

**FFERM PENGLAIS FIELDS SOLAR  
DEVELOPMENT, ABERYSTWYTH,  
CEREDIGION**

**HISTORIC ENVIRONMENT DESK-BASED  
ASSESSMENT**

**SN5970082772**



Prepared by  
DAT Archaeological Services  
For: Asbri Planning



**DYFED ARCHAEOLOGICAL TRUST**

REPORT NO. 2021/48  
EVENT RECORD NO. 126321

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By

**Menna Bell**

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**FFERM PENGLAIS FIELDS SOLAR DEVELOPMENT, ABERYSTWYTH,  
CEREDIGION:  
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**FFERM PENGLAIS FIELDS SOLAR DEVELOPMENT, ABERYSTWYTH,  
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**FFERM PENGLAIS FIELDS SOLAR DEVELOPMENT, ABERYSTWYTH,  
CEREDIGION**

**HISTORIC ENVIRONMENT DESK-BASED ASSESSMENT**

**EXECUTIVE SUMMARY**

*DAT Archaeological Services were commissioned by Asbri Planning to undertake a pre-determination archaeological desk based assessment for the site of a proposed solar farm at Fferm Penglais fields, Aberystwyth, Ceredigion.*

*Within the development area no known archaeological remains will be directly impacted upon, and there is a low to negligible potential for previously unrecorded archaeology. No direct or indirect impact upon surrounding designated or high value, historic assets was identified, although a slight adverse indirect impact on the general surrounding historic landscape and settings of non-designated assets was identified. No additional mitigation measures are suggested for the historic environment.*

**CRYNODEB GWEITHEREDOL**

*Comisiynwyd Gwasanaethau Archeolegol YAD gan Asbri Planning i gynnal asesiad desg archeolegol cyn-benderfyniad ar gyfer safle fferm solar arfaethedig ar gaeau Fferm Penglais, Aberystwyth, Ceredigion.*

*Yn yr ardal ddatblygu ni fydd unrhyw olion archeolegol hysbys yn cael eu heffeithio'n uniongyrchol, ac mae potensial isel i ddibwys ar gyfer archeoleg nad oedd wedi'i chofnodi o'r blaen. Ni nodwyd unrhyw effaith uniongyrchol nac anuniongyrchol ar ased hanesyddol dynodedig, neu werth uchel, er bod effaith anuniongyrchol niweidiol fach ar y dirwedd hanesyddol gyffredinol a gosodiadau asedau heb eu dynodi. Ni awgrymir unrhyw fesurau lliniaru ychwanegol ar gyfer yr amgylchedd hanesyddol.*

## **1 INTRODUCTION**

### **1.1 Project Proposals and Commission**

- 1.1.1 DAT Archaeological Services were commissioned by Asbri Planning to undertake an archaeological desk based assessment in association with a proposed solar farm development on Fferm Penglais Fields, Penglais Road, Aberystwyth (centred on SN 59700 82772) (Figure 1).
- 1.1.2 In response to a pre-application enquiry the local planning authority, Ceredigion County Council, requested that the impact upon the historic environment should be assessed, and recommended further consultation with the archaeological advisors to the planning authority, Dyfed Archaeological Trust – Development Management (DAT-DM). The site lies in an area of historic and archaeological interest, including close proximity to the registered park and garden at Aberystwyth University (PGW (Dy) 47 (CER). As a result DAT-DM recommended that an archaeological Desk-Based Assessment should accompany the planning application to better assess the potential impact upon the historic environment.
- 1.1.3 The assessment has been a primarily desk-based study of the site area, identifying any known archaeological or historical sites within the site and its environs, identifying potential setting impacts on designated archaeological assets in the vicinity, identifying any historic landscape areas that may be affected by the proposals and assessing the potential for hitherto unknown archaeological remains to be present within the development area. Due to current restrictions related to the Covid-19 outbreak some archive sources have not been consulted, although sufficient information has been gained to provide a comprehensive assessment of the site.

### **1.2 Scope of the Project and Methodology**

- 1.2.1 The scope of the assessment follows the Standard And Guidance For Historic Environment Desk-Based Assessment as laid down by the Chartered Institute for Archaeologists (CIfA 2014). The standard is stated by CIfA as:

*Desk-based assessment will determine, as far as is reasonably possible from existing records, the nature, extent and significance of the historic environment within a specified area. Desk-based assessment will be undertaken using appropriate methods and practices which satisfy the stated aims of the project, and which comply with the Code of Conduct and other relevant regulations of CIfA. In a development context desk-based assessment will establish the impact of the proposed development on the significance of the historic environment (or will identify the need for further evaluation to do so), and will enable reasoned proposals and decisions to be made whether to mitigate, offset or accept without further intervention that impact.*

- 1.2.2 A desk-based assessment is defined by CIfA as:

*.....a programme of study of the historic environment within a specified area or site on land, the inter-tidal zone or underwater that addresses agreed research and/or conservation objectives. It consists of an analysis of existing written, graphic, photographic and electronic information in order to identify the likely historic assets, their interests and significance and the character of the study area, including appropriate consideration of the settings of historic assets and, in England, the nature, extent and quality of the known or potential archaeological, historic, architectural and*



*artistic interest. Significance is to be judged in a local, regional, national or international context as appropriate.*

- 1.2.3 The desk-based study of the area identifies known archaeological sites within the site and its environs, and assesses the potential for hitherto unknown remains to be present within the proposed development area. This will help inform future decision making, design solutions and potential mitigations strategies, including the potential for further archaeological works.
- 1.2.4 The scope of the report also includes an assessment of the impact on the settings of surrounding designated heritage assets, including scheduled monuments, listed buildings, historic landscape character areas and undesignated archaeological sites. This utilises the best practice guidance in Setting of Historic Assets in Wales (2017). This guidance sets out a four stage approach. Stage 1 being the identification of the historic assets that may be affected by development. Stage 2 defines and analyses the setting of the assets. Stage 3 evaluates the potential impact of the development upon the setting. Stage 4 considered mitigation options.
- 1.2.5 The report presents relevant information from a number of sources including:
- Dyfed Archaeological Trust Historic Environment Record data;
  - Map regression exercise using earlier cartographic sources;
  - Available and relevant reports on any archaeological work undertaken in the area that affects the site or its setting;
  - Archive records held at the County Archive, the National Library of Wales (NLW) and the Royal Commission on the Ancient and Historic Monuments of Wales (RCAHMW), where accessible;
  - Aerial photography, satellite imagery and Lidar data;
  - Relevant records held by the developer;
  - Identification of any Scheduled Monuments, Listed Buildings, Registered Parks and Gardens, Registered Historic Landscapes, Historic Landscape Character Areas or Conservation Areas within or in the vicinity of the site area (Cadw, DAT, NRW);
  - Assessment of the archaeological potential of the area;
  - Assessment of the likely impact upon the settings of surrounding features of the historic environment; and
  - Assessment of likely impacts on any identified remains within the development site (or potential remains) and likely requirements, if any, for further stages of archaeological work.
- 1.2.6 Following consultation with DAT-DM, in their capacity as archaeological advisors to the local planning authority, a search area of 1000m from the boundary of the development area has been used to examine designated and non-designated heritage assets. Given the area and height of the development this is considered to encompass the potential visual impact of the development as well, as suggested in the criteria for consulting Cadw within the Setting of Historic Assets in Wales (Cadw 2017).
- 1.2.7 For the purposes of planning policy in Wales, the historic environment is defined as:

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

*past human activity, whether visible, buried or submerged, and deliberately planted or managed* (Welsh Government 2021).

A heritage asset is:

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

- 1.2.8 This report contains information about the historic environment and historic assets in the vicinity of the proposed development site, which will assist the archaeological advisors to the planning authority in their decision about what, if any, archaeological mitigation will be required. Further guidance on how the planning system considers the historic environment and historic assets during development can be found in *Planning Policy Wales: Technical Advice Note 24: The Historic Environment* (Welsh Government 2021; available online).
- 1.2.9 The proposed solar farm development lies within the planning jurisdiction of Ceredigion County Council.

### **1.3 Abbreviations**

- 1.3.1 Sites recorded on the regional Historic Environment Record (HER) are identified by their Primary Record Number (PRN) and located by their National Grid Reference (NGR). Sites recorded on the National Monument Record (NMR) held by the Royal Commission on the Ancient and Historical Monuments of Wales (RCAHMW) are identified by their National Primary Record Number (NPRN). Scheduled Monument (SM). Altitude is expressed to Ordnance Datum (OD). References to cartographic and documentary evidence and published sources will be given in brackets throughout the text, with full details listed in the sources section at the rear of the report.

### **1.4 Illustrations**

- 1.4.1 Printed map extracts are not necessarily reproduced to their original scale.

## 1.5 Timeline

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

**Table 1:** *Archaeological and Historical Timeline for Wales*

Period	Approximate date	
Palaeolithic –	c.450,000 – 10,000 BC	Prehistoric
Mesolithic –	c. 10,000 – 4400 BC	
Neolithic –	c.4400 – 2300 BC	
Bronze Age –	c.2300 – 700 BC	
Iron Age –	c.700 BC – AD 43	
Roman (Romano-British) Period –	AD 43 – c. AD 410	Historic
Post-Roman / Early Medieval Period –	c. AD 410 – AD 1086	
Medieval Period –	1086 – 1536	
Post-Medieval Period <sup>1</sup> –	1536 – 1750	
Industrial Period –	1750 – 1899	
Modern –	20th century onwards	

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<sup>1</sup> The post-medieval and Industrial periods are combined as the post-medieval period on the Regional Historic Environment Record as held by Dyfed Archaeological Trust

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DAT Archaeological Services 6 Report No. 2020/42

## **2. NATIONAL POLICIES AND GUIDANCE**

### **2.1 *The Historic Environment (Wales) Act***

2.1.1 The Ancient Monuments and Archaeological Areas Act 1979 was previously the primary legislation for protecting archaeological remains and Scheduled Monuments. This has recently been superseded by the The Historic Environment (Wales) Act 2016 which has three main aims as defined by Cadw:

- to give more effective protection to Listed Buildings and scheduled monuments;
- to improve the sustainable management of the historic environment; and
- to introduce greater transparency and accountability into decisions taken on the historic environment.

2.1.2 The New Act amends the Ancient Monuments and Archaeological Areas Act 1979 and also the Planning (Listed Buildings and Conservation Areas) Act 1990. It is supported by a number of planning guidance documents, a number of which are still in preparation. The Act most specifically provides better safeguards for the protection of Scheduled Monuments, Listed Buildings and Historic Parks and Gardens. It will also include further guidance on place names.

### **2.2 *Planning Policy Wales***

2.2.1 Planning Policy Wales (Ed.11, 2021) sets out the Welsh Government's land use planning policies. Its primary objective is to ensure that the planning system contributes towards the delivery of sustainable development and improves the social, economic, environmental and cultural well-being of Wales, as required by the Planning (Wales) Act 2015, the Well-being of Future Generations (Wales) Act 2015 and other key legislation.

2.2.2 Chapter 6 of the Planning Policy Wales, 'Distinctive and Natural Places', explains how planning system must take into account the Welsh Government's objectives to protect, conserve, promote and enhance the historic environment as a resource for the general well-being of present and future generations. It also sets out the planning policies for the sustainable management of specific categories of historic assets (Welsh Government, 2021).

### **2.3 *Technical Advice Note 24: The Historic Environment***

2.3.1 This technical advice note provides guidance on how the planning system considers the historic environment during development plan preparation and decision making on planning and Listed Building consent applications. It also provides specific guidance on how the following historic assets should be considered:

- scheduled monuments
- archaeological remains
- listed buildings
- conservation areas
- historic parks and gardens
- historic landscapes
- historic assets of special local interest
- World Heritage Sites

2.3.2 The technical advice note usefully gathers together the selection criteria employed in the designation of scheduled monuments and listed buildings and the registration of historic parks and gardens and historic landscapes.

- 2.3.3. Advice and decisions on planning applications affecting nationally significant historic environment features (or designated historic assets) is provided by Cadw acting on behalf of Welsh Government.
- 2.3.4 This report will also make reference to other guidance documents published by Cadw, namely: Conservation Principles (March 2011); Heritage Impact Assessment in Wales (May 2017); Managing Historic Character in Wales (May 2017); and Setting of Historic Assets in Wales (May 2017).

### **3. LOCAL PLANNING POLICIES**

#### **3.1 Ceredigion County Council Policies**

- 3.1.1 The Historic Environment is subject to the relevant policies and procedures as laid out in the Ceredigion County Council (CCC) Local Development Plan (LDP) 2007 – 2022.
- 3.1.2 The historic environment is referenced throughout the document in numerous policies, emphasising its significance to the county. The main policy references to the Historic Environment are outlined in the strategic policy DM19:

##### ***DM19: Historic and Cultural Landscape***

*Development affecting landscapes or buildings which are of historical or cultural importance and make an important contribution to the character and interest of the local area, will be permitted where the distinctive appearance, architectural integrity or their settings will not be significantly adversely affected. Where possible development should enhance these qualities and special character.*

*8.167 Policy DM19 recognises that although conserving and enhancing the landscape in general (Policy DM17) is important, certain historic and cultural elements need specific mention because the Ceredigion landscape is rich in evidence from the past. It contains numerous features including burial sites, ancient field systems, hill forts, Roman roads and castle mounds. Many of these features are protected as Scheduled Ancient Monuments or included on the Sites and Monuments record maintained by Dyfed Archaeological Trust and the Royal Commission for Sites and Monuments Wales.*

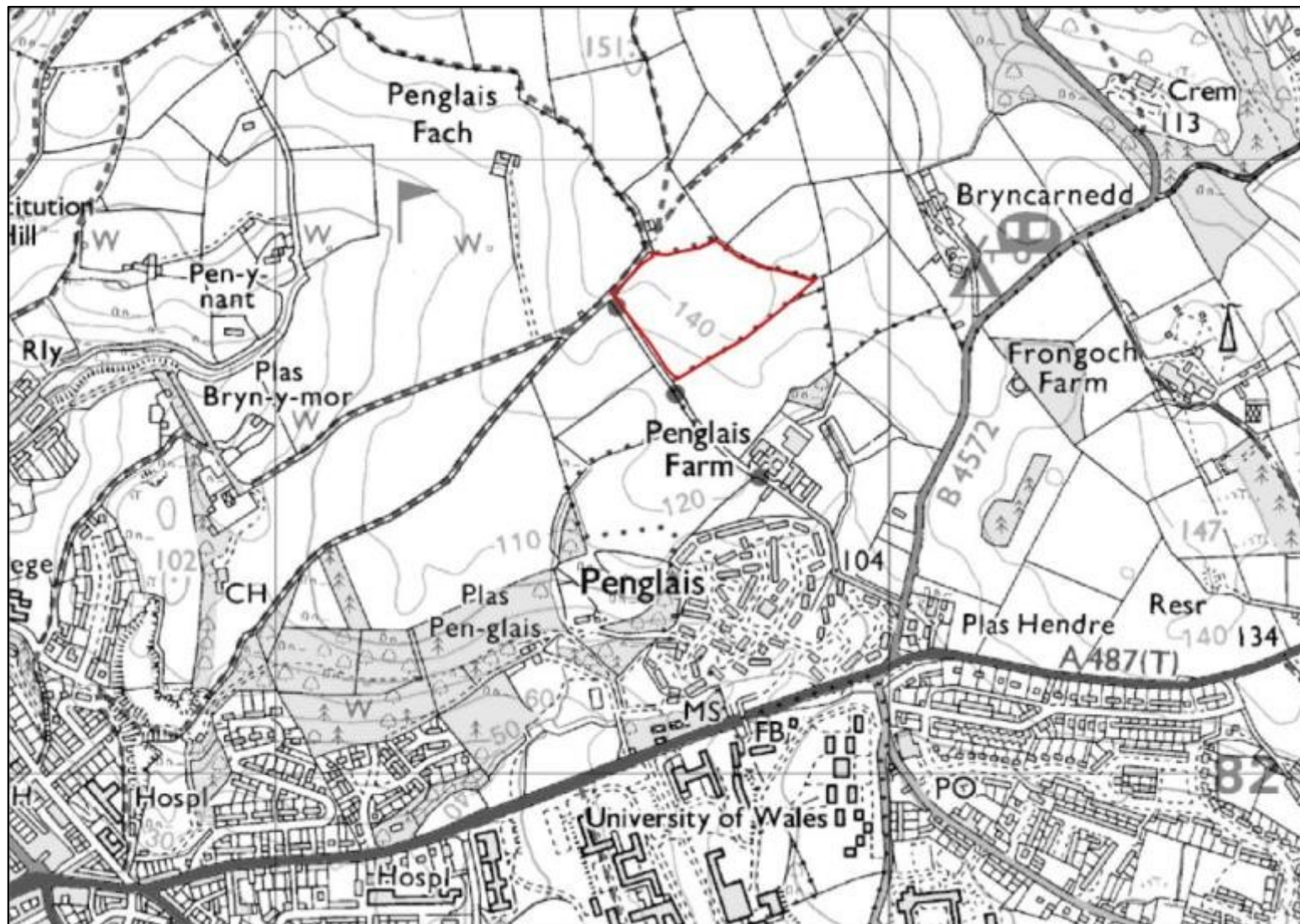
*8.168 The Register of Landscapes, Parks and Gardens of Special Historic Interest in Wales highlights what are considered to be the best examples of different types of historic landscape and gardens in Wales. Upland Ceredigion has been identified as a landscape of outstanding historic interest. A good practice guide explains how the Register should be used in assessing the effect of major developments on the historic landscape. Applicants should consult CADW, CCW or one of Wales' archaeological trusts to view this Register.*

*8.169 The Register identifies four landscapes of Special Historic Interest and twelve historic gardens of national importance in Ceredigion. The landscapes are: Upland Ceredigion; Lower Teifi Valley; Drefach- Felindre and the Tywi Valley. Details and maps of the characterisation of these historic landscapes are available from Dyfed Archaeological Trust at [www.dyfedarchaeology.org.uk](http://www.dyfedarchaeology.org.uk). The Gardens are Hafod (Grade I); Nanteos, Plas Penglais, the Aberystwyth and Llanbadarn Campuses, National Library of Wales (Grade II\*); Alltrodyn, Coedmore, Derry Ormond, Llanerchaeron, Llanllyr, Lodge Park, Pigeonsford walled garden, Trawsgoed and Cardigan Castle (Grade II). Chapter 6 of PPW sets out specific requirements for the LPA to undertake in determining planning applications. Applicants should consult PPW in relation to these requirements.*

#### **4 LOCATION AND TOPOGRAPHY**

- 4.1 The proposed solar farm at Fferm Penglais is located within arable land some 600m north of the main campus of Aberystwyth University, and approximately 1.3km north-east of Aberystwyth town centre (Figure 2). The name of the proposed development area is somewhat of a misnomer and is in reference to the former Penglais Farm located to the south of the field which has been subsequently demolished and replaced with student accommodation and further university facilities. The proposed solar farm is situated within a south facing field, roughly 3.8 hectare in size and will be enclosed by a 1.8m high fence. The solar farm will be connected to an electricity substation at the south-eastern corner of the university campus, approximately 1km away, using existing, subterranean ducting (Appendix 1).
- 4.2 The proposed solar field is bordered to the west by a single track which terminates at a bridleway that bounds the southern and eastern extents of Aberystwyth Golf Course. The proposed solar farm field is situated atop a knoll, around 140m A.O.D, and overlooks the university campus to the south and town centre to the southwest. The land continues to gently rise to the north and southeast. The underlying geology is Sandstone and Mudstones belonging to the Aberystwyth Grits Group; Sedimentary Bedrock formed approximately 433 to 444 million years ago in the Silurian Period (Source; British Geological Survey).





**Figure 2:** Location map showing assessment area (outlined in red) at Fferm Penglais

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## **5. HISTORICAL, LANDSCAPE AND ARCHAEOLOGICAL BACKGROUND**

### **5.1 Historic Background**

5.1.1 The following summary is taken from the 2011 desk-based assessment of the former Penglais Farm undertaken by Glamorgan Gwent Archaeological Trust ahead of the demolition of the farm in favour of redevelopment by the university (Bowen, 2011). It places the proposed solar development within its broader historical and geographical context. Historic assets referenced in the text which are relevant to the current assessment are discussed later in this report.

#### **5.1.2 Prehistoric (up to AD43) and Roman AD43 – 410**

*A Neolithic stone axe found on Pen Dinas is one of the earlier pieces of archaeological evidence in the surrounding area of the period. One of the earliest known examples of human occupation in the study area itself is a Bronze Age Round Barrow (PRN 6182) located 233m to the northeast of the development area. The barrow was constructed on the summit of a ridge c.260m southeast of Bryncarnedd. The site was recorded by the RCAHMW as a circular parchmark in grassland alongside a modern fence boundary. The site was not identified on any of the sorties of the aerial photographic resource and the field appears to have been extensively ploughed. However, primary burials within this type of funerary monument are often found inserted into subterranean cists and therefore it is important to note that archaeologically significant features may still survive beneath the ploughsoil. A Bronze Age occupation site (PRN 8319) is also known at Ash Grange in Faenor over 1km east to of the development area and 1.9km to the east is a Bronze Age burnt mound (PRN 12772), suggesting the potential for similar sites within the development area. A Bronze Age palstave and a triangular barbed and tanged arrowhead have also been found on Pen Dinas.*

*An Iron Age hillfort is well documented at Pen Dinas (PRN 92236) and is the largest in Ceredigion. The fort is dominantly situated on a coastal hill to the south of the town. The location is easily defended and well placed to exploit the nearby trade routes. Archaeological excavation by Daryll Forde between 1933 and 1937 identified four main phases of occupation. The first phase of the fort was a simple defended site on the north summit, enclosed by a rampart of packed rubble and an outer ditch. The first fort was abandoned and second one was constructed on the higher summit to the south. This fort had elaborate gates and a substantial stone-walled rampart with an outer ditch, but eventually fell into partial ruin while parts of it were burnt. The third phase was the re-occupation of the south fort and the addition of new defences and the repair of the existing rampart. The fourth and final phase saw the construction of further ramparts linking both summits and a new main gate. The stone-walled isthmus gate stood as high as a two-storey building and was crossed by a wooden bridge supported on four massive timber posts. The inside of the south fort has latterly been ploughed, but approximately a dozen round housed can still be seen. These take the form of circular or D-shaped scoops, cut into the bedrock providing a level building platform. Datable evidence from the fort includes jar sherds with stamped decoration around the rim c.100BC (Forde et al, 1963).*

*The evidence for a Roman presence or at least of contact with Roman culture, is suggested in the form of a late Roman coin of the emperor Maximian (AD 307) found at Pen Dinas, although the most substantial evidence for the Roman period is a for (PRN 7719) near Cwmbwrwyno. The site is situated on a ridge, which would have overlooked the point where the nearby Roman road crossed the Afon*

*Rheidiol. The fort appears to have triple ditch defences with a double ditch annexe to the southwest and was identified using aerial photographic sources, but is no longer clearly visible from the ground. Excavation at the site was unable to definitively date the demolition and abandonment of the fort, but the small amount of pottery found dated to a period after 120 AD.*

### **Early medieval (410 to 1066)**

*The archaeological and documentary evidence for the Early-medieval period in Wales is generally sparse. The most significant archaeological evidence for the area during the period comes from Llanbadarn Fawr. The earliest documentary reference to the site dates to 988 and states it was raided by Vikings (Edwards 2007). A "clas" or ecclesiastical community was supposedly formed in the locality by St Padam as early as the sixth century and is latterly said to have "nurtured a tradition of scholarship" (Evans, 1992). By the eleventh and early twelfth centuries it had become a renowned centre of learning and is considered the most important monastic foundation in Ceredigion and possibly the seat of a bishop (Edwards 2007). The Life of St David was composed at the site between 1064 and 1082 by Rhigyfarch, who appears to have been a monastic bishop (Ludlow, 2002). Within the grounds of the present church are two ninth to eleventh century inscribed stone crosses and St Padarn's parish was once the largest in Wales. The present church dates to the thirteenth century and is associated with the development of the town of Aberystwyth.*

### **Medieval (1066 to 1485)**

*The first Norman castle to be built in Aberystwyth was an earthwork situated on Tanycastell Hill, south of the present town. The earthwork was reported to have been built by Gilbert fitz Richard in 1109 or 1110 but was destroyed in 1136 (Lloyd et al, 2006). The Brut y Tywysogion mentions Rhys ap Gruffudd breaching and burning a castle called Aber-rheidiol in 1164 (Jones, 1952) (Egloff and Graham, 2009). The third castle was founded by King Edward I in 1277 and was known as Llanbadarn Castle. Edward constructed it with the aim of strengthening the English presence in Ceredigion (Lloyd et al 2006).*

### **Post-medieval (1485 to 1901) and Modern (1901 to present)**

*The castle built by Edward I declined in the sixteenth century, but the town grew with the exploitation of lead and silver in the hills to the east (Egloff and Graham, 2009). The prosperity of the lead mines in Cardiganshire eventually grew enough for Charles I to grant Thomas Bushell a licence to mint at Aberystwyth Castle in 1637. However, during the Civil War the castle came under siege, forcing production at the mint to halt (Dodd 1972). The castle was then dismantled together with most of the town walls in 1649 (Lloyd et al 2006). The RCAHMW records that John Probert laid out the grounds in front of the castle as a series of walks in 1790. An excavation in 1902 demonstrated that the castle consisted of two wards (inner and outer) with both sets of wall forming a slightly irregular rectangle (Soulsby 1983).*

*There is thought to have been little settlement expansion beyond the borough walls until the early nineteenth century when the prosperity of the lead mining, slate quarrying, herring fishing and ship building industries lead to the construction of Bath Street, Portland Street, North Parade and Marine Terrace. The town ousted Cardigan as the principal trading centre on the west coast in the same period (Soulsby, 1983). Accordingly the population expanded and the town*

*became the largest in Mid Wales. Further expansion was notable with the establishment of the first University College of Wales in 1872 and the development of the town as a tourist attraction. The Aberystwyth Improvement Company initiated the construction of Aberystwyth Cliff Railways and the Royal Pier Pavilion. The railway was the only cliff railway in Wales and was opened to the public in 1896 and the Pier was built shortly after (Jones, 1976 – 1979). It was the combination of mountain scenery and sea-bathing, which was known to have medicinal benefits that attracted many visitors to the town (Lewis, 1960 – 1963).*

*Another factor in the growth of the town was the university. It had previously maintained itself of voluntary contributions, as before 1880 any post-elementary education in Wales was self-reliant. The date marks the year when exchequer grants were accepted to support two colleges for north and south Wales respectively and latterly the existing institution at Aberystwyth was also given grants (Dodd, 1972). The university comprises of Old Collage located near the sea front and the latter edition of Penglais Campus.*

*The National Library of Wales was constructed in Penglais in the early twentieth century, with the central block opening in 1937 and the final section opening in 1955 (RCAHMW); the building was designed by Sydney K. Greenslade (Lloyd et al, 2006). A campaign for a National Library began in 1873 and a committee to collect Welsh material and house it at the University College in Aberystwyth was established (National Library of Wales website).*

*The landscaping of the University of Wales, Aberystwyth campuses, particularly the earlier Penglais campus, is of exceptional historic interest as an important modern landscaping scheme in Wales, as such it has a grade II\* status as a Registered Park and Garden (301589/PGW (Dy) 47 (CER)). The sophisticated layout is sensitive to the character of the site. The planting is unusual and varied. One section of Penglais campus is a woodland garden designed by architect Brenda Colvin and is one of few of her schemes to have survived. The area also comprises a twentieth century botany garden. The grounds originally accompanied the Edwardian house Plas Penglais (PRN 57337/ LB 10416). To the south of the road, extensive landscaping was undertaken in the late 1960s when the new University Campus moved up the hill from its earlier site in the town.*

## **5.2 Historic Landscape Character Area**

- 5.2.1 The proposed solar farm area does not fall within the boundaries of any Historic Landscape Character (HLC) areas recorded on the Register of Landscapes of Outstanding Historic Interest in Wales (Cadw 1998).

## **5.3 Conservation Areas**

- 5.3.1 The proposed solar farm field does not fall within a conservation area.

## **5.4 LANDMAP**

- 5.4.1 Originally compiled by the Countryside Council for Wales and superseded by Natural Resources Wales, LandMap is a unique national information system, allowing information about landscape in Wales to be collected and organised into a nationally consistent dataset. The LANDMAP database includes both objective and subjective information and is designed to enable landscape quality to be

taken into account in decision making. Characteristics of the landscape are defined as the:

- Cultural Landscape Services (this superseded the Cultural Landscape data in July 2020)
- Geological Landscape
- Historical Landscape
- Landscape Habitat
- Visual Sensory Landscape

5.4.2 The Cultural Landscape Services dataset records associations with the landscape that are linked to cultural activity both tangible and intangible, it has primarily been used in the planning related arena and in landscape related decision making.

5.4.3 The Historic Landscapes dataset focuses on archaeological and historical sites and how they relate to each other and to the surrounding landscape. The features mapped include those resulting from past human activity and structurally prominent patterns and features that contribute to the historic character of the present landscape. Historic Landscape data can be used to assess the speed, direction and effect of change and to provide an understanding of how the landscape has evolved.

5.4.4 The proposed solar farm falls within Historic Landscape Area CRDGNHL039<sup>2</sup> and summarized as:

*This large area is essentially agricultural, consisting of medium-sized irregular fields (bounded by hedges set on banks) and dispersed farms. There is some deciduous woodland on steep slopes and several small coniferous plantations. Also included are the small nucleated/linear settlements of Bow Street, Comins Coch, Rhydypennau and Llandre, as well as some caravan park/leisure sites at Clarach. There are currently 187 HERs, 4 SAMs and 33 LBs in the area. These primarily relate to prehistoric cropmark and hillfort sites and post medieval domestic, industrial and civic buildings.*

5.4.5 The Visual and Sensory Landscape dataset maps the landscape as perceived through our senses based on the physical attributes of landform and land cover. The perceived characteristics of the landscape are primarily determined visually, but the senses of hearing, smell and touch are also considered.

5.4.6 Finally the proposed solar farm site lies within the Visual and Sensory Landscape Aspect Area CRDGNVS126<sup>3</sup> which is described as follows:

*Rolling landform with a series of rounded coastal plateau areas overlooking Cardigan Bay, divided into small to medium sized pasture fields. A series of sharply defined wooded valleys are incised into the plateau and fragments aspect area into a number of separate units but these should be viewed in combination and form one area. Throughout, vegetation patterns are dependant on the degree of exposure, with deciduous woodland and overgrown hedges located on the lee slopes and in valleys. Elsewhere, in more exposed hillsides and tops, fields comprise of low uniform hedges and hedge banks, with gorse located on steeper slopes and along hedgebanks. The views out over the sea and coast are*

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<sup>2</sup> [https://landmap-portal.naturalresources.wales/view\\_survey.php?survey\\_id=12615](https://landmap-portal.naturalresources.wales/view_survey.php?survey_id=12615)

<sup>3</sup> [https://landmap-portal.naturalresources.wales/view\\_survey.php?survey\\_id=11591](https://landmap-portal.naturalresources.wales/view_survey.php?survey_id=11591)

*panoramic from more elevated positions and there are occasional glimpses along valleys. The area is a popular tourist destination in parts and this is displayed by a scattering of caravan parks and other associated land uses.*

## **5.5 Scheduled Monuments**

- 5.5.1 There are no Scheduled Monuments recorded within the proposed solar farm field or within the 1000m search area for the development.

## **5.6 Registered Parks and Gardens**

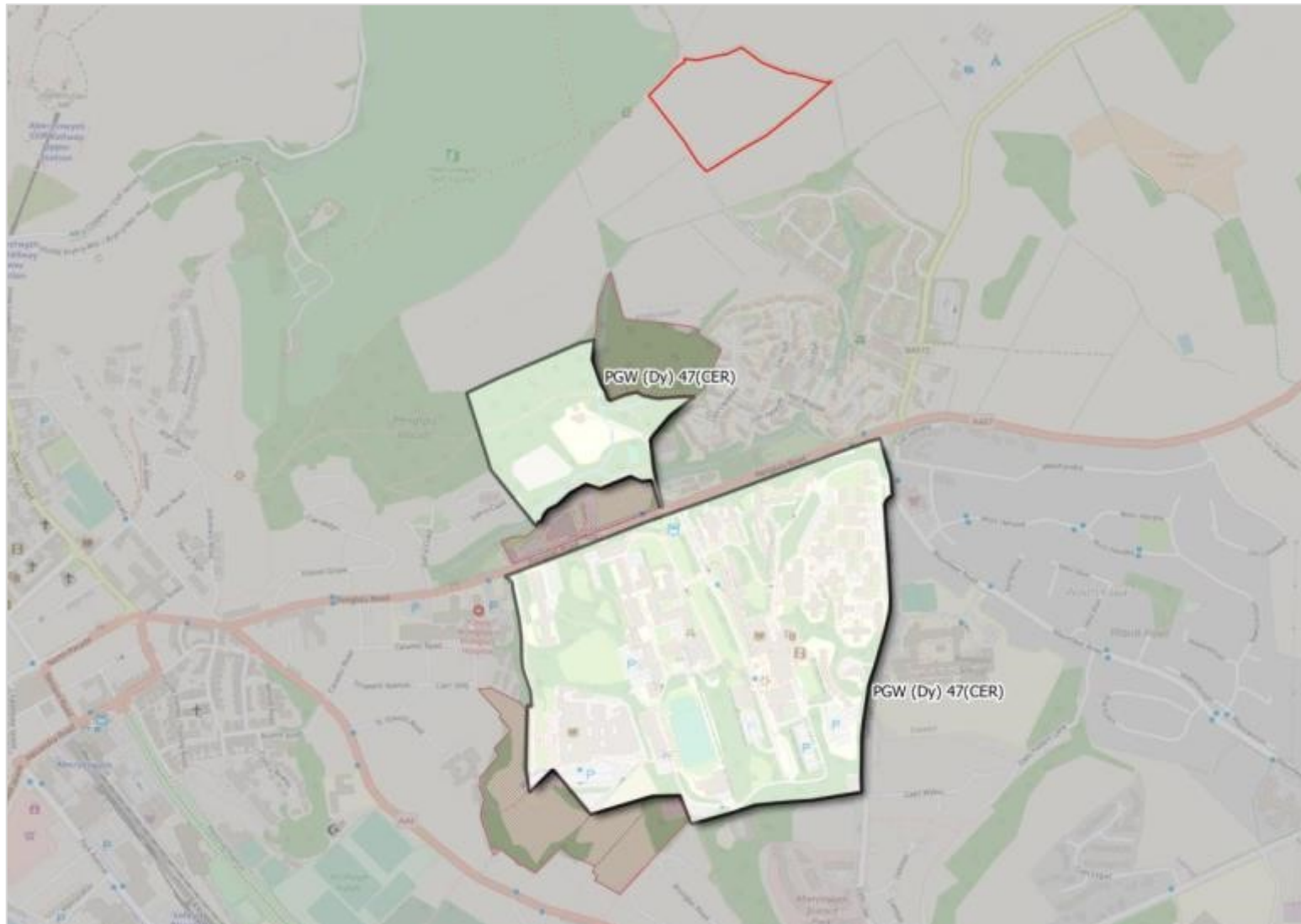
- 5.6.1 The Grade II\* Registered Park and Garden of the University of Wales, Aberystwyth; Plas Penglais, Penglais Campus and Llanbadarn Campus and National Library of Wales (PGW (Dy) 47 (CER) (Cadw, 2002) is located around 365m south-west of the proposed solar field (Figure 3). The northern Essential Setting polygon of the Penglais campus is located approximately 290m south-east of the development field. The park and garden comprised informal gardens, a former botany garden, landscaped university campuses and landscaped library grounds.

- 5.6.2 The primary reasons for grading cited in the Register is as follows:

*The landscaping of the University of Wales, Aberystwyth campuses, particularly the earlier Penglais, campus, is of exceptional historic interest as one of the most important landscaping schemes in Wales. The sophisticated layout, including the landscaping, is sensitive to the character of the sites and the planting, which is unusually choice and varied, both enhances the buildings and helps to integrate the sites. One section of the Penglais campus was designed by the well-known landscape architect Brenda Colvin and is one of the very few of her schemes to have survived. A number of women have played a key role in the development and planting of the whole site.*

*The gardens of Plas Penglais, part of which were laid out as a Botany Garden for the university, contain many choice and half-hardy plants.*

- 5.6.3 The main phases of construction are: 1770; 1947 (Plas Penglais); 1911-27 (National Library of Wales); 1937 – 1959; 1965 onwards (Penglais Campus) and 1970s for the Llanbadarn Campus. The park and garden also includes Plas Penglais (Grade II, ref 10416), the National Library of Wales (Grade II\*, ref 10417) and the Cledwyn Main Building (Grade II, ref 87747).



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**Figure 3:** Highlighted are the two areas encompassing the Registered Park & Garden at the Penglais campuses of the University of Wales, Aberystwyth. Also shown in the lightly hashed red polygons are the Essential Setting polygons. The proposed solar farm field is shown to the north, outlined in red.

## **5.7 Listed Buildings**

- 5.7.1 There are nine listed buildings located within 1000m of the proposed development area. The National Library of Wales building falls just beyond this search radius but has been included. These buildings are summarized in Table 2 and shown in Figure 4. All of these assets are post-medieval in date, are Grade II listed and are considered to be of regional importance.

## **5.8 Non-designated HER assets**

### **General**

- 5.8.1 The regional Historic Environment Record maintained by the Dyfed Archaeological Trust records 43 undesignated historic environment assets within 1000m of the proposed solar farm development area. The sites are presented in Table 3 and are shown in Figure 5. There are no sites recorded directly within the development field. Seven of the returned records are associated with the Listed Buildings presented in Table 2 and shown in Figure 4.
- 5.8.2 The National Monument Record (NMR) maintained by the Royal Commission for Ancient and Historic Monuments in Wales (RCAHMW) returned 25 sites located within 1000m of the proposed solar farm development area. Of these, 5 were in reference to Listed Buildings (presented in Table 2) and the remaining are undesignated heritage assets presented in Table 4 and shown in Figure 5. There are no recorded assets within the proposed development area.
- 5.8.3 The following information is laid out chronologically to provide a brief archaeological and historical background for the development area and its environs for each period, along with the relevant HER and NMR entries pertaining to that period.

### **Palaeolithic & Mesolithic**

- 5.8.4 There are no assets of these periods recorded within the 1000m search radius of the development area.

### **Neolithic and Bronze Age**

- 5.8.5 A flint 'thumb scraper (PRN 8219) was recovered from a woodland path somewhere near Aberystwyth. The exact findspot is unknown. Elsewhere the NMR records a parchmark indicating a possible round barrow (NPRN 90663) circa 260m south-east of Bryncarnedd.

### **Iron Age**

- 5.8.6 There are no assets of this period recorded within the 1000m search radius of the development area.

### **Roman Period**

- 5.8.7 The HER returned a record for a findspot (PRN 3996) within 1000m of the proposed solar farm development field, although the location is only a 6 figure grid reference and the nature of the find is not disclosed.

***Early Medieval & Medieval Period***

- 5.8.8 There are no assets of this period recorded within the 1000m search radius of the development area.

***Post Medieval & Modern Period***

- 5.8.9 The HER returned 35 records for sites pertaining to this period within 1000m of the proposed solar development farm. Of these, 12 are specifically recorded farmstead whilst the remaining include further built structures and buildings, and also 3 quarries in the surrounding area. The NMR returned 22 records for the same period, and in concordance with the sites recorded in the HER. These assets are presented in Table 3 and shown in Figure 5.

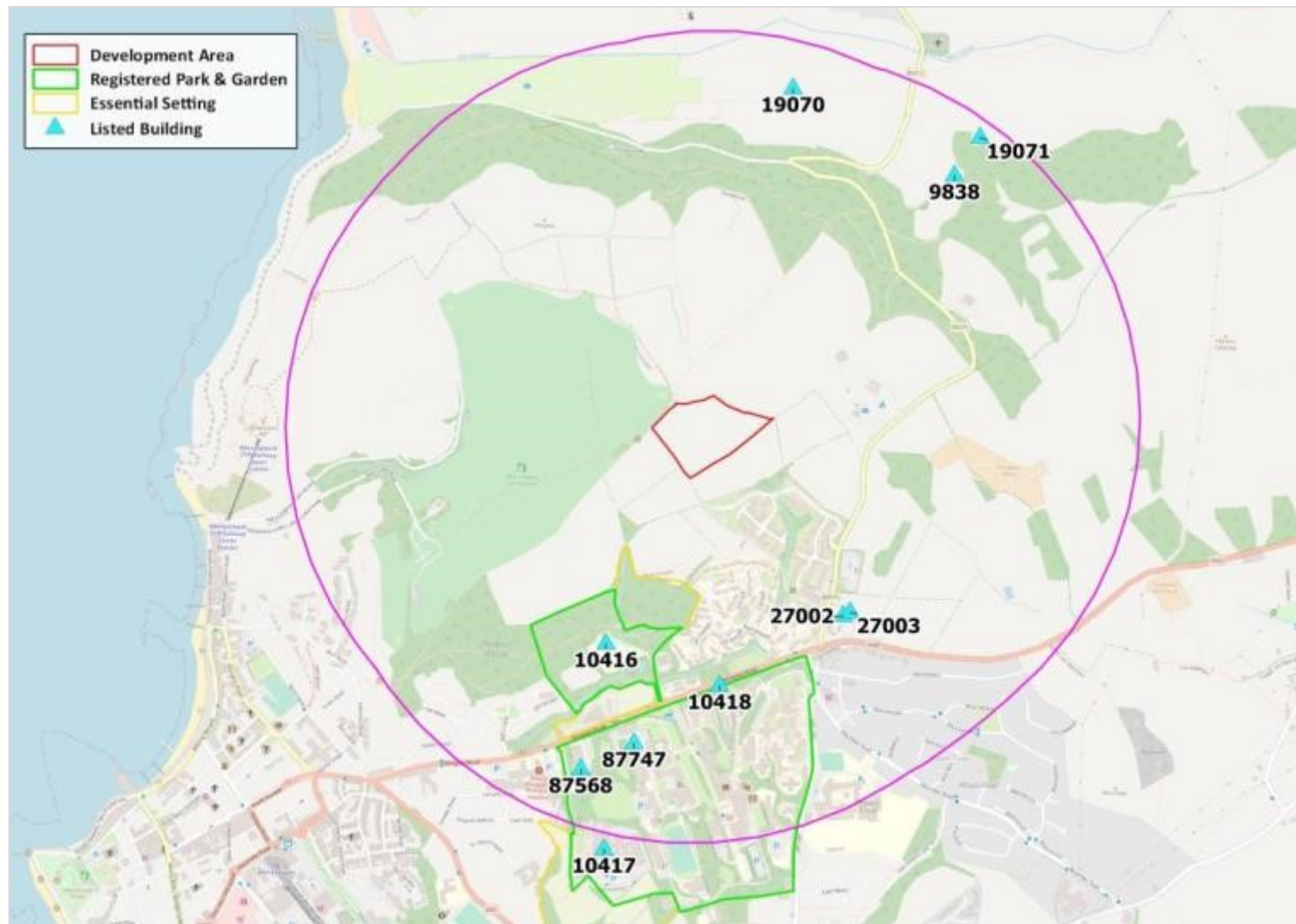
***Unclassified/Unknown***

- 5.8.10 A cropmark of unknown nature (PRN 4841) within 1000m of the proposed solar farm was recorded by the Ordnance Survey in 1976. Elsewhere the RCAMHW records two gardens, depicted on the 2<sup>nd</sup> edition Ordnance Survey 25-inch map of Cardiganshire published in 1905 (NPRN 265024 & 256083) which are likely to be post-medieval in origin.



**Table 2:** Listed buildings within 1000m of the proposed solar farm at Fferm Penglais and shown in Figure 4.

LB Ref	GRADE	PRN	NPRN	NAME	SUMMARY	PERIOD	NGR
9838	II	7086	5353	Plas Cwmcynfelin	Rural dwelling recorded by RCAHM in 1976 and noted as having associated stables.	Post Medieval	SN6037883470
10416	II	57337	35126	Plas Penglais	A late Georgian building: 2-storeys plus attic and basement, with a 3-window stucco main elevation.	Post Medieval	SN5942482188
10417	II*	4843	23293	National Library of Wales	Designed by Sidney Kyffin Greenslade, assisted by Reginald Blomfield and carried out in stages under Adams, Holden and Pearson; occupation began in 1916; stone and woodcarving by Joseph Armitage 1932/36. Central block opened in 1937 and the final section of the original design opened in 1955.	Post Medieval	SN5941581622
10418	II	25265		Milestone	At the roadside near the top of Penglais Hill on the NE outskirts of Aberystwyth.	Post Medieval	SN5973482074
19070	II	123568	419788	Fynnon Ddu	An distinctive mid C19 estate farmhouse, retaining its original character, particularly the timber latticed fenestration.	Post Medieval	SN5992983725
19071	II	17413		Hen-gwm	Farmstead shown on 1964 6" OS map. RPS October 2001 Site of dwelling preceding Cam Cynfelyn.	Post Medieval	SN60428352
27002	II		407118	Plashendre	A villa of c1885, said to have been built for a Mr Roberts, Aberystwyth timber merchant. It is a remarkably unaltered late Victorian house, of an eccentric and indefinable style, quintessentially Victorian, with complete surviving interior detail, also mixed in influences.	Post Medieval	SN6007082260
27003	II	58033		Coach-house and stable at Plashendre	Grade II listed coach-house and stable	Post Medieval	SN6009282274
87568	II	118016	403952	Pantycelyn, Aberystwyth University	Pantycelyn Hall halls of residence was one of the first buildings to be constructed on the Penglais Campus site	Post Medieval	SN5935581846
87747	II			Cledwyn Main Building	Simple stripped down Georgian modern style. 3 storeyed, 5 principal bays. Dates from 1937	Post Medieval	SN5950181915



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**Figure 4:** Location map showing the listed buildings (blue triangles) within 1000m of the proposed solar farm development area (outlined in red).



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**Figure 5:** Location map showing the non-designated historic environment assets recorded within 1000m of the proposed solar farm development area (outlined in red). HER points are shown as stars, RCAHMW points as blue circles.

**Table 3:** Non-designated sites recorded in HER within 1000m of the proposed solar farm area and shown in Figure 5.

PRN	SITE_NAME	TYPE	PERIOD	SUMMARY	NGR
3996	Aberystwyth	Findspot	Roman	Approximate findspot, NGR indicative RJ 2002	SN590820
4841	Penglais Hill	Unknown; Cropmark	Unknown	Cropmark of unknown nature recorded by the OS in 1976. RPS September 2001	SN59938187
6181	Plas Hendre	Hendre	Medieval; Post Medieval		SN6000082000
6182	Bryn Carnedd	Round Barrow	Bronze Age	Single round barrow on summit of ridge, north-west of Frongoch farm, c260m south-east of Bryncarnedd. Site appears as circular parchmark in grassland alongside modern fence boundary. Other faint linear geological markings in vicinity. JS from RCAHMW	SN60298277
7073	Cwmcynfelyn Stables	Stable	Post Medieval	Late 18th century, stone, slate roof, brick stacks, pediment in front, large carriage entrance with rounded head.	SN60328346
7086	Cwm Cynfelyn	Dwelling	Post Medieval	Rural dwelling recorded by RCAHM in 1976 and noted as having associated stables. RPS September 2001	SN6037883470
8219	Allt Glas	Findspot	Mesolithic; Neolithic	A flint 'thumb scraper, recovered from a woodland path somewhere near Aberystwyth. The exact findspot is unknown. NAP 2004.	SN5900083000
16131	Ffynnon-Ddu	Well	Post Medieval		SN5991283711
16132		Quarry	Post Medieval		SN598835
16135		Quarry	Post Medieval		SN58808215
16136		Lodge	Post Medieval		SN59588203
17413	Hen Gwm	Farmstead	Post Medieval	Farmstead recorded on 2nd edition, 1:2500 Ordnance Survey map.	SN60428352
17420	Pen Glais	Mansion	Post Medieval		SN59428218
19217		Quarry	Post Medieval		SN60088283
25265	Penglais Road	Milestone	Post Medieval		SN5973482074
36866	University Botany Garden	Garden	Post Medieval		SN5900082000
56264	Rhyd Goch	Cottage	Post Medieval	A cottage marked on the old series Ordnance Survey map of 1837. Still marked on the 1st ed Ordnance Survey map of 1888 but it had been abandoned by the 1905 map.	SN6068483032
56326	Bryn-Carnedd	Farmstead	Post Medieval	Farmstead recorded on 2nd edition, 1:2500 Ordnance Survey map.	SN6007782934
56327		Magazine	Post Medieval	A small magazine building marked on the 1st edition Ordnance Survey map of 1889. It's unclear what it's associated with, possibly nearby quarrying activity.	SN5962482858
56328		Well	Post Medieval	A well marked on the 2nd edition Ordnance Survey map of 1905 adjacent to Bryn-carnedd farmstead (PRN 56326).	SN6011682961
56329		Building	Post Medieval	A small building situated in the corner of a field. Marked on the 2nd edition Ordnance Survey map of 1905. Function unknown, it may be an agricultural building or it may be associated with nearby quarry activity.	SN6004982819

57337	Plas Penglais	House	Post Medieval	Grade II listed house	SN5942482188
58004	Fynnon Ddu	Farmhouse	Post Medieval	Grade II listed farmhouse	SN5993683709
58005	Hen-Gwm	House	Post Medieval	Grade II listed house	SN6044883574
58032	Plashendre	House	Post Medieval	Grade II listed house	SN6007382264
58033	Coach-House And Stable At Plashendre	Coach-house and Stable	Post Medieval	Grade II listed coach-house and stable	SN6009282274
96754	Cherry Cross Cottage	Cottage	Post Medieval	Cherry Cross cottage is shown on the first edition OS map (1887) and on 2001 OS map	SN59878232
105515	Old Penglais	Agricultural Buildings	Post Medieval	Buildings, possibly associated with Old Penglais Farmhouse, recorded on the historic Ordnance Survey maps but no longer shown on modern mapping (M.Ings, 2013)	SN59468224
105516		Building	Post Medieval	Building recorded on the historic Ordnance Survey maps but no longer shown on modern mapping (M.Ings, 2013)	SN58828256
105517		Building	Post Medieval	Two adjacent buildings recorded on the historic Ordnance Survey maps but not shown on modern mapping (M.Ings, 2013)	SN58828261
109274	No 24 Constitution Hill	Observation Post	Modern	The site of number 24 Observation Post is shown on an undated map (late 1940s) with a proposed new site to the south. A number of observation posts were constructed along the coast to track the trajectory of missiles tested on the Aberporth range (PRN	SN58628314
109282	No 29 Constitution Hill	Observation Post	Modern	A new observation post was built on Constitution Hill in 1957, in addition to the observation post No 24. A number of observation posts were constructed along the coast to track the trajectory of missiles being launched from the Projectile Development	SN58628300
118016	Pantycelyn	Hall Of Residence	Modern	Pantycelyn Hall was one of the first buildings to be constructed on the Penglais Campus site. It was closed in September 2015. Grade II Listed Building.	SN5935581846
122565	Bryn-Y-Mor	Farmstead	Post Medieval	Farmstead recorded on 2nd edition, 1:2500 Ordnance Survey map.	SN5890382499
122566	Bryn-Llwyd	Farmstead	Post Medieval	Farmstead recorded on 2nd edition, 1:2500 Ordnance Survey map.	SN5879082820
122567	Pen-Y-Nant	Farmstead	Post Medieval	Farmstead recorded on 2nd edition, 1:2500 Ordnance Survey map.	SN5899682839
122568	Pen-Glas-Fach	Farmstead	Post Medieval	Farmstead recorded on 2nd edition, 1:2500 Ordnance Survey map.	SN5937082998
122570	Ty-Gwyn	Farmstead	Post Medieval	Farmstead recorded on 2nd edition, 1:2500 Ordnance Survey map.	SN5909283673
123568		Farmstead	Post Medieval	Farmstead recorded on 2nd edition, 1:2500 Ordnance Survey map.	SN5992983725
123569		Farmstead	Post Medieval	Farmstead recorded on 2nd edition, 1:2500 Ordnance Survey map.	SN5979282517
123570		Farmstead	Post Medieval	Farmstead recorded on 2nd edition, 1:2500 Ordnance Survey map.	SN6048782628
123577		Farmstead	Post Medieval	Farmstead recorded on 2nd edition, 1:2500 Ordnance Survey map.	SN5993181714
123578		Farmstead	Post Medieval	Farmstead recorded on 2nd edition, 1:2500 Ordnance Survey map.	SN5948882245



**Table 4:** Non-designated sites recorded in the RCAHMS's NMR within 1000m of the proposed solar farm area and shown in Figure 5

NPRN	NAME	TYPE	PERIOD	NGR
5202	Brynllyd	Dwelling	Post Medieval	SN58798282
5353	Plas Cwm Cynfelin, Llangorwen	Dwelling	Post Medieval	SN60378347
5433	The Gable, Penglais Road	Dwelling	Post Medieval	SN592818
7233	Waunfawr Calvinistic Methodist Sunday School (Waun-Fawr), Waunfawr,	Chapel	Post Medieval	SN60118194
23264	Aberystwyth Arts Centre	Arts Centre	Modern	SN59878176
23511	Penglais Road Milestone	Milestone	Post Medieval	SN59728205
31489	Cwmcynfelyn-Stables	Stable	Post Medieval	SN60328346
31544	Plas Penglais, Outbuilding	Outbuilding	Post Medieval	SN59418220
35126	Plas Penglais	Dwelling	Post Medieval	SN59428218
90663	Bryncarnedd Round Barrow	Round Barrow	Prehistoric	SN60288277
265024	Plas Hendre, Garden, Aberystwyth	Country House Garden	Unknown	SN6004982279
265083	Cwm-Cynfelin, Garden, Clarach	Garden	Unknown	SN6036483430
301589	University College Aberystwyth;Penglais Botanic Garden, Aberystwyth	Garden	Post Medieval	SN5954182120
302108	Plas Cwmcynfelin, Garden, Aberystwyth	Country House Garden	Post Medieval	SN6036383430
309001	University College Of Wales, Aberystwyth;Aberystwyth University	University	Modern	SN59698180
402375	Penglais Quarry Magazine, Aberystwyth	Magazine	Post Medieval	SN58798226
403952	Pantycelyn, Welsh Hall Of Residence.	University	Modern	SN5934681884
403958	Bryn Aberoedd, Cae Melyn	House	Modern	SN5900082103
406437	Penglais Comprehensive School	School	Modern	SN60078176
407118	Plas Hendre, Aberystwyth	House	Post	SN60078226

			Medieval	
409155	Bronglais Hospital	Hospital	Modern	SN59188183
411511	Bryn-Y-Mor Road	Terraced Housing	19th Century	SN5860482545
419608	Glyn Y Gronfa Reservoir, Off Bryn Y Mor Road, Aberystwyth	Reservoir	Post Medieval	SN5861182586
419788	Fynnon Ddu, Llangorwen	Farmhouse	Post Medieval	SN5993083727
420288	Frongoch Experimental Farm	Combination Farm Building	Modern	SN6056882610

.

## **6. ASSESSMENT OF EVIDENCE**

### **6.1 Previous Archaeological Work**

- 6.1.1 An archaeological desk-based assessment was undertaken by Glamorgan-Gwent Archaeological Trust in 2011 ahead of the redevelopment of the former Penglais Farm, now superseded by student accommodation (Bowen, 2011). The assessment concluded that the effects of the redevelopment of the farm were “severe” and subsequently, a Level 3 building survey of the farm buildings was undertaken in 2013 prior to the redevelopment (ERN 105345; Ratty, 2013).

### **6.2 Historic Mapping**

#### ***1843 Llanbadarn Fawr Parish Tithe map***

- 6.2.1 The Llanbadarn Fawr tithe map of 1843 shows the established field system and dispersal of farmsteads at the mid-19<sup>th</sup>-century (Figure 6). The field boundaries of the proposed solar farm site are consistent with the present although the bridleway which runs along the northern perimeter of the field is not yet extant. The development field is divided into two fields of equal size and are recorded in the accompanying apportionments as arable. A small farmstead located immediately south of the solar field is likely to be the old Penglais Farm. Elsewhere, the parkland and mansion house of Plas Penglais are depicted to the southwest of the development field.

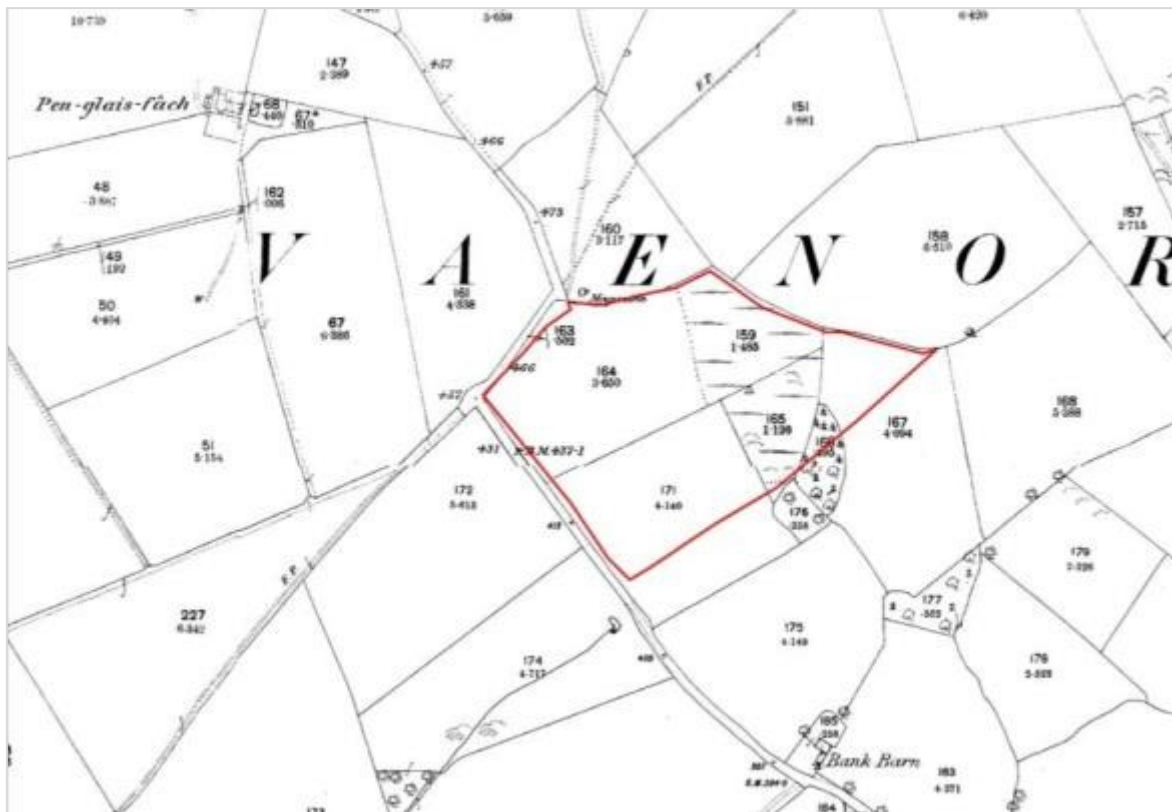


**Figure 6:** The Llanbadarn Fawr tithe map of 1843. The approximate location of the proposed solar farm field is shown in red.



### **1st edition 1888 1:2500 Cardiganshire Ordnance Survey map**

6.2.2 The 1<sup>st</sup> edition 1:2500 Cardiganshire Ordnance Survey map of 1888 provides a more nuanced overview of the proposed solar farm development area (Figure 7). The bridleway which runs to the north of the area is now depicted, as are two footpaths which continue to the northeast of the field. A small "Magazine" (PRN 56327) is shown at this divergence, at the northern boundary of the development area. It is unclear what this feature is associated with for there isn't a nearby quarry (requiring explosives) depicted. Elsewhere, the proposed development area is still divided into two although the eastern half of the fields is delimited once again, indicating scrubby land in the eastern part of the area. A trig point is also depicted here. The small farmstead located in close proximity to the south of the development area is annotated as "Bank Barn" (PRN 123569).



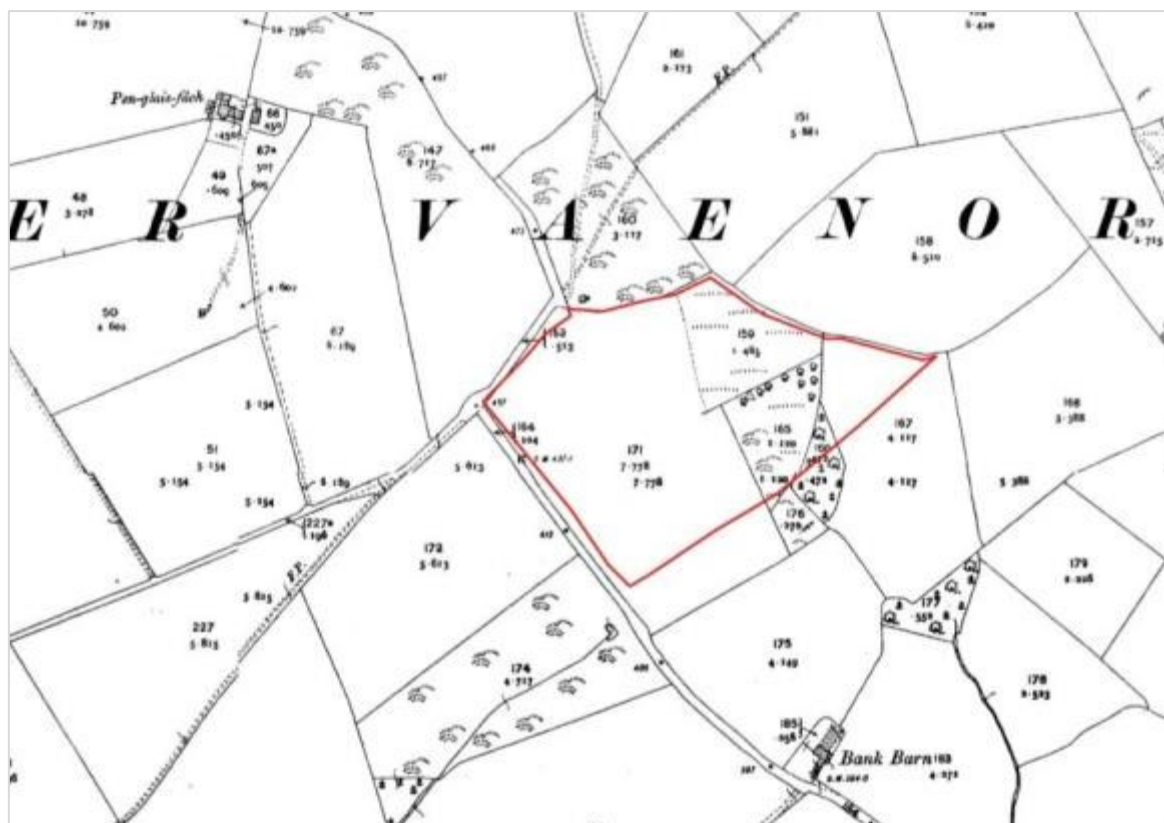
**Figure 7:** The 1<sup>st</sup> edition 1:2500 Cardiganshire Ordnance Survey map showing the proposed solar farm field (outlined in red) in the centre of the map.

### **2nd edition 1906 1:2500 Cardiganshire Ordnance Survey map**

6.2.3 The 2<sup>nd</sup> edition 1:2500 Cardiganshire Ordnance Survey map of 1906 shows little change from the first edition (Figure 8).

### **1m Digital Surface Model LiDAR data**

6.2.4 1m DSM LiDAR data, available from the Welsh Government Lle Portal, was consulted to check for any previously unrecorded features which may have been detected by the LiDAR. No such features were visible and subsequently the data was used to create a Digital Elevation Model to help assess the visual impact on the setting of the surrounding historic environment assets (and discussed later in this report).



**Figure 8** The 2<sup>nd</sup> edition 1:2500 Cardiganshire Ordnance Survey map showing the proposed solar farm field (outlined in red) in the center of the map.

## 7. SITE VISIT

- 7.1. A site visit was undertaken by the author on the 24th March, 2021 during dry and sunny weather conditions with clear visibility. Figure 9 shows the location of photographs taken during this site visit and are included in Appendix 2.
- 7.2. The proposed solar farm field was approached from the south-east via the single track, metalled lane which is accessed from the B4572 road that heads northwards from the main Penglais road. The track briefly meanders through the student accommodation and university buildings and gently climbs to the top of the knoll where it ends at a T – junction of the adjoining bridlepath. The highest ground north of the proposed solar field is now a golf course and golfers were visible pacing along the horizon.
- 7.3. A seemingly newly erected post and wire fence partitioned the field, east -west, and a small flock of sheep were grazing in the northern half of the field. Throughout the visit, the bridlepath transpired to be a very popular walking route with students and ramblers, and the T-junction of the metalled track and bridlepath at the north-western corner of the proposed solar farm field proved to be a convenient pausing place. From here, the site commands superb views to the south and southwest, overlooking the Penglais campus and town centre. Pen Dinas Hillfort (PRN 111371) is clearly visible (see photos 1 – 4).



Map data ©2021Google Maxar Technologies

**Figure 9:** Satellite image showing the location of photographs taken during the site visit to the proposed solar farm field (outlined in red). These photos are presented in Appendix 2.

- 7.4 When approached from the west along the bridlepath, the proposed solar field is most visible if one climbs the hedge bank to see it (See Photos 20 & 21). The site visit continued along the northern perimeter of the solar field (see Photo 10), and then into the field itself via a 5-bar gate located just off the right angled turn in the bridlepath, where it heads due north. This too is where the footpath meets the bridlepath and a well-worn route through the scrub indicates the continuation of the path to the northeast of the proposed development field. Here a dilapidated and vandalised modern building is situated in the location of the "Magazine" (PRN 56327) depicted on the historic mapping (See Photos 5 & 6). The eastern gable of the building survives to full height whilst the opposite has collapsed into the main cell of the building. It appears to be constructed from silica bricks, cement rendered and as evidenced by the tumble and general debris, the steeply pitched roof comprised sheets of corrugated, asbestos/white cement. Approximately 40m due north of this building is the extant remains of a second, larger building of similar construction (See Photos 7 & 8). The building materials and orientation suggest that it is contemporary to the former but its purpose is also unknown. It is also unrecorded.
- 7.5 The visit continued north-east along the footpath and assessed the visibility of the proposed solar farm from this location. Owing to the undulating topography, only the very top of the knoll is visible and the gorse hedgerow and trees screens much of this area (See photos 18 & 19). The proposed development area was then accessed and wide transects were walked within its boundary, primarily to assess the possibility of discovering any previously unrecorded archaeological features. None such were found and nor was there any evidence of the trig point depicted on the historic Ordnance Survey mapping. This location provided an excellent vantage point in all directions for the surrounding areas (See photos 11 to 14).
- 7.6 On foot, the proposed solar farm field is most visible from the metalled track which runs along the western boundary of the field (See photos 22 & 23). It is also clearly visible from a small playing field located on the western side of the road, opposite the student accommodation (See Photo 24). Finally, the site visit progressed to northern boundary of the Essential Setting polygon of the Registered Park and Garden. This polygon is densely wooded and a wide, tall bund placed directly opposite the boundary, entirely obscures the view from this location (Photo 26).



## 8. ASSESSMENT OF ARCHAEOLOGICAL POTENTIAL, IMPORTANCE, AND ASSESSMENT OF SETTING

**Table 5: Site potential definitions**

Archaeological Potential	Definition
<b>High</b>	Known archaeological remains of the period within the site area, or an abundance of remains of the period within the near vicinity
<b>Medium</b>	A number of archaeological remains of the period are present in the vicinity or wider area, and/or the topography or location of the site would be typical for remains of that period
<b>Low</b>	Few sites of a specific period are known in the wider area, or where the topography of the site is unlikely to contain remains of that period. Or where no archaeological records of a certain period are present, but the location of the site is one that would be considered suitable or typical for remains of that period to exist
<b>Negligible</b>	Where there is no evidence for archaeological remains of a certain period to be present and the location/topography is most unlikely to contain remains of that period, or where a site area has already been totally disturbed

**Table 6: Site importance definitions**

Site Importance (SI)	Definition of Site Category
<b>High</b>	Features of national importance - Scheduled Monuments, Listed buildings Grade I and II*, well preserved historic landscapes, registered parks and gardens and historic battlefields
<b>Medium</b>	Non-scheduled sites of regional or county importance. Listed Buildings Grade II, reasonably preserved historic landscapes
<b>Medium / Low</b>	Features of district or local importance but generally common features at a national or regional level
<b>Low</b>	Minor sites or sites so badly damaged that too little now remains to justify their inclusion in a higher grade
<b>Uncertain</b>	Features about which insufficient is known to attribute them to a higher rank, or which cannot be sufficiently accurately located to justify their consideration
<b>Negligible</b>	Where a site area has already been totally disturbed by previous development or natural processes

### 8.1 Potential

8.1.1 No previously recorded archaeological assets are located directly within the development area and this assessment did not reveal any previously unrecorded features. Indeed, the derelict modern buildings located in the field directly north of the proposed solar farm field, were the only previously unrecorded assets. In general and with the exception perhaps of the post-medieval field boundaries and farmsteads, the density of known archaeological assets within the 1000m search radius is also quite sparse. The landscape has not been significantly developed and save for the gradual encroachment of the university campus and the establishment of the golf course, little has change from the landscape mapped in the historic mapping. The archaeological potential for the proposed solar farm development area is **LOW to NEGLIGIBLE** in accordance with the criteria set out in Table 5.

### 8.2 Setting

8.2.1 The guidance stated within the *Setting of Historic Assets in Wales* (Cadw 2017) requires that the setting of the monuments should be defined and analyzed to allow the impact of development to be appropriately assessed. The setting of a historic asset includes the surroundings in which it is understood, experienced and appreciated, embracing present and past relationships to the surrounding

landscape. Its extent is not fixed and may change as the asset and its surroundings evolve. Elements of a setting may make a positive, negative or neutral contribution to the significance of an asset.

### ***Factors Contributing to the Setting of a Historic Asset***

*Setting describes the relationship of a historic asset to the surrounding landscape or townscape. Its importance lies in what it contributes to the significance of a historic asset. Setting may include a range of factors:*

- functional and physical relationships with other structures/historic assets and how these have changed over time*
- topographic features that influenced its location*
- physical character of the surrounding landscape or townscape, including any formal design or land use*
- the original layout of the historic asset and how this has changed*
- potential buried or archaeological elements surrounding the historic asset*
- views to, from and across the historic asset or place*
- formal or planned vistas*
- the prominence of the historic asset in views throughout the surrounding area*
- views associated with the aesthetic, functional or ceremonial purpose of the asset; for example, defensive sites, beacons or designed landscapes*
- historical, artistic, literary, place name, cultural or scenic associations might all contribute to the significance of a historic asset*
- other sensory elements — noise or smell associated with the historic asset*
- tranquility, remoteness, 'wildness'.*

8.2.2 The guidance states that an assessment of setting should be undertaken where proposed development plans are likely to impact upon:

- a World Heritage Site
- a nationally important ancient monument or archaeological remains (scheduled or unscheduled)
- a listed building
- a conservation area
- a registered historic park and garden

8.2.3 In this instance, there is the Registered Park and Garden of the University of Wales, Aberystwyth; Plas Penglais, Penglais Campus and Llanbadarn Campus and National Library of Wales (PGW (Dy) 47 (CER) and ten Listed Buildings to consider in this assessment. The Planning Policy Wales (Welsh Government, 2021) states that in the case for Listed Buildings "there should be a general presumption in favour of the preservation or enhancement of a listed building and its setting, which might extend beyond its curtilage. For any development

*proposal affecting a listed building or its setting, the primary material consideration is the statutory requirement to have special regard to the desirability of preserving that the building, its setting or any features of special architectural or historic interest which it possesses". Furthermore, "the effect of a proposed development on a registered park or garden, or its setting, is a material consideration in the determination of planning applications".*

## **9. IMPACT ASSESSMENT**

### **9.1 Impact Assessment Criteria**

- 9.1.1 The criteria for the assessment of impacts, both direct and indirect, on heritage assets is based on The Department for Transport 'Transport Analysis Guidance' (TAG), Unit A3 'Environmental Impact Appraisal: Section 8 Impacts on the Historic Environment', of May 2019, with additional information based on professional judgement. In addition, however, the guidance offered in the Setting of Historic Assets in Wales (Cadw 2017) has been utilised.
- 9.1.2 The TAG criteria divides the impacts into seven categories, ranging from Large Adverse (negative), Moderate Adverse (negative), Slight Adverse (negative), to Neutral, and then on to Slight Beneficial (positive), Moderate Beneficial (positive) and Large Beneficial (positive). The criteria can be found on pp62-63, at [https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment\\_data/file/940947/tag-unit-a3-environmental-impact-appraisal.pdf](https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/940947/tag-unit-a3-environmental-impact-appraisal.pdf).

### **9.2 Development Details**

- 9.2.1 The proposed solar farm is situated within a south facing field, roughly 3.8 hectare in size and will be enclosed by a 1.8m high fence. The solar farm will be connected to an electricity substation at the south-eastern corner of the university campus, approximately 1km away, using existing, subterranean ducting (Appendix 1). The submitted scheme also includes the installation of a 6m x 4m wide temporary access road and gate at the northeastern corner of the development field. A site compound c.10m x 10m and small substation measuring c. 5m x 10m are also proposed to be installed in the south-western corner of the field. No specifications regarding the solar panels have been provided.

### **9.3 Direct Impacts Upon Heritage Assets**

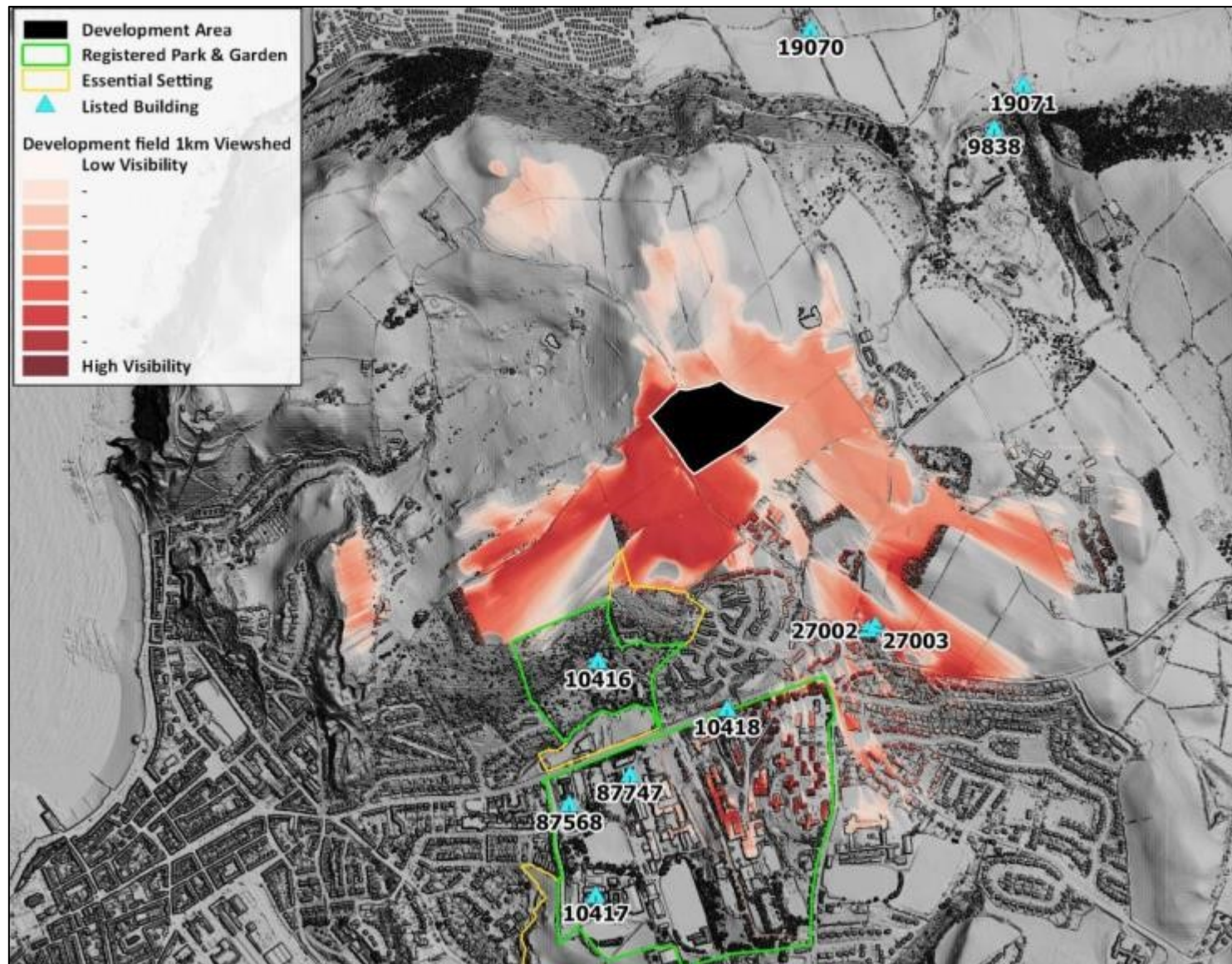
- 9.3.1 No known archaeological remains will be directly impacted upon by the proposed solar farm development and there is a low to negligible potential for previously unrecorded archaeology to be impacted.

### **9.4 Impacts to the Settings of Surrounding Designated Assets**

- 9.4.1 The 1m Digital Surface Model LiDAR data was used to undertake a viewshed analysis to assess the potential impact of the proposed solar farm development on the setting of the University of Wales, Aberystwyth; Plas Penglais, Penglais Campus and Llanbadarn Campus and National Library of Wales (PGW (Dy) 47 (CER) Registered Park & Garden and 10 Listed Buildings within 1000m of the development field.
- 9.4.2 Visibility of the development field from all points in the landscape within the 1000m search radius was assessed with the proposed fence height of 1.8m given as the target height for visibility in the landscape. The results are shown in Figure 10.

- 9.4.3 Special consideration was given to the impact on setting of the Registered Park & Garden and Listed Buildings. All areas from which the development field can be viewed within 1km radius are coloured in a gradient red hue where the darkest colour indicates the location from which the development would be most visible. Areas that are not coloured indicate no visibility within the 1km search radius.
- 9.4.4 The analysis indicates that the proposed solar farm development will be mostly visible when viewed from the fields to the west and south-west (See Photos 20, 21 & 24). The development will be less visible viewed from the east and southeast where treelines and the undulating topography obscure the view. The development will be visible to golfers at the south-eastern corner of the course which overlooks the northern part of the solar field but it is decreasingly overlooked when viewed from the north and north east, owing to topography, hedgerow and tree lines (See photos 18 & 19). Within this broader landscape context, it is considered that the proposed solar farm development will have a **Slight adverse (negative)** impact on the surrounding landscape and setting of the non-designated historic assets for it will likely be an intrusive, built feature in contrast to the rolling, arable fields at present.
- 9.4.5 The analysis shows that the proposed solar farm development will not be visible from within the registered landscape of the northern parcel of the Plas Penglais and former Botany Garden of the (PGW (Dy) 47 (CER) Registered Park and Garden. It appears that the wooded planting and densely wooded Essential Setting polygon, shields the designated asset, minimising the visual impact on setting. Indeed, the earth bund shown in Photograph 26 also screens the development. According to the LiDAR, the solar farm will only be visible from two Listed Buildings; namely LB ref 27002 & 27003. However, cross examination of the LiDAR data and recent Google Satellite imagery demonstrates that the LiDAR data predates the recent redevelopment at the Old Penglais farm. The once open fields situated to the northeast of these Listed Buildings are now occupied by multistorey student accommodation, so this view is in fact blocked. Indeed, this area was visited during the site survey after missing the turning for the single track to access the site, and the author is confident that the development field was not visible.
- 9.4.6 The proposed solar farm development does not directly impact upon the setting of the designated assets within the 1000m search radius and will also not incur any direct physical impacts. It will not detract from the visual or sensory elements of these designated assets, particularly the Registered Park and Garden and therefore it is considered that the development will have a **Neutral** impact on these nationally important features.





**Figure 10:** 1m DSM LiDAR data overlaid with viewshed analysis and designated assets within 1km of the proposed solar farm.

## **10. CONCLUSIONS AND MITIGATION PROPOSALS**

### **10.1 Archaeological Potential and Impact Assessment**

10.1.1 This desk-based assessment has utilised all available information to evaluate the direct and indirect impacts upon the known and potential historic environment features and their settings within 1000m of the proposed solar farm at Fferm Penglais.

10.1.2 The assessment concludes that:

- No known archaeological remains will be directly impacted upon by the proposed solar farm development and there is a **low to negligible potential** for previously unrecorded archaeology to be impacted.
- The proposed solar farm development will have a **Slight adverse** (negative) impact on the surrounding landscape and setting of the non-designated historic assets within 1000m of the development area.
- The development **will not directly impact** any designated assets, namely the Listed Buildings within 1000m of the development area and the University of Wales, Aberystwyth; Plas Penglais, Penglais Campus and Llanbadarn Campus and National Library of Wales (PGW (Dy) 47 (CER) Registered Park & Garden.
- The proposed solar farm is considered to have a **Neutral indirect impact** on these nationally important historic environment assets.

### **10.2 Mitigation**

10.2.1 No further mitigation is suggested ahead of the proposed development. If however, the proposed scheme is altered and incurs significant changes then it may be necessary to assess any changes against this initial assessment.

10.2.2 Ultimately, decisions on the requirement and scope of any further programme of archaeological works lies with the archaeological advisor to the local Planning Authority (Dyfed Archaeological Trust-Development Management).

## 11. SOURCES

### Published

Cadw, 1998. *Register of Landscapes of Outstanding Historic Interest in Wales*.

Cadw, 2002. *Register of Landscapes, Parks and Gardens of Special Historic Interest*.

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Department for Transport, 2019. *Transport Analysis Guidance (TAG), Unit A3 Environmental Impact Appraisal*

Welsh Government, 2021. *Planning Policy Wales*

### Unpublished

Bowen, F; 2011: *Penglais Farm, Aberystwyth, Ceredigion; Archaeological desk-based assessment*. Report No. 2011/044. Glamorgan-Gwent Archaeological Trust.

Ratty, S; 2013: *Penglais Farm, Aberystwyth, Ceredigion; Archaeological Building Recording*. Report Number 2013/02. Dyfed Archaeological Trust.

### Database

Dyfed Archaeological Trust Historic Environment Record, housed with Dyfed Archaeological Trust in The Corner House, 6 Carmarthen Street, Llandeilo, Carmarthenshire, SA19 6AE

RCAHMW Coflein Database <http://www.coflein.gov.uk/>

### Websites

British Geological Survey mapping portal. Available at:  
<http://mapapps.bgs.ac.uk/geologyofbritain/home.html>

NRW LANDMAP: <http://lle.gov.wales/>

### Cartographic

1843 Llanbadarn Fawr Parish Tithe map

1st edition 1888 1:2500 Cardiganshire Ordnance Survey map

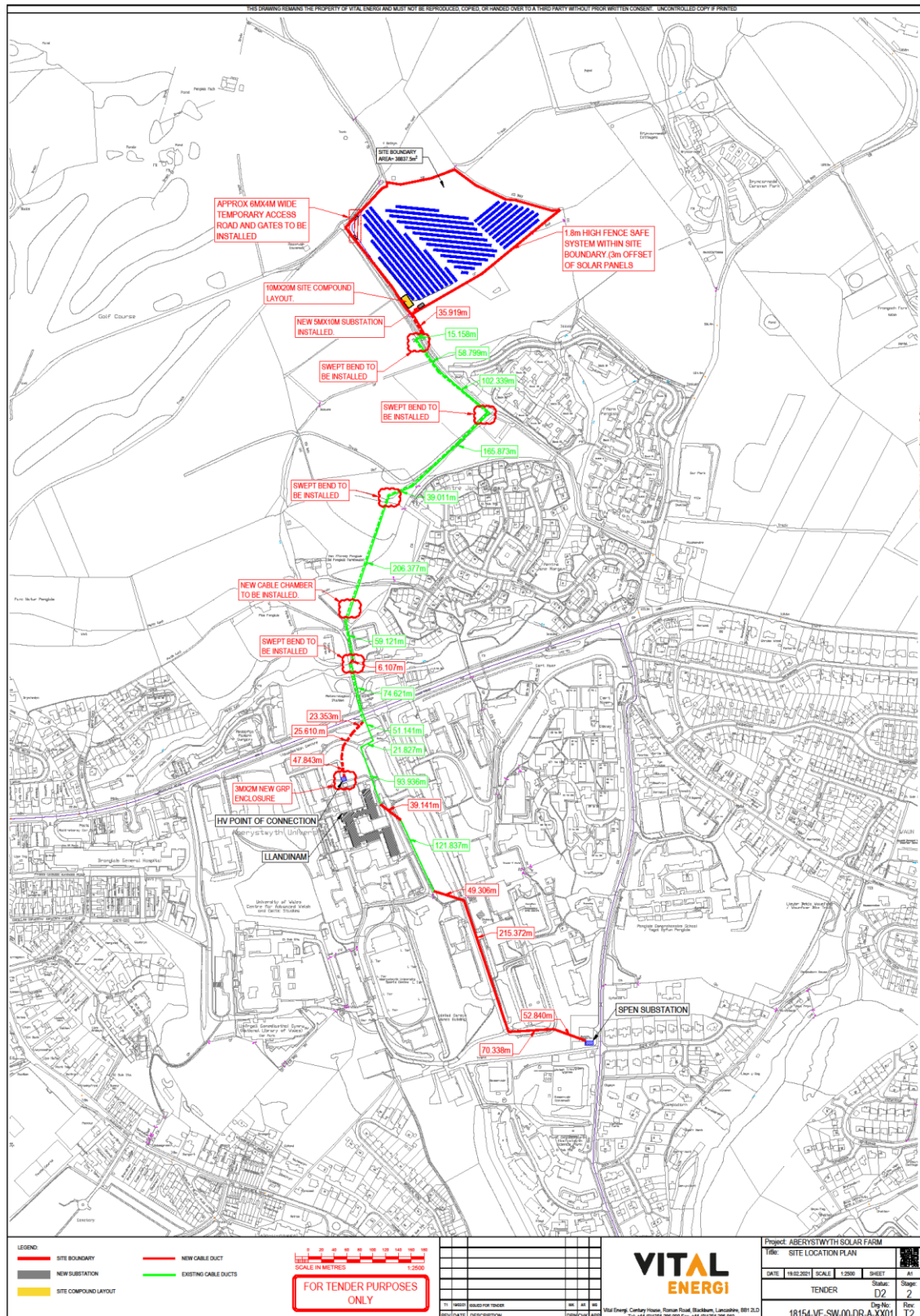
2nd edition 1906 1:2500 Cardiganshire Ordnance Survey map

### LiDAR

1m DSM Composite LiDAR data: Lle - Catalogue (gov.wales)



**APPENDIX 1: PLAN SHOWING ROUTE OF CONNECTION BETWEEN PROPOSED SOLAR FARM AND ELECTRICITY SUBSTATION APPROXIMATELY 1KM AWAY, USING EXISTING, SUBTERRANEAN DUCTING.**



**APPENDIX 2: SITE VISIT PHOTOGRAPHS**

Photo Number	Notes	Facing	Photo
1	Overview of solar field from NW corner.	SW	



Photo Number	Notes	Facing	Photo
2	Overview of solar field from NW corner	NE	


Photo Number	Notes	Facing	Photo
3	General overview of Penglais campus from NW corner of development field.	SW	



Photo Number	Notes	Facing	Photo
4	General overview of Penglais and coast	S	


Photo Number	Notes	Facing	Photo
5	Western gable of PRN 56327 "Magazine". Sillica brick with cement render, collapsed western gable, heavily graffiti, evidence of recreational fires.	E	


Photo Number	Notes	Facing	Photo
6	Overview of PRN 56327, eastern end.	SW	




Photo Number	Notes	Facing	Photo
7	<p>Overview of NE facing elevation of unrecorded modern building located a short distance from the "Magazine", NW. Brick, cement render, corrugated asbestos roof. Rectangular building, windows in all 4 elevations, heavily vandalised. Enclosed in concrete posts</p>	W	

Photo Number	Notes	Facing	Photo
8	Overview of southern end of unrecorded modern building NW of PRN56327	NW	

Photo Number	Notes	Facing	Photo
9	Overview of solar field from NE corner (entrance gate) looking toward Penglais	S	



Photo Number	Notes	Facing	Photo
10	Overview of solar field from NE corner from entrance gate	SSE	



Photo Number	Notes	Facing	Photo
11	Overview of surrounding from roughly off centre, Nw of solar field. Facing west. Golf course in background	NW	

Photo Number	Notes	Facing	Photo
12	Overview of surroundings of solar field facing NW. Golf course in background	N	

Photo Number	Notes	Facing	Photo
13	Overview of surroundings of solar field, facing NE	NE	


Photo Number	Notes	Facing	Photo
14	Overview of Penglais from centre of solar field. Pen Dinas Hillfort is visible in the middle ground, at the coastal edge.	S	



Photo Number	Notes	Facing	Photo
15	Overview of campus from centre of solar field	SE	


Photo Number	Notes	Facing	Photo
16	Over view of solar field from SE corner. Natural undulating topography	SW	


Photo Number	Notes	Facing	Photo
17	Overview of solar field from SE corner and campus	W	




Photo Number	Notes	Facing	Photo
18	Overview of solar field from NE. Looking at northern perimeter (beyond the hedge row) from the footpath to the NE of the development field.	S	


Photo Number	Notes	Facing	Photo
19	Overview of solar field from the footpath north of development area (beyond the hedgerow)	S	

Photo Number	Notes	Facing	Photo
20	Overview of solar field from bridlepath NW of development area	E	 A landscape photograph showing a green field with a line of trees and a blue sky with white clouds. The field is in the foreground, and the trees are in the middle ground. The sky is blue with white clouds. The field is green and appears to be a solar field. The trees are a mix of green and brown, suggesting some are bare. The sky is blue with white clouds. The field is in the foreground, and the trees are in the middle ground. The sky is blue with white clouds.

Photo Number	Notes	Facing	Photo
21	Overview of solar field from bridlepath west of development area. Campus in background	SE	



Photo Number	Notes	Facing	Photo
22	Overview of solar field from SW corner	N	

Photo Number	Notes	Facing	Photo
23	Overview of solar field from SW corner facing NE	NE	


Photo Number	Notes	Facing	Photo
24	Overview of solar field from SW side,	Ne	



Photo Number	Notes	Facing	Photo
26	Overview bund at immediately north of the northern boundary of the Registered Park & Garden Essential Setting Polygon. Solar field not visible.	NE	