Not known	N/A
GGAT02629s	Lime Kiln	ST08307206	Post-medieval	Industrial	Not known	N/A
GGAT02958s	Caemaen Farm	ST05187276	Roman	Object	Not known	N/A
GGAT03039s	Whitton	ST081721	Roman	Object	Not known	N/A
GGAT03040s	Whitton	ST08007190	Roman	Object	Not known	N/A
GGAT03705s	Field Boundary, Homri Farm, Peterston-Super-Ely	ST08747519	Unknown	Agriculture and Subsistence	Intact	N/A
GGAT03717s	Coed yr Abad Grange	ST074734	Medieval	Agriculture and Subsistence	Not known	N/A
GGAT03724s	Bonvilston Churchyard	ST06457401	Medieval	Religious, Ritual and Funerary	Not known	N/A
GGAT03774s	St Nicholas Churchyard	ST09027436	Medieval	Religious, Ritual, And Funerary	Not known	N/A
GGAT03803s	Moyl Grange	ST054734	Medieval	Agriculture and Subsistence	Not known	N/A
GGAT03822s	Cotterell Park	ST079744	Unknown	Religious, Ritual, And Funerary	Not known	N/A
GGAT03831s	Human Remains at Soldiers Grave, Bonvilston	ST07057334	Unknown	Religious, Ritual, And Funerary	Not known	N/A
GGAT03869s	Redlands Farm, Bonvilston 9	ST082737	Medieval	Water Supply and Drainage	Damaged	N/A
GGAT03870s	Redlands Farm, Bonvilston 15	ST07767382	Post-medieval	Agriculture and Subsistence	Intact	N/A
GGAT03871s	Redlands Farm, Bonvilston 14	ST08667341	Post-medieval	Transport	Damaged	N/A
GGAT03872s	Redlands Farm, Bonvilston 13	ST08077318	Post-medieval	Water Supply and Drainage	Damaged	N/A
GGAT03873s	Redlands Farm, Bonvilston 12	ST08367356	Post-medieval	Monument (By Form)	Damaged	N/A
GGAT03874s	Redlands Farm, Bonvilston 11	ST08437352	Post-medieval	Domestic	Near destroyed	N/A
GGAT03875s	Redlands Farm, Bonvilston 10	ST08147370	Post-medieval	Gardens, Parks and Urban Spaces	Not known	N/A
GGAT03876s	Cropmark, Redlands Farm, Bonvilston 1	ST08507391	Post-medieval	Unassigned	Not applicable	N/A
GGAT03877s	Redlands Farm, Bonvilston 22	ST08467355	Post-medieval	Monument (By Form)	Near intact	N/A
GGAT03878s	Redlands Farm, Bonvilston 7	ST08637320	Post-medieval	Transport	Not Known	N/A

Reference Number	Name	NGR	Period	Type	Condition	Status
GGAT03879s	Redlands Farm, Bonvilston 6	ST08787323	Post-medieval	Domestic	Damaged	N/A
GGAT03880s	Redlands Farm, Bonvilston 5	ST08797320	Post-medieval	Transport	Damaged	N/A
GGAT03881s	Redlands Farm, Bonvilston 4	ST08787321	Post-medieval	Agriculture and Subsistence	Damaged	N/A
GGAT03882s	Hollow Way, Redlands Farm, Bonvilston 18	ST08677376	Post-medieval	Transport	Damaged	N/A
GGAT03883s	Redlands Farm, Bonvilston 17	ST08607359	Post-medieval	Monument (By Form)	Near Intact	N/A
GGAT03884s	Redlands Farm, Bonvilston 16	ST085736	Post-medieval	Transport	Near Intact	N/A
GGAT03899s	Tyn y Coed Farm, Bonvilston 3	ST06577381	Unknown	Water Supply and Drainage	Near Intact	N/A
GGAT03900s	Tyn y Coed Farm, Bonvilston 1	ST06027270	Unknown	Water Supply and Drainage	Near Intact	N/A
GGAT03901s	Tyn y Coed Farm, Bonvilston 2	ST06287331	Unknown	Religious, Ritual and Funerary	Not Known	N/A
GGAT03996s	Greendown cropmark	ST06047227	Unknown	Monument (By Form)	Not Known	N/A
GGAT04147s	Ring Ditches, Whitton Cross	ST0776271815	Unknown	Monument (By Form)	Near Destroyed	N/A
GGAT04148s	Ring Ditch, Whitton Cross	ST0778272208	Unknown	Monument (By Form)	Near Destroyed	N/A
GGAT04165s	Earthwork, Leige Castle Chapel Yard	ST0563872986	Medieval	Monument (By Form)	Near Destroyed	N/A
GGAT04393s	Pond, Bonvilston, Vale of Glamorgan	ST0827473764	Unknown	Water Supply and Drainage	Not Known	N/A
GGAT04394s	Pond, Coed y Cwm, Bonvilston, Vale of Glamorgan	ST0859273575	Unknown	Water Supply and Drainage	Not Known	N/A
GGAT04395s	Pond, Brook Wood, Dyffryn, St Nicholas, Vale of Glamorgan	ST0826972804	Unknown	Water Supply and Drainage	Not Known	N/A
GGAT05689s	Llaneinydd, St Nicholas	ST0890074285	Modern	Domestic	Intact	N/A
GGAT05691s	Ty To Gwellt, St Nicholas	ST0894474340	Post-Medieval	Domestic	Near Intact	N/A
GGAT05693s	Duffryn Lodge, St Nicholas	ST0960572894	Post-Medieval	Domestic	Near Intact	N/A
GGAT05694s	Trehill Chapel, St. Nicholas	ST0862874272	Post-Medieval	Religious, Ritual and Funerary	Near Intact	N/A
GGAT05695s	Stone Style, St Nicholas	ST0919774094	Post-Medieval	Transport	Near Intact	N/A
GGAT05696s	Dyffryn Close, St. Nicholas	ST0929873989	Modern	Domestic	Near Intact	N/A
GGAT05697s	Mounting Block, Trehill, St. Nicholas	ST0864874222	Post-Medieval	Transport	Not Known	N/A
GGAT05786s	Chamber Tomb Tyn y Coed Bonvilston	ST0673	Prehistoric	Religious, Ritual and Funerary	Near Destroyed	N/A
GGAT05839s	Coach House, Llaneinydd, St Nicholas	ST0889974324	Post-Medieval	Transport	Not Known	N/A

Reference Number	Name	NGR	Period	Type	Condition	Status
GGAT05886s	St Nicholas War memorial, St Nicholas, Vale of Glamorgan	ST0905074324	Modern	Commemorative	Intact	N/A
GGAT06126s	Village Farmhouse, St Nicholas	ST0908274357	Post Medieval	Domestic	Not Known	N/A
LB 16391; GGAT06127s	Bonvilston Cottage, Bonvilston	ST0639874014	Post Medieval	Domestic	Not Known	N/A
LB 13245; GGAT06128s	Telephone Box, St Nicholas	ST0904374291	Modern	Gardens, Parks and Urban Spaces	Not Known	N/A
LB 13246; GGAT06129s	Pillar Box, St Nicholas	ST0904474288	Modern	Gardens, Parks and Urban Spaces	Not Known	N/A
LB 16322; GGAT06131s	Tomb, Church of St Nicholas	ST0899374371	Modern	Religious, Ritual and Funerary	Not Known	N/A
LB 16323; GGAT06136s	Blacksmiths Cottages, 3 Smiths Row, St Nicholas	ST0898074267	Post Medieval	Domestic	Not Known	N/A
LB 16326; GGAT06137s	Church Hall House, St Nicholas	ST0901674256	Post Medieval, Modern	Education, Domestic	Not Known, Converted	N/A
LB 16327; GGAT06138s	Cottrell Lodge, St Nicholas	ST0793374185	Post Medieval	Unassigned	Not Known	N/A
GGAT06185s	Old School House, St Nicholas	ST0895674313	Post Medieval	Education, Domestic	Not Known	N/A
GGAT06187s	Trehill Cottage, St Nicholas	ST0862174225	Post Medieval	Domestic	Not Known	N/A
GGAT06256s	Mounting block, Pwll Sarn Farm	ST0880974241	Unknown	Gardens, Parks and Urban Spaces	Not Known	N/A
GGAT06257s	Manor House, Duffryn Lane, St Nicholas	ST0910474280	Post Medieval	Domestic	Not Known	N/A
GGAT06258s	Mwddlescwm ruins, Brook Lane	ST0882574013	Post Medieval	Domestic	Not Known, Near Destroyed	N/A
LB 16234; GGAT06281s	Blacksmiths Cottages, 4 Smiths Row, St Nicholas	ST0899174270	Post Medieval	Domestic	Not Known	Listed Building
LB 16235; GGAT06282s	Blacksmiths Cottages, 5 Smiths Row, St Nicholas	ST0899974273	Post Medieval	Domestic	Not Known	Listed Building
GGAT06375s	Sheepcourt Farm, Bonvilston	ST0704274110	Post Medieval	Domestic	Not Known	N/A
GGAT06376s	Sheepcourt Cottage, Bonvilston	ST0714174097	Post Medieval	Domestic	Not Known	N/A
GGAT06377s	Red Lion, Bonvilston	ST0664174052	Post Medieval	Commercial	Not Known	N/A
GGAT06378s	Red Lion Cottages, Bonvilston	ST0662274024	Post-medieval	Domestic	Not Known	N/A
GGAT06379s	Woodland Lodge, Bonvilston	ST0657074048	Post-medieval	Unassigned	Not Known	N/A
GGAT06382s	Plasnewydd, Bonvilston	ST0655074004	Modern	Domestic	Not Known	N/A
GGAT06386s	Button Ride, St Nicholas	ST0930573935	Modern	Domestic	Not Known	N/A

Reference Number	Name	NGR	Period	Type	Condition	Status
GGAT06389s	Westways, St Nicholas	ST0902274292	Post-medieval	Domestic	Not Known	N/A
GGAT06390s	Village pump, St Nicholas	ST0902574395	Post-medieval	Water Supply and Drainage	Not Known	N/A
GGAT06725s	Leige Castle Farmstead	ST0558073204	Post-medieval	Farmstead	Moved	N/A
GGAT06726s	Ty'n-y-coed Outfarm	ST0621773072	Post-medieval	Farmstead	Moved	N/A
GGAT06728s	Whitton Rosser Farmstead	ST0726472128	Post-medieval	Farmstead	Moved	N/A
GGAT06758s	Pwll Sarn Farmstead	ST0881074262	Post-medieval	Farmstead	Moved	N/A
GGAT06807s	Blackland Farm	ST0774372795	Post-medieval	Farmstead	Moved	N/A
GGAT06808s	Tinkinswood Farmstead	ST0952273379	Post-medieval	Farmstead	Moved	N/A
GGAT06809s	Tinkinswood Farmstead	ST0941873240	Post-medieval	Farmstead	Moved	N/A

4.3 Registered Historic Landscapes (Figure 2)

4.3.1 The Registered Historic Landscape of Llancarfan (HLW (SG) 1) is partially located within the western extent of Area 1 of the proposed development area. This landscape is separated into twelve Historic Landscape Characterisation Areas (HLCAs), and the site is located within HLCA 010 Bonvilston Amalgamated Fieldscape. The landscape as a whole has been described by Cadw and GGAT as a secluded valley:

[...] situated in the central plateau of the vale, [and] is one of the best surviving and most complete, typical example of the historic landscape of the Vale of Glamorgan as a whole. The setting of the large church within its picturesque, nucleated village is typical of the strong, monastic, and Anglo-Norman influences in the vale, as demonstrated elsewhere such as Llandough, Llantwit Major and Merthyr Mawr. The focal setting of the ancient church at Llancarfan, itself testimony to early Welsh Christianity, can also be regarded as typical of the regional settlement pattern as a whole.

4.3.2 Bonvilston Amalgamated Fieldscape, HCLA 010, is characterised by large agricultural fields, amalgamated from smaller post-medieval and medieval field systems. Defining this characteristic further are the traces of earlier medieval strip fields, and the preservation of cropmarks, earthworks, and quilllets.

4.4 Registered Historic Park and Gardens (Figure 2)

4.4.1 There are three Registered Historic Park and Gardens located within the 3km study area: Dyffryn Gardens (PGW(Gm)32(GLA)); Llantrithyd Place (PGW(Gm)43(GLA)); and, Coedarhydyglyn (PGW(Gm)40(GLA)).

- Dyffryn Gardens are a Grade I Listed Registered Historic Park & Gardens, located c. 450m south-east of Area 2. The gardens at Dyffryn have been described as the grandest and most outstanding example of Edwardian gardens in Wales, comparable to some of the most extravagant gardens of this period in Britain. Within the grounds of Dyffryn Gardens are several Listed Buildings, mostly relating to the landscaped gardens, but also the Grade II* Dyffryn House itself (LB 13469). These Listed Buildings are described below.
- Llantrithyd Place is a Grade II* Listed Registered Historic Park and Garden located on two sites. The mid-17th century deer park lies c. 1.1km to the north-west of Area 1, while the 16th century garden is c. 1.6km west of Area 1. Both aspects are listed for their remarkable survival and their association with the prominent Glamorgan families the Bassets, Mansels, and Aubreys. The garden is noted for its complexity, including terraces, ponds, and walks.
- Coedarhydyglyn is a Grade II* Listed Registered Historic Park and Garden, located c. 1.8km north-east of Area 2. It is an early 19th century landscaped park with a villa (LB 14864) set in the centre surrounded by sloping lawns. A walled garden in the south of the Park is thought to be a kitchen garden of previous 18th

century houses. Early 20th century additions to the Park included a woodland dell with Japanese features and terraces to the southern lawn.

4.5 Conservation Areas (Figure 2)

4.5.1. There are six Conservation Areas within a 3km study area: Bonvilston, Llancarfan, Llantrithyd, Peterston-Super-Ely, St Nicholas, and Drope.

- Bonvilston Conservation Area is located c. 800m to the north of the site. It is a low density, linear village located on the A48, thought to be the route of the principal Roman road between Cardiff and Cowbridge. The village sits within undulating countryside on an east – west ridge which provides dramatic views southwards towards the Severn Estuary.
- St Nicholas Conservation Area is located c. 600m north-east of the site, and 1.3km immediately east of Bonvilston along the A48. The village is similar to Bonvilston, also being a linear village along A48 with views towards the Severn Estuary. St. Nicholas Church, its churchyard, and the village green, lie to the north of the main road and provide a central focus to the village away from the busy traffic.
- Llantrithyd Conservation Area is located c. 1.5km to the west of the site. It is a small historic area, part of a widely dispersed settlement in a rural setting of open fields and woodland. The settlement is scattered around a central open field from which lanes radiate to outlying hamlets and farmsteads.
- Llancarfan Conservation Area is located c. 2.3km south-west of the site. The Conservation Area covers almost the whole of Llancarfan, including a great deal of 1960s or later development which has over the years matured and in places become part of the street scene. The principal feature of the village is the medieval church dedicated to St Cadoc, with a large, attractive churchyard next to the stream, and most of the surviving historic buildings are located close to this central core.
- Peterston-Super-Ely Conservation Area is located c. 2.4km to the north of the site, and it is located partially within the 3km study area. The historic core is set around St. Peter's Church whose rectangular churchyard is bounded on three sides by a narrow lane that leads from the village's main north-east to south-west thoroughfare. The southern side of the churchyard is bounded by the curtilage of a former Victorian School. The settlement pattern has two elements: a dispersed cluster of old and new buildings around the churchyard and linear development beside the main thoroughfare.
- Drope Conservation Area is marginally located within the 3km study area, and it is c. 2.9km to the north-east of the site. Drope is a small hamlet comprising of three former farms and a small group of houses which is enclosed by trees and hedges and stands isolated from major development to the east of the A4232.

4.6 Scheduled Monuments (Figure 3)

- 4.6.1 Scheduled Monuments are sites considered to be of national importance and have statutory protection under the Ancient Monuments and Archaeological Areas Act 1979. No Scheduled Monument lies within the boundary of the proposed development area, but there are twenty-two Scheduled Monuments within the 3km study area.
- 4.6.2 Castle Ringwork 850m ENE of Ty'n-y-Coed (GM613) lies within 50m of the northern boundary of Area 1. The monument comprises of the remains of a well-preserved castle-ringwork, which dates to the medieval period (c. AD 1066 - 1485). There is no medieval record of the castle, but it was probably built by the de Bonville family. The ringwork is roughly oval in plan, but the north corner is distinctly right-angled. It measures 70m in length north – south by 55m in wide. The enclosing bank measures a maximum of 2m in height and stands above a ditch, which measures a maximum of 5m in width and 1.5m in depth. The flat internal area measures 51m north – south by 37m transversely and gently slopes to the south. The entrance is probably located on the east side, where a simple gap in the bank is accessed via a causeway across the ditch.
- 4.6.3 Coed y Cwm Ringwork (GM117) is located within 50m of the north-east corner of Area 2. The remains consist of a well-preserved medieval period castle-ringwork, situated in woodland on flat ground overlooking a small valley to the north-east. It consists of a circular bank with external ditch and flat interior, which is higher on the southern side of the monument. On the north and west sides, the ditch is 2m wide with a flat bottom. There is no bank outside the ditch, and the bank on the inside is c. 0.5m high. On the west side is a causeway 6m wide across the ditch. On the east side the ground outside the ringwork slopes away to the valley, and there is a bank outside the ditch 5m wide and 1m high, with a berm outside it 1.5 m wide and 0.6 m high. The external bank stops at the north end where the ringwork curves around to the west, away from the slope. Half-way along the east side is a narrow gap, 1 m wide, through both banks.
- 4.6.4 Approximately 200m north-east of Area 2 is the Coed-y-Cwm Chambered Cairn (GM116). The monument consists of the remains of a chambered tomb that dates to the Neolithic period. The ruined burial chamber consists of one large stone with two smaller stones to the south. This larger stone is pitted and measures c. 2.7m in length, a maximum of 1m wide and 0.9m in thickness, lying slightly tilted towards the southwest. On its north-eastern side, it is propped up by small stones.
- 4.6.5 Tinkinswood Burial Chamber (GM009) is approximately 400m to the east of Area 2. It is a Neolithic long cairn. Excavated in 1914, it was a communal tomb of the Cotswold-Severn tradition, with its trapezoidal plan and forecourt with chamber opening off it. The mound is straight-sided, relatively squat, and not as tapered as most in this group. The surface slopes gradually up towards the east, chamber end, leaving the capstone uncovered. Whether or not this was originally covered by the mound is not known.

- 4.6.6 Castell Moel (GM298) is a hillfort that potentially dates to the Iron Age, and it is located approximately 850m north-west of Are A. The hillfort comprises an apparently unfinished bank and ditch surrounding a rectangular area on the top of the hill, with flattened banks following the contour of the hill down-slope, particularly on the western side.
- 4.6.7 The monument of Cottrell Castle Mound (GM364) is a motte and ditch, dating to the medieval period, and located c. 850m north-east of Area 2. It consists of a flat-topped mound, 35m in diameter with the top measuring 21m in diameter. The sides are of varying height and steepness; on the west the side is 2.5m high with no ditch. On the north it is 2m high with a 5m wide berm and then a further drop of 1.5m. The east side is less well defined, 2.2m high with a 4m wide berm and a further 1m steep drop. The south side is less steep and measures 1.5m high with a ditch 1.5m wide by 1m deep outside it.
- 4.6.8 Walterston Ringwork (GM251) comprises of the remains of a ringwork enclosure dating to the 12th century and is located 960m south of Area 3. The enclosure is situated on the west side of a small stream and consists of a bank with discontinuous outer ditch. The bank is c. 1m high and 9m wide with a flattish top. The outer ditch is c. 6m wide, very shallow, and flat-bottomed. Outside it is a small bank c. 0.3m high. In the middle the bank tapers out and the ground outside the bank is uneven and higher with stones showing. To the north of this is a hollow area c. 3m in diameter, 1m deep with the bank 2.5m high on the inside. Excavation in 1995 confirmed the origins of the enclosure lie in the 12th century.
- 4.6.9 Llanvithyn Camp (GM293) is a probable Iron Age hillfort located 1km south-west of the proposed development area. There are steep slopes all round except on the west where there is slightly rising ground. The hillfort consists of a double row of banks and ditches across the west end of the promontory. The outer bank is 1.7m high and 23m wide, with an outer ditch 4m wide and 0.8m deep on the outside. There is then a 6m wide ditch followed by another bank 1.5m high and 14m wide, with an external height of 1.2m. The outer bank is cut at its southern end by a modern farm track but continues beyond this as a very low bank down a steep slope to a small stream. The inner bank does not continue down the slope on the south side. On the north side the outer and inner banks continue a short distance down the slope, curving round to the east and then petering out.
- 4.6.10 Cottrell Ringwork (GM096) is the remains of a well-preserved castle ringwork which dates to the medieval period. It is located c. 1km to the north of the Area 2. The ringwork stands on the summit of a small hill, with panoramic views all round. The ground falls away on all sides, but less steeply to the south. The site consists of a flat-topped mound 2m – 2.5m high, with a discontinuous external ditch. The sides of the mound and the ditch are steep. The top of the mound is flat and 48m in diameter. There is no bank on the perimeter to the north, and a negligible one on the east. On the east and north-east it is c. 1m high. On the south side the bank is c. 2m high, with

a 2m wide gap in the middle which connects a causeway of similar width across the ditch. On the north side the bank is 2.5m high. The discontinuous ditch is found to the north-east and east, where it is c. 2m wide and 1m deep, then breaks before starting again to the south, where it is crossed by a 2m wide causeway. To the west of the causeway the ditch is at its deepest and steepest – 1.8m high on the outside, with the side of the mound 2.8m high – before shallowing on the west side of the ringwork.

4.6.11 The Iron Age defended enclosure of Y Gaer (GM079) is 1.5km to the north of the site, just to the north of the village of Bonvilston. It consists of two oval concentric enclosures, separated by a space of approximately 10m. The inner enclosure measures 65m long from east to west by 50m, the outer measures 120m long by about 105m. Each enclosure is defended by a single bank which has been reduced to a scarp except on the eastern and western sides of the inner circuit and on the north-west of the outer circuit. The banks are 10.5m to 12m wide. The internal height of the banks is slight except on the north-west of the outer circuit where it reaches 1.5m. The external bank height averages nearly 2.5m. A shallow external ditch 6m – 9m wide is visible along part of the western side. The entrance through both ramparts is on the north; the inner entrance appears to be slightly in-turned but its western side is disturbed. A stony hollow at the centre of the enclosures is probably the site of a building which is shown on the Ordnance Survey map of 1813.

4.6.12 Approximately 1.6km west of the site is the remains of Llantrithyd Medieval House Site (GM282) and Llantrithyd Place (remains of house, relict gardens, and wells) (GM555). GM282 comprises the remains of an embanked enclosure containing the remains of a rectangular building, which probably dates to the medieval period. The site is situated on level ground on the east side of a valley close to a stream. A bank and ditch measuring c. 55m by 45m enclose the north, east and south sides, with evidence of a rectilinear building in the north-east corner. The north-western side of the enclosure has been removed through past quarrying. GM555 consists of the remains of a 16th century house, including outbuildings, gardens and three covered wells that supplied water to the house via an underground pipe. The complex was built by families of high social status within the county and the gardens are of a scale and sophistication that is rare in Wales. The gardens' structure and layout survive largely unaltered from the 16th century, meaning they have high archaeological potential. Very few Tudor gardens survive in Wales and of those that do only a very small number are of the complexity and sophistication of those of Llantrithyd Place. The relict gardens are formal in character and comprise a number of inter-linked elements. Around and below the house is a series of terraces, at the foot of which are ponds fed by a canalised stream. There are a number of ruined buildings at the foot of the terraces. A raised walk encloses one end of the terraces and continues to a gazebo, built on a high platform, on the opposite side of the valley. Below the ponds is a large walled enclosure through which runs the canalised stream, flanked by a raised walk. Three covered wells that supplied water to the house, via an underground pipe, are situated on the flank of the valley a short distance to the south of the gardens.

- 4.6.13 Approximately 1.3km to the south-east of the site is the Doghill Moated Site, Dyffryn (GM069). The site consists of the well-preserved remains of a moated site of probable early medieval date. The site comprises a central platform that is square in plan and measures c. 35m in length within a well-defined and distinct moat.
- 4.6.14 Horseland Moated Homestead (GM388) is of medieval date, located c. 2km to the west of the site. The raised interior of the homestead probably measures roughly 38m east-north-east to west-south-west by 30m transversely, within a moat that measures about 4m in width where best preserved and about 0.8m in depth. The moat has been infilled on the west side but is well-preserved on the east side. A raised area on the north-west corner may represent a causewayed entrance. The grass-covered stone foundations of a building are contained within the interior. Moated homesteads were defended manor houses, although the moats were constructed more to impress as symbols of wealth and power than as defensive works for military might. It is likely that the site was the predecessor to the sixteenth-century manor house of Llantrythyd Place.
- 4.6.15 Llantrithyd Camp (GM257) is a prehistoric enclosure located c. 2.3km west of the development area. The enclosure is roughly circular, enclosed by a low bank with another outer bank in places. On the south-east side the bank has been destroyed by past quarrying.
- 4.6.16 Located 2.3km to the north of the development area is GM365, Two Cooking Mounds E of Ty'n-y-Pwll. It comprises of two burnt mounds possibly dating to the Bronze Age. The first mound is covered in grass and reed and measures 0.3m in height, 14m in length and 7m in width and is located in the highest part of the field. The second mound is also grass and reed covered and is circular in plan, measuring 0.3m in height, with a diameter of 5m. The monument is of national importance for its potential to enhance our knowledge of prehistoric ritual and funerary practices.
- 4.6.17 The Site of Llancarfan Monastery (GM075), located c.2.5km to the south-west of the site, is the remains of a medieval monastery which has been grown over. The site is a grass field, with the only visible feature being a low mound to the north of the site. A circular structure also shows up as a crop mark. The site is considered of national importance due to its potential to enhance our knowledge of medieval monastic sites.
- 4.6.18 Approximately 500m to the east of GM075 is the prehistoric hillfort of Castle Ditches (GM071). The hillfort is situated on the western end of an east – west ridge. The ground slopes steeply away to the north, west, and south. The interior is flat and is divided into several fields. The fort is defended by a large, well-preserved bank, an external ditch on most sides, and in places a counterscarp bank. The entrance is on the south side.
- 4.6.19 Moulton Roman Site (GM253) is 2.5km to the south of the development area. Evidence for Roman occupation was discovered during excavations in the late 1950s.

The remains of a building complex with plastered walls, opus signinum, sandstone roof slabs and Samian ware suggests that the site may have been a rural villa. The site has significant potential to enhance our knowledge of Romano-British society in south Wales.

- 4.6.20 The Remains of Peterston Castle (GM450) is located c. 2.7km north of the development area. It comprises of the remains of the north-west angle tower that dates to the 13th/14th century. The tower had three floors; the uppermost floor only has the beam holes of its floors remaining. The west wall has a splayed window with a segmented headed rear arch. There are traces of other windows at ground floor level in the north wall, and a garderobe chute in the south-west angle.
- 4.6.21 Two Round Barrows 300m North of Tair Onnen (GM390) is c. 2.8km to the north-west of the site. It comprises of two earthen built round barrows, dating to the Bronze Age. Barrow A is a low mound measuring c. 0.7m high by 30m in diameter, and Barrow B is a low indeterminate mound c. 0.3m high on the eastern edge of the field.
- 4.6.22 St Lythan's Burial Chamber (GM008) is 3km to the east of the site. It dates to the Neolithic Period and consists of a low, roughly rectangular 30m long mound with a burial chamber to the eastern end. The chamber has an entrance on the east side and is constructed from three large mudstone uprights and a capstone. It is unusually high and may never have been completely covered by the surrounding mound.

4.7 Listed Buildings (Figure 3)

- 4.7.1 No Listed Buildings lie within the proposed development area.
- 4.7.2 There are 72 Listed Buildings within the 3km study area, these include two Grade I, eight Grade II* and 62 Grade II Listed Buildings.
- 4.7.3 The village and Conservation Area of Bonvilston is located c. 800m to the north of the site, and within the village there are five Grade II Listed Buildings. These include Bonvilston Cottage (LB 16319) a two-storey Regency house, Parish Church of St Mary the Virgin (LB 13602) and its churchyard cross (LB 16320), Ty Mawr (Great House) (LB 13603) a house with 16th century origins and late-Georgian remodelling, and Village Farmhouse (LB 16321) which has early 18th century origins.
- 4.7.4 Just to the north of the A48 between the villages of Bonvilston and St Nicholas, 680m to the north of the proposed development area, is the Grade II Listed Building of Cottrell Lodge (LB 16327), which dates to the late 17th/early 18th century.
- 4.7.5 The village and Conservation Area of St Nicholas is located c. 600m to the north-east of the site and has ten Listed Buildings within it. The Parish Church of St Nicholas (LB 13636) is a Grade II* Listed Building with 14th century origins. The remaining buildings within St Nicholas are Grade II Listed Buildings. These include Cory Family Chest-Tomb at Parish Church of St Nicholas (LB 16322), Telephone Call-box on corner with road to

St Nicholas' Church (LB 13425), GPO Pillar on corner with Road to St Nicholas' Church (LB 13426), Smiths Row (also known as Blacksmiths Cottages) (LB 16323, 16324 & 16325), Church Hall House (former Cory Institute) (LB 16326), Tinkins Hall (former Cory Institute) (LB 13463), and The Three Tuns (LB 13637) supposedly a former inn and now in residential use.

- 4.7.6 The village of Walterston lies c. 1km south of the site and has three Listed Buildings within it. Trewallter Fawr Farmhouse (LB 13606) is a Grade II* Listed Building gentry farmhouse of early 17th century origins. There are also two Grade II Listed Buildings: Barn at Trewallter Fawr (LB 16413) and Walterstone Fach (LB 14070).
- 4.7.7 Dyffryn is located c. 900m to the south-east of the site and the majority of the Listed Buildings here are related to Dyffryn House and Gardens (see section 4.3 above). Duffryn House (LB 13469) is a Grade II* Listed Building, and the current house dates to the late 19th century, although there had previously been an Elizabethan house on the site. There are seven Grade II Listed Buildings related to the gardens at Duffryn House: Walled Garden at Dyffryn House (LB 13472), Lion Steps (LB 26989), Lower South Terrace at Dyffryn Gardens (LB 26988), Pompeian Garden at Dyffryn House (LB 13471), Fountain to South of Dyffryn House (LB 13470 & 26987), and Vine Walk and Kiosks (LB 26990). A further Grade II Listed Building lies further south of Dyffryn House and Gardens, and this is the 18th century thatched cottage of Well House (LB 26991).
- 4.7.8 Llanvithyn is 1.45km south-west of the site and there are six Listed Buildings clustered around the village. Garnllwyd Farmhouse (LB 13592) is a Grade II* Listed Building, and it is first recorded in 1441, and immediately north-west is the Grade II Listed Barn at Garnllwyd (LB 13437). The other Listed Buildings are all Grade II and consist of; Llanfythin Millhouse (LB 16411), Llanfythin Mill (LB 13611), Llanfythin Farmhouse (LB 13595), and Gatehouse at Llanfythin Farmhouse (LB 13610).
- 4.7.9 Llantrithyd is located 1.6km west of the site, and the Grade II Listed Building of the Ruins of Llantrithyd Place (LB 13594) is situated here (this is also a Scheduled Monument – see section 4.4.12). Just to the north of Llantrithyd Place is St Illtyd's Parish Church (LB 13609) which is a Grade II* Listed Building, and the Grade II Listed Telephone Call-box to N of parish Church (LB 13440).
- 4.7.10 To the south-west of Llantrithyd is the Grade II Listed Circular Pigsty at the Meadow (LB 16412). Further west is Ty-draw Farmhouse (LB 19227) and Agricultural Range at Ty-Draw Farmhouse (LB 19228), which are both Grade II Listed.
- 4.7.11 Approximately 1.37km to the east of the site, and just to the north-west of Dyffryn, is the small community of Nant Bran. There are four Grade II Listed Buildings located here; Nant Bran Farmhouse (LB 19890), Former Bull Shed at Nant Bran Farm (LB 19893), Outbuilding to N of Nant Bran Farmhouse (LB 19892), and Agricultural Range opposite Nant Bran Farmhouse (LB 19891). Just a little farther to the east of Nant Bran is the Grade II* Listed Building of the Church of St Bleiddian (LB 13635).

- 4.7.12 Approximately 2.3km to the north-east of the site is 19th century mansion house of Coedarhydyglyn. Within the grounds of the house there are several Listed Buildings. The house, Coedarhydyglyn including attached outbuildings at rear (LB 14864) is Grade I Listed, the Coach-house and stables at Coedarhydyglyn (LB 14865) is Grade II* Listed. There are also two Grade II Listed Buildings, Gate and gatepiers beside South Lodge at Coedarhydyglyn (LB 14867) and Gate and gatepiers midway along S drive at Coedarhydyglyn (LB 14866).
- 4.7.13 Cae'rwigau Uchaf (LB 2211) is a Grade II Listed farmhouse of Late Medieval origins, it is located approximately 2.4km north of the site, and 300m farther north is Cae'rwigau Isaf (LB 13596), a dwelling with 16th century origins.
- 4.7.14 There are two Listed Buildings within the village of Llancarfan, located 2.5km to the south of the site. St Cadoc's Parish Church (LB 13605) is Grade I Listed which has 12th century origins and was remodelled in the 13th and 14th centuries. There is also the Grade II Listed Telephone Call-box between Parish Hall and the bridge (LB 13438).
- 4.7.15 Wyndham Park is 2.7km to the north-east, and there are a number of Grade II Listed dwellings in this area. These include numbers 1 to 10 Pwll-y-Min Crescent (LB 26952, 26949, 26950, 26951, 25604, 26953, 26954, 26955, 26956, and 26957), numbers 4 and 6, 8 and 10, and 16 and 18 Cory Crescent (LB 26944, 26945, and 26946).
- 4.7.16 Just to the north of Wyndham Park is the village, and Conservation Area, of Peterston-Super-Ely. Within the village there is the Grade II* Listed Church of St Peter (LB 13618), and two Grade II Listed Buildings: Telephone Call-box outside Fircot (LB 13441) and Rectory House (aka The Old Rectory) (LB 26943).
- 4.7.17 Approximately 0.6km to the south-west of Wyndham Park are a further two Grade II Listed Buildings; Croes-y-Parc Baptist Chapel (LB 13489) and Monument to Dafydd William at Croes-y-Parc Baptist Chapel (LB 26948).
- 4.7.18 The small hamlet of Lidmore is located 2.8km to the south-east of the site, and within it is the Grade II Listed Building of Lidmore Farmhouse (LB 26995), which has 18th century origins.

4.8 Historic Environment Record and Royal Commission on the Ancient and Historical Monuments of Wales (Figure 4)

- 4.8.1 There are 143 sites recorded on the regional Historic Environment Record (HER) and by the Royal Commission on the Ancient and Historical Monuments of Wales (RCAHMW) within the 1km study area.
- 4.8.2 A search of artefacts and coins recorded within the Portable Antiquities Scheme database (www.finds.org.uk) within the same search area recorded eight finds from the 'Bonvilston' area. These are included in the historical development below.
- 4.8.3 The recorded archaeological sites are briefly described below, according to period, where they are incorporated into a summary of the historical development of the area.

Prehistory (Mesolithic 9000-4000 BC; Neolithic 4000-2500 BC; Bronze Age 2500-800 BC; Iron Age 800 BC- 43 AD)

- 4.8.4 These prehistoric activity in the area is well represented by sites ranging from the Neolithic to the Iron Age.
- 4.8.5 The Neolithic sites are mostly funerary monuments. Tinkinswood Burial Chamber (GGAT00374s; GGAT02432s; GGAT00376s; NPRN 94510), located c. 400m to the east of Area 2, and Coed-Y-Cwm Chambered Cairn (GM116; GGAT00369s; NPRN 275858), located c. 200m to the north of Area 2, are both Scheduled Monuments and have been discussed above.
- 4.8.6 Chamber Tomb Tyn y Coed, Bonvilston (GGAT05786s) is located in the south-western corner of a field due south of the A48 at Bonvilston. It consists of two stones, a collapsed capstone and evidence of an orthostat.
- 4.8.7 Tinkinswood Standing Stone (GGAT02433s; GGAT02434s; NPRN 307726) was recorded by OS fieldworkers in 1957 as being about 7ft wide and 4ft high and set vertically in the ground.
- 4.8.8 Evidence for Bronze Age activity relates to the standing stones of Redland (GGAT00370s) and Cottrell Park (GGAT00372s), and St Nicholas Chambered Tomb (GGAT00934s). The tomb is a fine example of a portal dolmen funerary monument. The dolmen is a large conglomerate and is currently situated in the corner of a pasture field between two mature trees. Also, just to the west of Bonvilston, a Bronze Age axe head (GGAR00365s) was recorded as being discovered in the area.
- 4.8.9 Iron Age activity is also recorded in the area. This activity consists of two hillforts that are Scheduled Monuments; Castell Moel (GM298; GGAT00359s) and Llanvithyn Camp (GM293). These are described above (see section 4.4).

Roman (43 AD – 410 AD)

- 4.8.10 The Roman military arrived in Britain in AD 43, bringing large parts of lowland England under their control by the summer of AD 47. By the AD 50s and 60s, attention turned to the conquest of Wales, and Roman forces were soon fighting the Iron Age tribes of Wales (Williams 1985, pp. 1-2). Wales was finally brought under Roman control in AD 76/77.
- 4.8.11 There is significant Roman activity known within the Vale of Glamorgan as a whole. The nearby town of Cowbridge was a known Roman centre with significant finds over the last few decades. Also, the present day A48, which runs through the villages of Bonvilston and St Nicholas, is thought to follow the course of a Roman road.
- 4.8.12 There are five records within the HER data of Roman origin. GGAT00643s refers to a hoard of silver coins which were found at Bonvilston, including two Vespasian, two Nerva, eight Trajan, nine Hadrian and one Sabina. GGAT02958s refers to an Oxford flagon neck, a 2nd century coin and lead seal. GGAT03039s refers to a find of late Roman pottery. GGAT03040s refers to a find of Roman silver coins and human bone.
- 4.8.13 The Hearth at Whitton (GGAT01434s) was a Roman hearth which included finds of iron clinker, Roman sherds of pottery and tile fragments. Later Roman pottery along with coins were also discovered.
- 4.8.14 There have also been Roman coins discovered within the area recorded via the Portable Antiquities Scheme. Two hoards have been found in the area containing coins dating to the 1st to 2nd century AD, and six individual coins have been found in the area dating to the 1st to 3rd century AD.

Early Medieval (AD 410 – AD 1086) & Medieval (1086 – 1536)

- 4.8.15 The early medieval history of Wales is often fragmented and poorly documented, but by the 11th century there were four main kingdoms, Gwynedd in the north, Powys in the centre, Deheubarth in the south-west, and Morgannwg in the south-east (Carr 1995, p. 27). However, the Norman Conquest of 1066 changed the political landscape in England and Wales in the following decades and centuries.
- 4.8.16 There is significant evidence of medieval activity within the study area, and within the wider area of the Vale of Glamorgan.
- 4.8.17 The most significant of these are the two Scheduled Monuments of Castle Ringwork 850m ENE of Ty'n-y-Coed (GM613), also known as Bonvilston Ring and Soldiers' Grave (GGAT00696s; GGAT03830s; NPRN 227997), and Coed y Cwm Ringwork (GM117; GGAT00368s; NPRN 301256). Both monuments are believed to be of similar date and are situated within very close proximity of the site. Castle Ringwork is 42m north-east of Area 1's northern boundary, whereas Coed y Cwm Ringwork is immediately adjacent to the northern boundary of Area 2.
- 4.8.18 A number of the recorded medieval sites refer to ecclesiastical sites. There are two

Granges: Greendown Grange (GGAT00798s) and Coed yr Abad Grange (GGAT03717s). Greendown Grange belonged to Margam Abbey, and is associated with Bonvilston, where the monks took over a manorialised vill and continued to work it without turning it into a grange proper. Nothing remains to indicate the site of the grange, Coed yr Abad Grange, but it is related to woodland immediately to the north of the development area now called Coed yr Aber, but originally Coed yr Abbot. Leige Castle Chapel (GGAT00362s; NPRN 401327) also had a connection with Greendown Grange. Ffynnon Dyfrig (GGAT00389s; NPRN 307716) is a holy well connected to the period.

- 4.8.19 The Parish Church of St Mary the Virgin (LB 13602; GGAT00364s; NPRN 153), its associated churchyard cross (LB 16320; GGAT00363s) and churchyard (GGAT03724s) in Bonvilston are also of medieval date. This is also the case with the Church of St Nicholas' Church (LB 13636; GGAT00375s) and its churchyard (GGAT03774s) in St Nicholas.
- 4.8.20 Waterston Earthwork (GM251; GGAT00390s; NPRN 15474) and Earthwork, Leige Castle Chapel Yard (GGAT04165s; NPRN 422327) are remnants of two earthworks of the period, possibly defensive in nature. Abernant (NPRN 15239) refers to a deserted medieval settlement.

Post-Medieval (1536 – 1899), Modern (1900 – present day)

- 4.8.21 There is an abundance of post-medieval activity within the 1km study area and the wider landscape. Predominantly this activity relates to industrial activity, such as lime kilns and quarries, or agriculture, including former field boundaries and land holdings. There are also a number of dwellings recorded, and this represents the population growth in the area at this time.
- 4.8.22 Within Area 1 there is a post-medieval limekiln (GGAT02617s) recorded. The limekiln is located at the western extent of Area 1, close to the site boundary and the adjacent road.
- 4.8.23 There are a number of post-medieval sites located within Area 2. To the north-east, of the area there is a field boundary (GGAT03873s), along with a possible building platform (GGAT03874s), a curvilinear earthwork (GGAT03877s), a possible hollow way (GGAT03884s), and an abandoned settlement (NPRN 15270) which has been interpreted as a former farmstead. In the east of the area is the remains of Brook Farm (NPRN 414419). The farm includes the remains of three buildings (GGAT03879s, GGAT03880s, & GGAT03881s).
- 4.8.24 To the west of Brook Farm lies an apparent alignment of trees suggesting a former hollow way leading to the farm, which has been attributed to the post-medieval period (GGAT03878s). Further west of the hollow way is a recorded parch mark (NPRN 422326) which has been identified as a post-medieval field boundary.
- 4.8.25 At the southern boundary of Area 2 is the remains of a post-medieval pond

(GGAT03872s). Also, at this location, a well was identified in the historic mapping sources (see below). It is possible that the pond replaced the well.

4.8.26 Other sites of particular interest within the 1km study area include the discovery of human remains (GGAT03831s) found near to the Soldiers Grave ringwork (GGAT00696s) at Bonvilston. The remains were believed to have been the dead of a Civil War skirmish in the 17th century. Also, a coin hoard (GGAT00373s) was discovered between Bonvilston and St Nicholas, and it was said to have contained a number of 17th century coins, but no further details are given.

Unknown (unknown origin)

4.8.27 There are also sites recorded on the HER with an unknown origin. The sites of particular interest are discussed below.

4.8.28 There are two sites located within Area 1 at approximately NGR ST 06770 72950. These sites consist of an enclosure (NPRN 309275) and a field system (GGAT03998s; NPRN 309284).

5. Map Regression

5.1 Tithe Map, Plan of the parish of Bonvilston, Glamorganshire, 1841

5.1.1 The general appearance of the area in the tithe map is similar to the present day; the village of Bonvilston can be seen to the north, to the east is the road that is now the A4226, and to the west is the rural road that is still used.

5.1.2 The proposed development site, Areas 1, 2 and 3, are made up of a series of enclosed fields, much like the present day, but the fields are split up into a number of smaller fields. No archaeological features, such as the earthworks of Castle Ringwork 850m ENE of Ty'n-y-Coed (GM613) and Coed y Cwm Ringwork (GM117), are depicted on the map.

5.1.3 Brook Farm (NPRN 414419) is shown on the tithe map within field number 16 as a single building. The tithe map apportionment shows that the farm was owned by Sir George Tyler and was occupied by Mr. Thomas Minnett.

5.2 Ordnance Survey Map, Glamorgan XLVI, 1885, 6-inch map

5.2.1 This is the First Edition of the Ordnance Survey, and the first detailed map of the site and the surrounding area. There is very little change from the tithe map. The site is still split into a series of small, enclosed fields, but some of these appear to have been merged into slightly larger fields.

5.2.2 Area 1: to the south of Ty'n-y-Coed, and to the east of Pencarreg (GGAT02058s), there is a structure (OFV01, Appendix II). It is unclear whether this structure was a dwelling

or an agricultural building. There are also some anomalies which may represent earthworks noted on the map within Area 1. Just to the north of the northern boundary, Castle Ringwork 850m ENE of Ty'n-y-Coed (GM613) can be clearly seen, with a number of trees within the circular enclosure.

- 5.2.3 Area 2: a well is depicted on the map close to the south-western boundary of the area. Brook Farm (NPRN 414419) is also included on the map, and it appears to have been expanded in the intervening years between the tithe map. The farm now includes the three buildings recorded on the HER (GGAT03879s, GGAT03880s, & GGAT03881s).
- 5.2.4 Coed y Cwm Ringwork (GM117) cannot be seen to the north of this area and is located within woodland.

5.3 Ordnance Survey Map, Glamorgan XLV.NW, 1900, 6-inch map & Glamorgan XLVI.NE, 1901, 6-inch map

- 5.3.1 Area 1: the earthworks noted in Area A on the previous map are now labelled as Old Quarry (OFV02, Appendix II). To the east of the Scheduled Monument, and to the south of Coed yr Aber woodland, there are further earthworks labelled as Old Quarry (OFV03, Appendix II).
- 5.3.2 Area 2: there are no discernible changes within this area.
- 5.3.3 Area 3: some of the woodland that was previously occupying this area, the Coed Quinnet woodland, has been felled. Where the trees have been felled, in the intervening years of the publication of this map and the 1885 map, there are now a series of small earthworks recorded on the map. This is likely to be connected with the tree felling activity.

5.4 Ordnance Survey Map, Glamorgan XLV.NW & Glamorgan XLVI.NE, 1921, 6-inch map

- 5.4.1 Area 1: there is only one minor change between 1900 and 1921. The earthwork noted in the central area of the site, that was labelled as Old Quarry is now labelled Old Limekiln (OFV02).
- 5.4.2 Area 2: this is also the first map to show the earthworks related to Coed y Cwm Ringwork (GM117), located immediately adjacent to the northern boundary of Area 2.
- 5.4.3 Area 3: there are no discernible changes within this area.

5.5 Ordnance Survey Map, Glamorgan XLVI.NW, c. 1942, 6-inch map & Glamorgan XLVI.NE, c. 1946, 6-inch map

- 5.5.1 There are no discernible changes between the 1921 map and the 1942/1946 map.

5.6 Ordnance Survey Map, Glamorgan XLVI.NW, c. 1950, 6-inch map & Glamorgan

XLVI.NE, c. 1949, 6-inch map

5.6.1 There are no discernible changes between the 1942/1946 maps and the 1949/1950 maps.

5.7 Ordnance Survey Plan, 1964, 1:10, 560

5.7.1 There are no discernible changes between the 1949/1950 maps and the 1964 map.

5.8 Ordnance Survey Plan, 1974-1990, 1:10, 000

5.8.1 There are no discernible changes between the 1964 map and the 1974-1990 map.

6. Aerial Photographs and Lidar

6.1 Aerial Photographs

6.1.1 A total of 24 aerial photographs were supplied by the Central Register of Air Photography for Wales and these date from 1946 to 2016. The full list of examined photographs is included in the bibliography. The aerial photographs pick out at least two sites of potential archaeological interest that have previously been unrecorded, along with a number of general observations.

Area 1

6.1.2 The aerial photography represents the site as it has been recorded in the historic mapping. The only major change that has occurred has been the changes in the field boundaries. From 1979 it appears that some field boundaries in this area have slowly been removed to create larger fields, and then from the 1990s/2000s there are very few field boundaries and the whole area appears to be mostly a large open agricultural area.

6.1.3 Towards the northern boundary lies a medieval castle ringwork (GM613), outside the area of proposed development. This site is clearly visible on all the available aerial photos from 1946 to the present day.

6.1.4 As noted from the historic map sources, there was a structure (OFV01) in the western area of the site. It was found to the south of Ty'n-y-Coed, and to the east of Pencarreg (GGAT02058s). The roofline of the building and the surrounding enclosure can be picked out on aerial photos from the 1940s until the 1990s. However, aerial photos from 2000 onwards no longer show the building and its surrounding enclosure, although, the photo from 2000 shows ground disturbance where the building once stood.

6.1.5 Also noted on historic map sources were the remains of two small-scale industrial sites within Area 1, a quarry/limekiln (OFV02) and a second quarry (OFV03). OFV02 appears as a circular feature covered with trees and incorporated into a field

boundary/hedgerow in the aerial photos from the 1940s up until 2000. A photo from 1981 possibly shows the feature in greater detail. In this photo there appears to be less tree coverage around the feature, and it possibly shows the remains of the stone structure of the limekiln itself. However, the most recent aerial photos no longer show the circular feature, and instead the field boundary/hedgerow continues in a straight line. OFV03 is difficult to identify in the aerial photos as the feature appears to be in thick woodland. It is also difficult to ascertain whether this feature is within the development area, or whether it sits just outside it.

- 6.1.6 There are several linear features visible on the aerial photography. The majority of these relate to former field boundaries that have been altered over the decades, or frequently used trackways. As mentioned above, there are two recorded cropmarks within Area 1, an enclosure (GGAT03998s; NPRN 309284) and a field system (NPRN 309275). It was difficult establish the existence of these from the available aerial photos. Nonetheless, there are a few photographs that may represent these recorded cropmarks. A photo from 1963 appears to show the rectangular enclosure, and a photo from 1969 shows the enclosure faintly alongside a linear feature to its east, which could be the associated field system.

Area 2

- 6.1.7 Similarly, to Area 2, the only major changes within this area are changes in the field boundaries. These are first seen in the 1979 aerial photograph, and they appear to represent the existing field boundaries, with no later changes noted. Several linear features found throughout the aerial photography are probably former field boundaries.
- 6.1.8 The medieval castle ringwork (GM117) ,which is immediately adjacent to Area 2 is not visible in the aerial photography due to thick tree coverage in the area.
- 6.1.9 Field boundary (GGAT03873s) can be seen, but it is not possible to identify the other sites in this vicinity (GGAT03874s, GGAT03877s, GGAT03884s, & NPRN 15270).
- 6.1.10 Brook Farm (NPRN 414419) and its associated buildings (GGAT03879s, GGAT03880s & GGAT03881s) are visible in the aerial photography. The buildings appear to be in use from the 1940s to the 1981 photograph, but by the 1991 the buildings are in a state of disrepair, the surrounding area is overgrown, and it appears as it does in the present day. Therefore, the buildings were abandoned in the ten years between 1981 and 1991.

Area 3

- 6.1.11 This area of the site has seen the fewest changes. The only discernible change in the aerial photography is the decreasing amount of woodland around Coed Quinnet, which was also noted in the historic mapping. These cleared areas of woodland were then used as pasture for the grazing of livestock.

6.2 LiDAR (Figure 5)

- 6.2.1 LiDAR data at a resolution of 25cm, 50cm, and 1m DTM and DSM was unavailable for the site and the surrounding area. Therefore, LiDAR data at a resolution of 2m DTM and DSM was processed to identify possible sub-surface features. LiDAR data at this resolution illustrates the topography of the site but does not allow for much detail.
- 6.2.2 Area 1: Immediately to the north of this area the earthworks associated with Castle Ringwork (GM613) are very clear and evident in the landscape. The anomalies illustrated in the data refer to the field boundaries that are currently present at the site. There is no evidence from the LiDAR of the existence or survival of the recorded cropmarks of the enclosure and field system (NPRN 309284; GGAT03998s & NPRN 309275). There were also no anomalies that could relate to the limekiln (GGAT02617s), the structure (OFV01), or the newly identified limekiln (OFV02). However, it must be noted that this lack of anomalies may relate to the resolution of the LiDAR data, and the lack of availability of more detailed data in this area.
- 6.2.3 Area 2: Coed y Cwm Ringwork (GM117) is clearly visible in the data to the north of this area of the site. The current field boundaries within this area of the site are also visible. There are other linear anomalies which include a field boundary (GGAT03873s), the Brook Farm buildings (GGAT03879s, GGAT03880s and GGAT03881s), pond (GGAT03872s), and the field boundary parch mark (NPRN 422326). There are also depressions within the data, and these appear to be geological features.
- 6.2.4 Area 3: Similarly, the anomalies in this area mainly refer to the current field boundaries of the site. However, there are some faint linear anomalies which run on a north-east to south-west axis, but these are likely to be plough marks associated with agricultural activity on the site.

7. Site Visit

7.1 Areas 1 and 3

- 7.1.1 A site visit of Areas 1 and 3 was undertaken on the 30th April 2020 (Plates 1-21). Conditions were overcast with frequent light rain showers. Visibility was good at a short distance, but only fair in the distance due to low-lying clouds and the rain showers.
- 7.1.2 The site was as described in Chapter 2. Area 3 is made up of a series of smaller fields currently used for grazing livestock, with small trackways allowing access to these fields (Plates 1-6). Area 1 is made up of a small number of larger open fields (Plates 7-11).
- 7.1.3 In Area 1 there were no visible remains of structure OFV01. There were small amounts of slate fragments on the ground within the likely vicinity, but nothing that would suggest significant remains of the structure (Plate 12). There were also no visible remains of the limekiln (GGAT02617s). This could be due to inaccuracies with the NGR coordinates, and it may in fact be located outside the development area.
- 7.1.4 Within the central northern area of Area 1 are the apparent remains of the former limekiln/quarry (OFV02) and the recorded cropmarks of an enclosure and field system (NPRN 309284; GGAT03998s and NPRN 309275). There were no visible remains of the limekiln/quarry (Plate13-14). The area in which the limekiln/quarry was apparently located is within a remaining field boundary/hedgerow. There were also no visible remains of the cropmarks (Plates 15-16).
- 7.1.5 During the site visit it was established that the old quarry (OFV03), in the north-eastern area of Area 1, would be outside the development area and there were also no visible remains of the quarry itself (Plates 17-18).
- 7.1.6 Approximately 90m north of the northern boundary is the Scheduled Monument of Castle Ringwork 850m ENE of Ty'n-y-Coed (GM613). This Scheduled Monument is prominent in the northern area of the site, and there are views to/from the monument to the site (Plates 19-20). There are also views of Castell Moel hillfort (GM298), 850m to the north-west, from the site (Plates 21).
- 7.1.7 The village of Bonvilston could be seen to the north of the development site, but it is at some distance, and it was not possible to establish views of the Listed Buildings within the village itself.
- 7.1.8 Due to the intervening topography, no other designated assets were visible from the site.

7.2 Area 2

- 7.2.1 A site visit of Area 2 was undertaken on 11th January 2021. Conditions were overcast with persistent light precipitation. Visibility was good at a short distance, but only fair in the distance due to low-lying clouds and precipitation.
- 7.2.2 The site was as described in Chapter 2. Area 2 is made up of a series of large, enclosed fields that are currently used for grazing livestock.
- 7.2.3 The Scheduled Monument of Coed y Cwm Ringwork (GM117) is located adjacent to Area 2, to the north-east of the site (Plates 22-25). Plates 22 and 23 show the monument from the woodland surrounding it, just to the north of the development area itself. Plates 24 and 25 show views towards the monument from development area, and the monument is clearly visible from this area of the site.
- 7.2.4 Plate 26 shows a treeline that would have formed a former field boundary (GGAT03873s) and this field boundary is visible in the historic mapping sources and aerial photography. Plate 27 shows the area in the vicinity of GGAT03877s, just to the south of GGAT03873s. The curvilinear earthwork was not visible during the site visit. To the south-west of GGAT03877s is the apparent location of building platform set into an old field boundary (GGAT03874s). This area was visited during the site visit (Plate 28), but again the asset was not visible. A hollow way (GGAT03884s) is also located in this area of the site (Plate 29).
- 7.2.5 A post-medieval bridge (GGAT03871s) has been recorded in the eastern area of the site. This area was visited, but the bridge was not identified. This could be a result of an error or inaccurate GPS coordinates associated with the site.
- 7.2.6 In the south-eastern areas of the site there are the remains of Brook Farm (NPRN 414419), made up of three buildings (GGAT03879s, GGAT03880s & GGAT03881s). The standing structures appear to be the remains of barns and agricultural outbuildings (Plates 30-36).
- 7.2.7 Plate 37 shows a photograph taken just to the east of the Brook Farm remains and is the location of a recorded hollow way (GGAT03878s). Approximately 280m west of the hollow way are the recorded parch marks (NPRN 422326) indicating former enclosure banks (Plates 38-40). The parch mark was not visible at ground level during the site visit but was originally identified through aerial photography in 2014.
- 7.2.8 In the south-western area of the site is a small pond (GGAT03872s) and it is also the location of a well that was noted on the First Edition of the Ordnance Survey (Plates 41 and 42). There was no evidence of a well during the site visit, but there was stonework within the vicinity of the area, as seen in the photographs. It is possible that the pond succeeded the well in the post-medieval period.

8. Impact Assessment

8.1 Assessment of Archaeological Potential and Importance

8.1.1 Fifteen sites have previously been recorded within the proposed development site:

- GGAT02617s – post-medieval limekiln
- GGAT03873s – post-medieval field boundary
- GGAT03874s – post-medieval building platform
- GGAT03877s – post-medieval curvilinear earthwork
- NPRN 15270 – post-medieval abandoned settlement/farm
- GGAT03884s – post-medieval hollow way
- GGAT03879s – post-medieval farmhouse
- GGAT03880s – post-medieval cart shed
- GGAT03881s – post-medieval barn
- NPRN 414419 – post-medieval farm
- GGAT03878s – post-medieval hollow way
- NPRN 422326 – post-medieval field boundary
- GGAT03872s – post-medieval pond
- NPRN 309275 – enclosure of unknown date
- GGAT03998s; NPRN 309284 – field system of unknown date

However, as noted in Section 7, the location of the limekiln (GGAT02617s) in Area 1 was not established and may not actually have been present within the site.

8.1.2 Two new sites of possible post-medieval date were identified from historic map regression and aerial photography during the course of this assessment (building remains OFV01 and limekiln/quarry OFV02). A further industrial site was also noted in this assessment, quarry OFV03, but assessment of available maps, photographs and a field visit have confirmed that it is located outside the development area.

8.1.3 Due to the sites of archaeological interest, discussed above and the presence of other recorded sites within a relatively close proximity of the site, it would suggest a raised potential for unrecorded archaeological remains from the prehistoric, medieval, and post-medieval periods to be present in this locality. Therefore, the site is considered to have a **Medium** potential for archaeological remains associated with the prehistoric, medieval and post-medieval periods.

8.1.4 The previously recorded cropmarks (field system and enclosure cropmarks (NPRN 309284; GGAT03998s & NPRN 309275)) have not been given any provisional dating, but they may potentially be of prehistoric or medieval date. Dependent on the provenance, and condition, these may represent sites of **Medium** (regional) archaeological importance.

8.1.5 The other sites listed above are associated with the post-medieval period, and mostly refer to industrial or agricultural sites. These sites are likely to be of **Low** (local) archaeological importance.

8.2 Previous Impacts

- 8.2.1 Previous impacts across the proposed development area are of great significance in determining the survival and importance of the known and potential archaeological resource.
- 8.2.2 The site has largely been enclosed and farmed from at least the late 19th century, and potentially earlier. More recent aerial photography and the site visit indicates much of the site has been subject to varying degree of ploughing, either through drainage schemes, the establishment of improved pasture, or the growing of arable crops. Such activity is likely to have impacted upon potential surface remains of archaeological interest, and on buried remains within the plough soil depth.
- 8.2.3 There are no indications of any intensive development across the site, other than the localised installation of pylons or relaying of access tracks, and therefore the potential for archaeological remains to be well-preserved below the plough soil is good.

8.3 Potential Impacts of the Proposed Development

- 8.3.1 The proposed development is still in the development process, the outline elements of which include a new solar farm and cover an area of approximately 125 hectares. Such a development would largely consist of the installation of ground mounted solar Photovoltaic arrays across the development area. These arrays are typically pinned to the ground. Individually they have a limited impact on sub-surface deposits due to the small land-take of the pins. However, cumulatively they may be considered to have a larger impact. Associated infrastructure such as the establishment of access tracks, foundation excavations for inverter and switch houses and substations, cable trenching, the surrounding security fence and the establishment of the temporary site compound all have the potential to disturb sub-surface deposits and, therefore, to expose, damage or destroy potential archaeological remains.
- 8.3.2 The proposed development also has the potential to generate indirect effects on archaeological sites, such as altering the visual setting or tranquillity of the sites and landscapes.

8.4 Historic Landscapes

- 8.4.1 The western area of the development site lies within the Registered Historic Landscape of Llancarfan (HLW (SG) 1). Therefore, the proposed development is likely to have both a direct and indirect impact upon the landscape. Although the development site only occupies a relatively small area of the overall historic landscape, any construction within it will create a direct impact, and will have an indirect (visual) impact on the remainder of the landscape. The overall potential impact on Llancarfan (HLW (SG) 1) will be **Moderate**.
- 8.4.2 No Registered Historic Park & Gardens will be directly affected by any development.

However, Dyffryn Gardens (PGW(Gm)32(GLA), Llantrithyd Place (PGW(Gm)43(GLA), and Coedarhydyglyn (PGW(Gm)40(GLA) all lie within 3km of the development area and have the potential to be indirectly affected. The site visits established that all three are protected by the surrounding built landscape and topography, which does not allow views to/from the site. The overall potential indirect impact upon these Registered Historic Park & Gardens will therefore be **No Change**.

- 8.4.3 No Conservation Area will be directly affected by any development. However, there are six Conservation Areas within the 3km study area: Bonvilston, Llancarfan, Llantrithyd, Peterston-Super-Ely, St Nicholas, and Drope. During the site visits it was established that only one Conservation Area will be indirectly affected. This is Bonvilston, which is visible from the northern area of Area 1. However, due to distance and the built environment, the views are limited, and the overall indirect impact upon Bonvilston Conservation Area will be **Minor**. The overall potential impact upon the other Conservation Areas will be **No Change**.

8.5 Scheduled Monuments

- 8.5.1 No Scheduled Monuments (SMs) will be directly affected by any development.
- 8.5.2 There are twenty-two SMs within a 3km study area (see section 4.4). The site visit established that only three have the potential to be indirectly affected by the development. Castle Ringwork 850m ENE of Ty'n-y-Coed (GM613) is only c. 42m north-east of Area 1's northern boundary, and it is clearly visible from the northern area of this section of the site. Therefore, the potential indirect impact will be **Moderate**. Similarly, Coed y Cwm Ringwork (GM117) is only c. 10m from the northern boundary of Area 2 and is clearly visible from the north-eastern area of Area 2. Therefore, the potential indirect impact will be **Moderate**. Castell Moel hillfort (GM298) is also visible from site, but it is at some distance away (850m) and the potential indirect impact on this SM will be **Minor**.
- 8.5.3 The other SMs, including Coed-y-Cwm Chambered Cairn (GM116) and Tinkinswood Burial Chamber (GM009), which are both within 500m of the development area, are protected from view by the topography. Therefore, the potential impact on these will be **No Change**.

8.6 Listed Buildings

- 8.6.1 No listed buildings will be directly affected by any development.
- 8.6.2 There are 72 Listed Buildings (LBs) within a 3km study area surrounding the site. The site visits established that only five Listed Buildings have the potential to be indirectly affected. These are all Grade II buildings within Bonvilston Conservation Area: Bonvilston Cottage (LB 16319), Parish Church of St Mary the Virgin (LB 13602) and its churchyard cross (LB 16320), Ty Mawr (Great House) (LB 13603), and Village Farmhouse (LB 16321). However, it is difficult to see any of these buildings in detail

from site due to the distance and any visual impact on the LBs will be partial. Therefore, the overall potential indirect impact on the Listed Buildings will be **Minor**.

- 8.6.3 The intervening topography, vegetation and the built environment obscures the remaining LBs within the 3km study area from view, and there will be **No Change** to these.

8.7 Non-Designated Archaeological Sites

- 8.7.1 In total, sixteen specific sites of archaeological interest have been identified within the bounds of the proposed development area, including two that this assessment has recorded. The potential impacts upon these sites will vary considerably dependent on the final design plan and positioning of ground disturbing activity, but potential impacts are assessed on the assumption that solar panels will cover the entire solar farm area.

- 8.7.2 Area 1: the recorded cropmarks of an enclosure and field system (NPRN 309284; GGAT03998s and NPRN 309275), and the apparent remains of the former limekiln/quarry (OFV02) have the potential to be impacted by the proposed development, and it is likely to be a potential **Major** impact.

- 8.7.3 To the north-west of these sites is the location of a former building (OFV01) and a possible limekiln (GGAT02617s). There are no signs of the existence of the limekiln in the historic mapping sources, aerial photography, or during the site visit. It is possible that NGR coordinates are inaccurate, and the limekiln was located outside of this area. There were also no visible remains OFV01, and it is likely that this area of the site has seen intense ploughing activity that has removed any remnants of the structure. The potential impact is therefore considered to be **Minor**.

- 8.7.4 Area 2: surviving sub surface remains of the limekiln (GGAT02617s), field boundaries (GGAT03873s and NPRN 422326), building platform (GGAT03874s), curvilinear earthwork (GGAT03877s), abandoned settlement/farm (NPRN 15270), hollow ways (GGAT03884s and GGAT03878s), farmhouse (GGAT03879s), cart shed (GGAT03880s), barn (GGAT03881s), farm (NPRN 414419), and pond (GGAT03872s) all have the potential to be impacted. The potential impact upon these sites is likely to be **Major**.

- 8.7.5 Area 3: there are no recorded archaeological sites within this area of the site.

9. Conclusions

9.1 Impacts on Designated Assets

- 9.1.1 The Registered Historic Landscape of Llancarfan (HLW (SG) 1) will be directly and indirectly affected by the proposed development. The western area of Area 1 is within the registered landscape. The direct impact will consist of the construction of the solar farm. However, this is dependent on the final design plan and positioning of ground

disturbing activity. The proposed development will also have a potential indirect visual impact upon the registered landscape. The combination of the potential direct and indirect impact upon Llancafarn (HLW (SG) 1) is considered to be **Moderate**.

- 9.1.2 No Registered Historic Park and Garden will be directly or indirectly impacted by the proposed development.
- 9.1.3 There is a potential for Bonvilston Conservation Area to be indirectly impacted by the proposed development, but visual impacts on this area should be limited, and the potential indirect impact is considered to be **Minor**.
- 9.1.4 No Listed Building will be directly affected, but the Listed Buildings within Bonvilston (and its Conservation Area) will be indirectly affected. However, the indirect visual impacts on these buildings will be limited due to distance, and the potential indirect impact is considered to be **Minor**.
- 9.1.5 Three Scheduled Monuments will potentially be indirectly affected by the proposed development. The visual impact on Castell Moel hillfort (GM298) will be limited due to the distance, and the potential indirect impact will be **Minor**. Castle Ringwork 850m ENE of Ty'n-y-Coed (GM613) is c. 42m north-east of the Area 1's northern boundary, and Coed y Cwm Ringwork (GM117) is c. 10m from the northern boundary of Area 2. The potential indirect impact on both monuments is considered to be **Moderate**.

9.2 Impacts on Non-Designated Assets

- 9.2.1 Fourteen specific recorded sites of archaeological interest have been identified within the proposed development boundary, alongside the new sites OFV01 and OFV02 identified during this assessment. There is also a **Medium** potential for further unrecorded activity spanning the prehistoric to the post-medieval periods.
- 9.2.2 The cropmarks (NPRN 309284; GGAT03998s and NPRN 309275) that have been discussed have not been assigned to any period, but given the activity within the area, this enclosure and field system could possibly date to the prehistoric or medieval period. Given its potential date, this is a feature of **Medium** archaeological value, and development on this site has the potential to have a **Major** direct impact.
- 9.2.3 All of the other sites of archaeological interest within the development area are industrial and agricultural sites from the post-medieval period. These sites are of **Low** archaeological value. Groundworks relating to the development at these locations may potentially have a **Major** direct impact.

10. Mitigation

- 10.1.1 The direct and indirect impacts on the Registered Historic Landscape of Llancafarn HLW (SG) 1 should be taken into consideration during the creation of the final design scheme. To minimise the direct impacts on the landscape, construction and any

ground disturbance works should be kept to a minimum in this area. To mitigate any visual indirect impacts upon the landscape current field and wooded boundaries should be maintained.

- 10.1.2 The presence of the possible enclosure and field system (GGAT03998s; NPRN 309275 and NPRN 309284) of potential prehistoric or medieval date, along with a significant number of post-medieval sites, would suggest that this area may benefit from further archaeological mitigation to better understand the potential archaeological resource.
- 10.1.3 Further information on the potential impact of the development could be obtained by carrying out a geophysical survey, a common method employed on extensive development areas such as this. This could be focussed on the central and western areas of Area 1, where the possible enclosure and field system (GGAT03998s; NPRN 309275 and NPRN 309284) are located. It would also be beneficial to conduct a geophysical survey throughout the entirety of Area 2, due to the significant number of archaeological sites in this area, and the close proximity to prehistoric and medieval Scheduled Monuments. The information gathered from such a survey could better inform the final design scheme of the development, or requirements for mitigation measures to ensure the archaeological resource is appropriately dealt with.
- 10.1.4 An archaeological watching brief may also be considered appropriate mitigation against any potential loss of the archaeological features discussed in this assessment.
- 10.1.5 To mitigate against further indirect visual impacts of the designated assets that will be affected, the final design scheme should maintain current treelines and vegetation, and possibly create more to shield the assets from the proposed development. This is particularly relevant for Coed y Cwm Ringwork (GM117) and Castle Ringwork 850m ENE of Ty'n-y-Coed (GM613) as they are likely to be the most affected designated assets.

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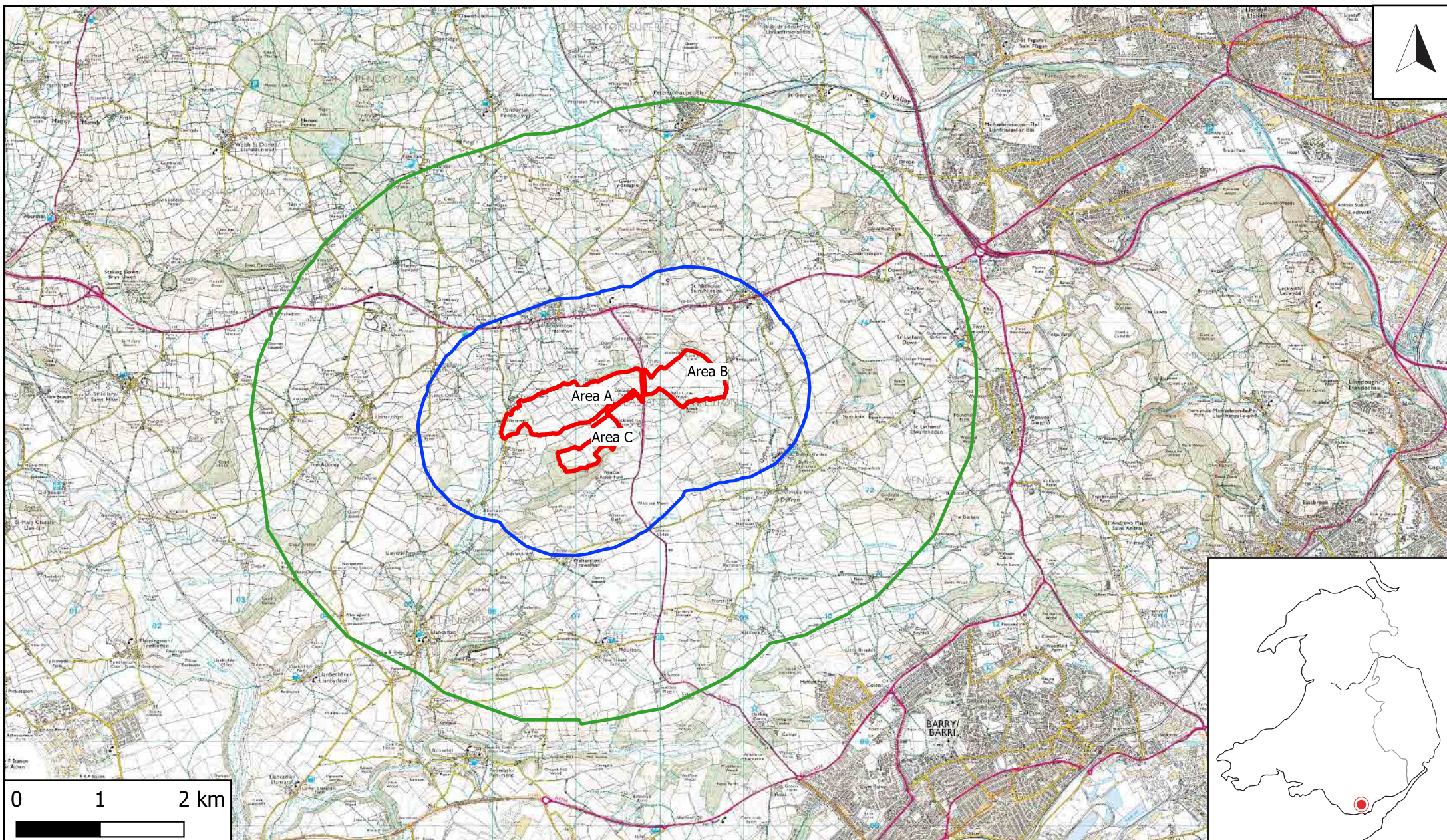


Figure 1. Plan showing the proposed development area (red), 1km study area (blue), and 3km study area (green).

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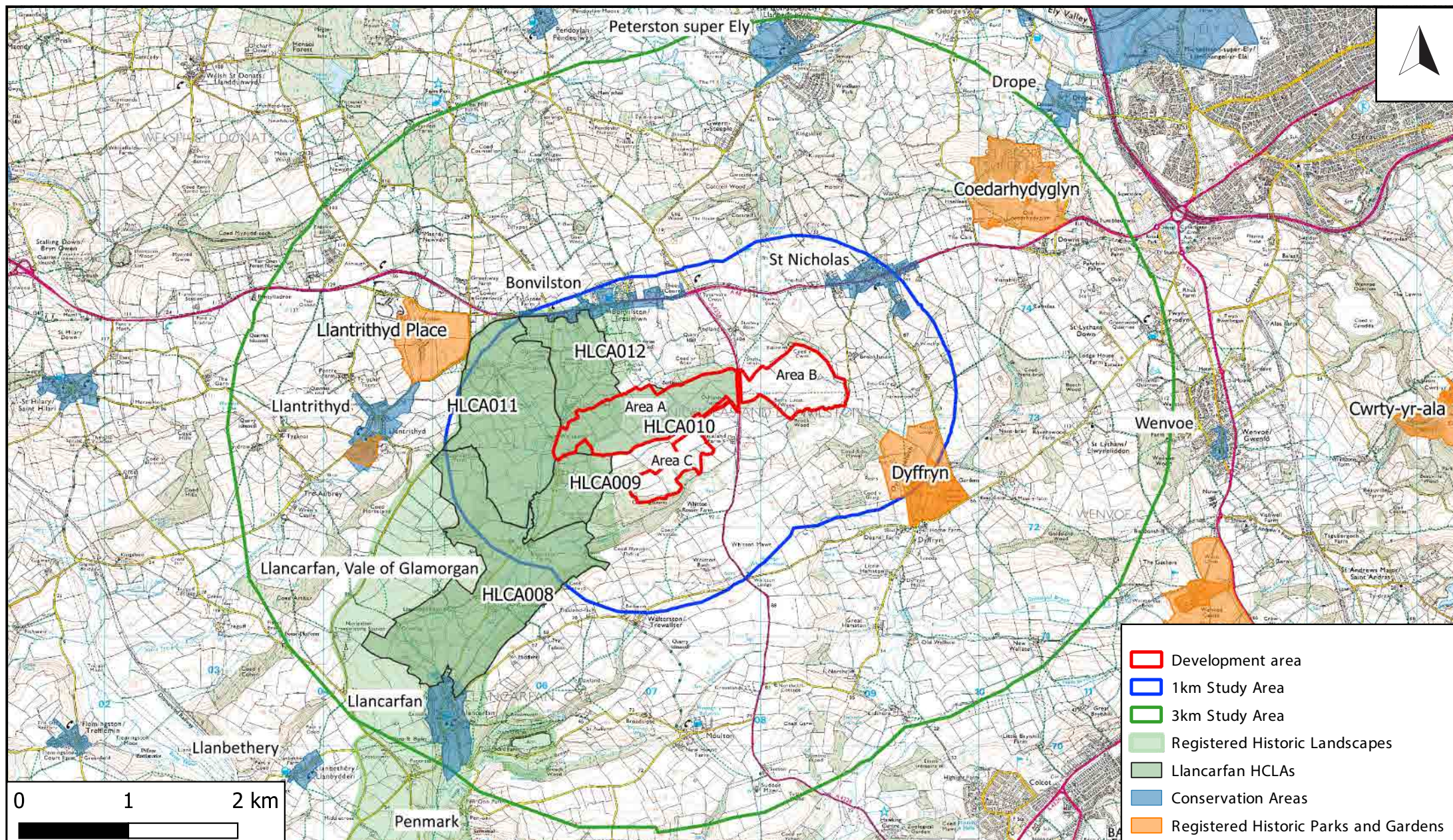


Figure 2. Plan showing aspects of the historic landscape in relation to the development area, including Registered Historic Landscapes, Conservation Areas and Registered Parks and Gardens.

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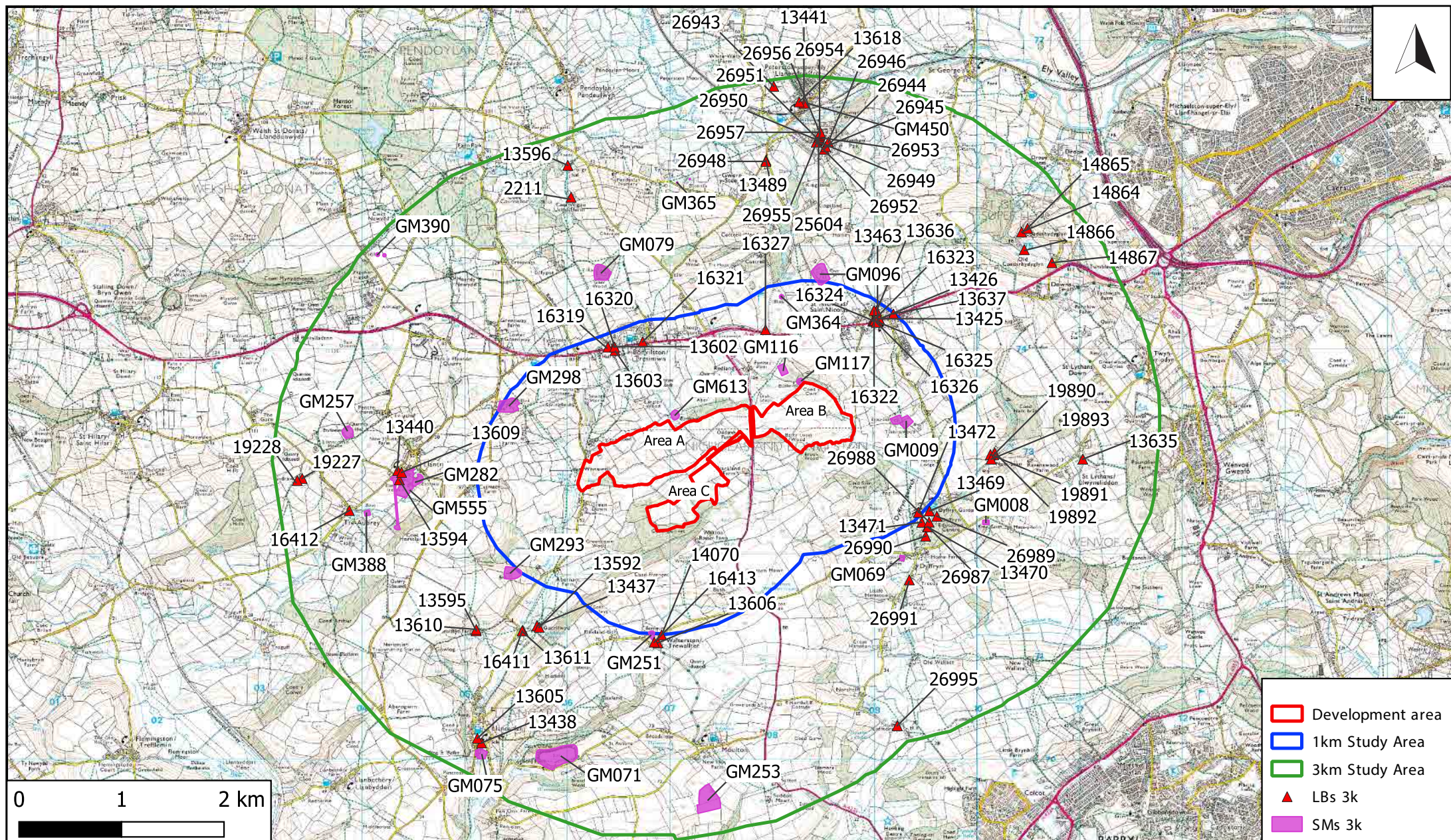


Figure 3. Plan showing Scheduled Monuments (SMs) and Listed Buildings (LBs) in relation to the development area.

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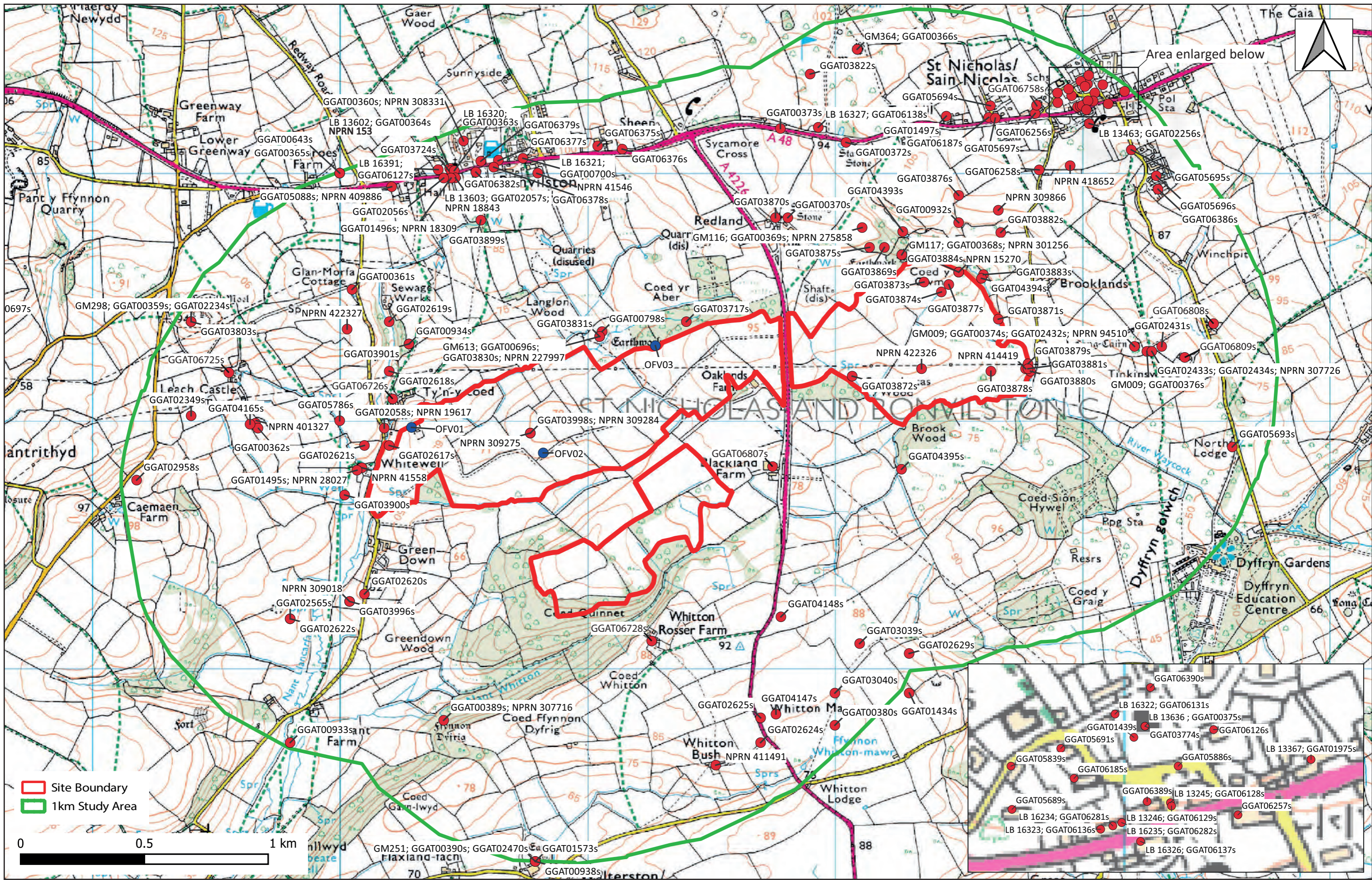


Figure 4. Non-Designated Assets: Existing (red), new sites identified (blue)

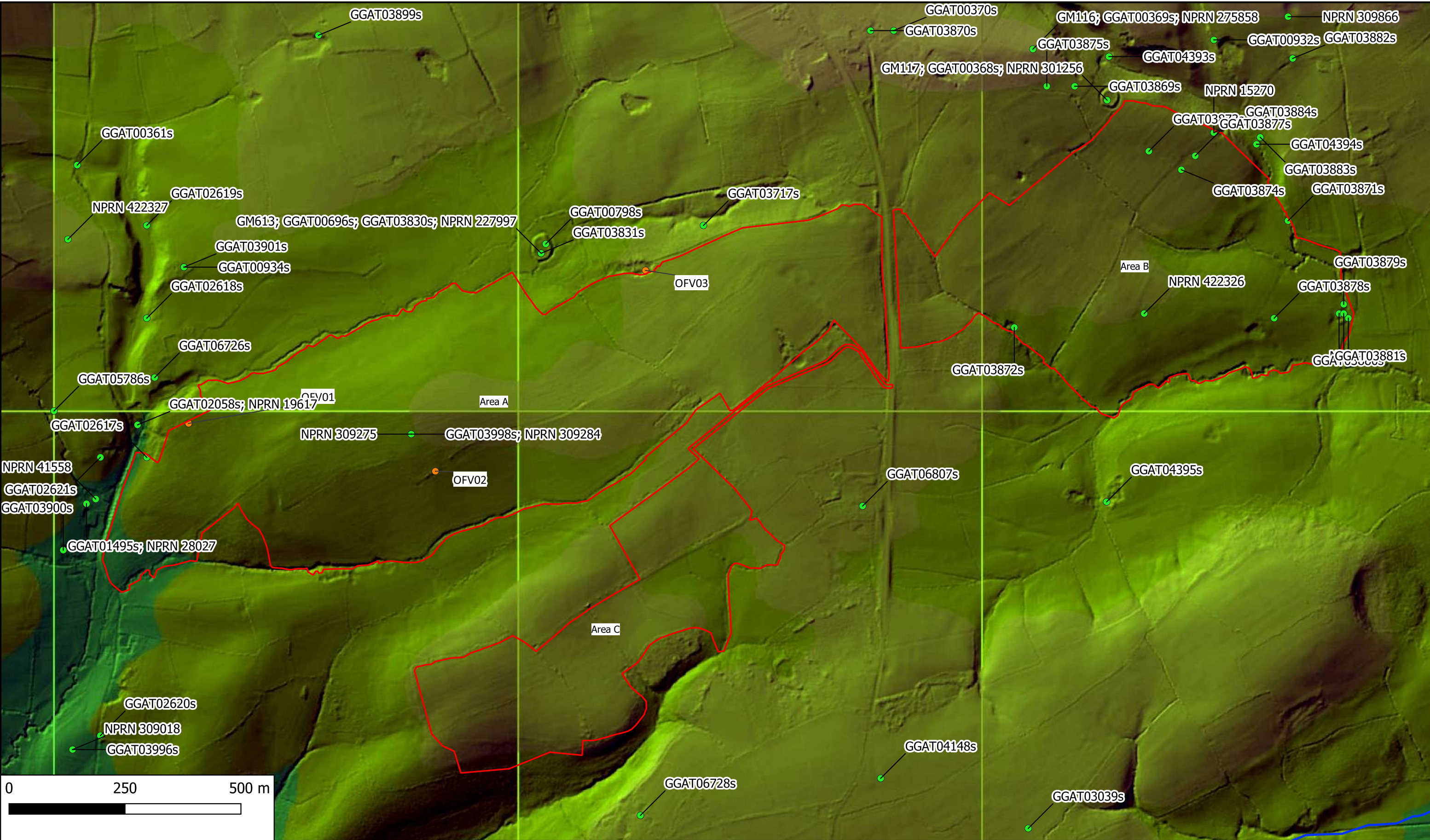


Figure 5. LiDAR data of the development area at 2m DTM, with the location of non-designated assets.