

# Prosiect Maen Hir

Solar a Storio Ynni



## Preliminary Environmental Information Report Volume I, Chapter 8: Cultural Heritage

Prosiect Maen Hir - September 2024

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lightsourcebp





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## 8 Cultural Heritage

### 8.1 Introduction

- 8.1.1 This Chapter of the PEIR considers the potential Likely Significant Effects of the Project on the cultural heritage resource. Cultural Heritage encompasses buried archaeological remains; historic buildings, structures and monuments; and historic landscapes, which can be either designated historic assets (Scheduled Monuments, Listed Buildings etc.) or non-designated historic assets (historic buildings of some limited architectural interest, most buried archaeological remains etc).
- 8.1.2 The Project has the potential to affect the cultural heritage resource during the Construction, Operational, and Decommissioning Phases. It was agreed with the Planning Inspectorate (PINS) that significant effects on buried archaeology are unlikely to occur during operation. This matter has therefore been scoped out of further assessment.
- 8.1.3 The content and assessment methodology within this chapter has been informed by the Scoping Opinion from PINS dated 19 December 2023 as well as consultations with archaeology and heritage stakeholders in October and November 2023 (further details provided within the Assessment Methodology section of this Chapter and in Appendix 2-1).
- 8.1.4 This Chapter should be read in conjunction with the preliminary Historic Environment Desk-Based Assessment (DBA) (Appendix 8-1). The DBA was informed by data collected from a wide variety of sources to understand the known and potential cultural heritage resource within the PEIR Boundary and the surrounding landscape. It will continue to be updated as further research and design iterations of the Project take place following Statutory Consultation and development of the Environmental Statement (ES).
- 8.1.5 This Chapter is also supported by the following Figures:
- Figure 8-1 Maen Hir North and Central Designated Historic Assets
  - Figure 8-2 Maen Hir South A and South B Designated Historic Assets

## 8.2 Baseline Conditions

### **Preliminary historic environment desk-based assessment**

8.2.1 This section presents a summary of the historical and archaeological background of the PEIR Boundary and its surroundings, based on the DBA (Appendix 8-1) and focuses on the elements of the cultural heritage resource which are considered to be the historic assets most likely to be affected by the Project.

8.2.2 The DBA (Appendix 8-1), informed by ongoing research, site visits and a review of the results of previous archaeological investigations within the PEIR Boundary and in the surrounding landscape, provides a preliminary assessment of the likelihood of potential archaeological remains, built heritage and historic landscape features (and character) which may be affected by the Project.

### ***Scope of DBA***

8.2.3 The methodology for the DBA was agreed within a Written Scheme of Investigation (WSI), submitted to and approved by the Senior Planning Archaeologist at Heneb: Gwynedd Archaeology (formerly Gwynedd Archaeological Planning Service; GAPS) on 27 October 2023.

8.2.4 The scope of the DBA was further informed by additional consultations with Heneb (17 November 2023 and 27 November 2023), advice from Cadw (received in the course of consultations on 9 November 2023) and the Scoping Opinion, which included further responses from Heneb and Cadw (further information included within the Scoping Response in Appendix 2-3).

### ***Study Areas***

#### ***Archaeology***

8.2.5 As agreed in the WSI, the adopted Study Area used to inform the understanding of archaeological potential was 1km ('the 1km Study Area') of the Solar PV Site although reference is made to remains located beyond this Study Area, where relevant to the understanding of the archaeological potential (referred to as 'the wider landscape').

8.2.6 It is noted that some Highway Works extend beyond the 1km Study Area in the DBA. This will be covered by the further desk-based work for the ES.

Designated historic assets

8.2.7 Following advice from Cadw, a 5km Study Area from the Solar PV Site was adopted ('the 5km Study Area') to facilitate assessment of potential effects upon designated historic assets. Although the Cadw advice which informed the Scoping Opinion suggested a 3km Study Area for designated historic assets, the Scoping Opinion highlighted the Study Area needs to be robustly justified. The DBA and this Chapter has therefore adopted a 5km Study Area to support a worst-case assessment for PEIR.

8.2.8 Due to ongoing construction logistics planning, the land required for Highway Works associated with the Project changed following the DBA (refer to Chapter 4: Alternatives and Design Evolution, and Chapter 5: Project Description). As a result, some designated historic assets (built heritage and archaeology) were omitted from the Stage 1 assessment within the DBA (Appendix 8-1, Annex 6) because the 5km Study Area in the DBA did not cover all of the Highway Works. These assets will be subject to further desk-based work for the ES (see below).

**Data gathering**

8.2.9 The DBA has been informed by data from a range of sources, including:

- Designated historic assets, as listed by Cadw;
- Historic Environment Record data by Heneb: Gwynedd Archaeology;
- National Monuments Record of Wales (held by RCAHMW);
- Natural Resources Wales (NRW) LiDAR data;
- Aerial photographs curated by the Central Register of Aerial Photographs for Wales;
- Natural Resources Wales (NRW) Landmap data;
- Historic maps
- British Geological Survey
- Results of previous investigations within the Study Area and beyond (non-Project related), which included a recent assessment of archaeological sites via, aerial photographs, LiDAR and geophysical survey, as well as trial trench evaluations, watching briefs, excavations, field walking surveys and geophysical surveys;

- Portable Antiquities Scheme (PAS) containing data regarding findspots<sup>1</sup>;
- a walkover of a large proportion of the PEIR Boundary and visits (as possible from public rights of way or the PEIR Boundary) to the designated historic assets which may be affected as a result of change within their settings.

8.2.10 Whilst preliminary, the DBA has characterised the cultural heritage resource within the PEIR Boundary in sufficient detail to inform this Chapter. Further work is proposed and will be carried out (see below) to address any gaps in the understanding of the resource.

### **Archaeology**

#### ***Designated historic assets of archaeological interest***

8.2.11 Four designated historic assets of archaeological interest (Scheduled Monuments) are situated within the PEIR Boundary:

- Maen Chwyf prehistoric chambered tomb (Figure 8-2: D9), situated within Maen Hir South A; and
- Three prehistoric standing stones situated within the Cable Route Corridors: Bodewryd (Figure 8-1: D6), Llys Einion (Figure 8-2: D9) and Carreg Leidr (Figure 8-2: D5).

8.2.12 Located within the 5km Study Area are a further 37 Scheduled Monuments (Figures 8-1 and 8-2). These include, prehistoric standing stones, enclosures, hillforts and round barrows, a Roman settlement, early medieval and medieval enclosure and settlement sites, and the 18th/19th century industrial remains at Parys Mountain (Appendix 8-1; Annex 6).

8.2.13 The 5km Study Area considered for the DBA excluded parts of Highway Works extending beyond the Solar PV Site. An additional 16 Scheduled Monuments are located within 5km around the PEIR Boundary (including Highway Works). These will be subject to further assessment and consideration as part of the ES Chapter.

<sup>1</sup> A findspot is a place where an archaeological object (such as pottery, flint or metalwork) has been found



Stage 1 Settings Assessment (DBA)

- 8.2.14 A Stage 1 settings assessment was carried out as part of the DBA in line with Cadw guidance 'Setting of Historic Assets in Wales' (Ref 8-2) for all 41 Scheduled Monuments within the 5km Study Area, to establish whether the Project would be likely to affect these assets because of change within their settings (see annex 6 to the DBA Appendix 8-1 and Figures 8-1 and 8-2).
- 8.2.15 The Stage 1 settings assessment utilised the Zone of Theoretical Visibility (ZTV) (see Chapter 06: Landscape and Visual), analysis of GIS data and walkover survey to identify assets deemed likely to be affected. Of these designated historic assets, the vast majority are unlikely to be affected by the Project. This is due to the distance between them and the Project; a lack of any meaningful historic or functional relationship between the locations; historic significance of the asset that would not be affected by change within their setting; and often a combination of all three of these.
- 8.2.16 For the majority of the assets which could be affected by the Project, a field examination was undertaken (as possible from public rights of way). Whilst due to the PEIR Boundary changes and amendments to the Project some of the assets may require further consideration to inform the DCO Application, the surveys undertaken have allowed the identification of the following Scheduled Monuments as potentially sensitive to the Project, and they have been scoped into a more detailed assessment following Stage 1:
- The four Scheduled Monuments within the PEIR boundary (see paragraph 8.2.11);
  - The Scheduled Standing Stone Llech Golman (Figure 8-2: D2), located c. 60m south and west of Maen Hir South B;
  - The Scheduled Standing Stone Maen Addwyn (Figure 8-2: D3), located c. 10m east of Maen Hir South B;
  - The Scheduled Monuments within the Amlwch and Parys Mountain Registered Historic Landscape (RHL) (Figure 8-1: D10), located 1.5km-2.6km east of Maen Hir North;

- Scheduled Pen-y-Morwyd Round Barrow and Llifad, Carreglefn Enclosure (Figure 8-1: D28), located 220m-450m to the north of Maen Hir North.

Further designated historic assets

8.2.17 Sixteen additional Scheduled Monuments are located within a 5km buffer around the Highway Works beyond the 5km Study Area used in the DBA (not shown on Figures 8-1 or 8-2). However, following an assessment of their proximity to the Highway Works, an understanding of the likely temporary and permanent construction work that would take place (including construction traffic) and the historic value of the assets in question, it is anticipated that only the following two will be taken forward for more detailed consideration (further assessment will be carried out for the DCO Application to establish this):

- Y Werthyr Hillfort (Cadw ref. AN042), which extends either side of the B5112 north-east of Bryngwran; and
- Graiglas Barrow (Cadw ref. AN112) which is c. 400m south of the potential Highway Works.

***Non-designated archaeological remains***

8.2.18 The DBA has highlighted there is archaeological potential within the PEIR Boundary from the prehistoric period onwards. The following presents a summary of the key periods of activity and occupation in the area, with further detail and clarification on the recorded assets and periods included in the DBA (Appendix 8-1). Reference is made to relevant designated historic assets (Scheduled Monuments) as and where they are relevant to the understanding of the baseline conditions and archaeological potential within the PEIR Boundary. This assessment is a work in progress and will be further developed with additional research and site surveys.

Palaeolithic and Mesolithic remains

8.2.19 This sub-section presents a summary of the discussion within the DBA (Appendix 8-1, paragraphs 3.33-3.41).

8.2.20 There is no evidence of Palaeolithic activity within the 1km Study Area and there is considered to be a low potential for remains of this date to be affected by the Project.

8.2.21 Mesolithic activity in the 1km Study Area and the wider landscape is represented by a findspot of worked flint recovered along the northern shore of Llyn Alaw (Appendix 8-1 Figure 7:1). The former marshland area and the course of the Afon Alaw (occupied by the reservoir) could have been a focus of Mesolithic activity, with the wetland natural resources exploited by the early hunter gatherer groups. However, as no concentrations of Mesolithic remains have been recorded, it is anticipated that any potential remains would, at the most, likely comprise further findspots.

Neolithic remains

8.2.22 This sub-section presents a summary of the discussion within the DBA (Appendix 8-1, paragraphs 3.42-3.51).

8.2.23 There is evidence of Neolithic activity within the PEIR Boundary and in the 1km Study Area.

8.2.24 Funerary remains are represented principally by the Scheduled Maen Chwyf prehistoric chambered tomb (Figure 8-2: D9), and a further potential collapsed burial chamber (Appendix 8-1 Figure 8: 62.1), both within Maen Hir South A. In addition, a pit which contained cremated bone (interpreted as potential funerary remains - unurned cremation burial), in association with another pit and a ditch, were revealed during non-Project related investigation in Maen Hir Central (Appendix 8-1 Figure 7: 2). Further Neolithic remains, including pits and a field system, have been recorded within the 1km Study Area and beyond.

8.2.25 Based on the evidence discussed above and, in the DBA, there is the potential for further Neolithic remains within the PEIR Boundary, in particular within Maen Hir Central and South A in proximity to areas of known remains. Based on the known location of similar site types across Anglesey, North Wales and the UK more widely, it is anticipated that should further remains of settlement, agricultural and funerary activity survive these would be located on higher ground overlooking watercourses and associated floodplains within Maen Hir Central and South A.

Bronze Age remains

8.2.26 This sub-section presents a summary of the discussion within the DBA (Appendix 8-1, paragraphs 3.52-3.75).

- 8.2.27 There is extensive evidence of Bronze Age activity within the PEIR boundary, the 1km Study Area and the wider landscape, comprising remains associated with settlement, funerary and ceremonial activity, as well as findspots.
- 8.2.28 Within the PEIR Boundary this includes:
- Three Scheduled standing stones within the Cable Route Corridor (Figure 8-2: D5, D6, D9);
  - Burnt mounds in Maen Hir North (Appendix 8-1 Figure 6: 20-21);
  - Potential round barrow identified from LiDAR imagery in Maen Hir North (Appendix 8-1 Figure 6: 146);
  - Urned cremation burials (Appendix 8-1 Figure 7: 22), and a potential enclosure of unknown date (Appendix 8-1 Figure 15: 116) in Maen Hir Central and buried remains of a potential barrow or roundhouse within the Cable Route Corridor adjacent to Maen Hir Central (Appendix 8-1 Figure 7: 60);
  - Further cropmarks of ring ditches, which could indicate that buried remains of Bronze Age round barrows survive within the Cable Route Corridor adjacent to Maen Hir Central (Appendix 8-1 Figure 7: 53, 56);
  - Prehistoric rock art, in the form of shallow cup marks (Appendix 8-1 Figure 8: 62.1 and 62.2)
- 8.2.29 In addition, further standing stones, funerary remains such as barrows (both designated and not designated examples) or cist burials, cup marks, potential roundhouses, burnt mounds and findspots are recorded within the wider landscape, in particular to the north of Maen Hir North and within the surroundings of Maen Hir South A and B.
- 8.2.30 It can be concluded that the landscape within the PEIR Boundary was extensively utilised during the Bronze Age period for settlement, funerary and ceremonial activities, and, as such, there is a high potential that further remains of this date may be situated within the Solar PV Site, the Cable Route Corridor and in proximity to the Highway Works.

Iron Age and Roman period remains

- 8.2.31 This sub-section presents a summary of the discussion within the DBA (Appendix 8-1, paragraphs 3.76-3.106).
- 8.2.32 The DBA has highlighted extensive Iron Age settlement and activity within the PEIR Boundary, in the 1km Study Area and the wider landscape, in particular around Maen Hir North and within Maen Hir South A and B. Many of the recorded evidence shows continuity of settlement into the Roman period.
- 8.2.33 Within the PEIR Boundary, the recorded remains of Iron Age and/or Roman period date include:
- Potential Iron Age and/or Roman settlement within Maen Hir South B (Appendix 8-1 Figure 8: 61), comprising an enclosure defined by slight earthworks, with buried remains identified through a non-Project geophysical survey;
  - A possible late prehistoric/ Iron Age enclosure within Maen Hir Central (Appendix 8-1 Figure 7: 147);
  - Potential oval enclosure within Maen Hir South A (Appendix 8-1 Figure 7: 76), defined by a curvilinear boundary (this feature could be of natural origin - to be confirmed through further surveys);
  - A section of potential Roman Road crossing Maen Hir South B (Appendix 8-1 Figure 8: 71), with further stretches of the road identified in the surrounding landscape, and crossing one of the Highway Works (Appendix 8-1 Figure 8: 72-74)
  - Two possible enclosures identified on LiDAR imagery within and adjacent to Maen Hir North (Appendix 8-1 Figure 6: 144-145), with the latter (145) identified as possible prehistoric settlement following a non-Project geophysical survey;
  - Sub-circular earthwork, broadly dated to the later prehistoric period, recorded to the north of Maen Hir South A within the Cable Route Corridor (Appendix 8-1 Figure 7: 52);
  - Potential trackway west of Maen Hir South A within the Cable Route Corridor (Appendix 8-1 Figure 8: 77);

8.2.34 In addition, within the 1km Study Area and in the wider landscape, further remains evidencing extensive activity during these periods are recorded. This includes cropmarks and earthworks of Iron Age and Roman enclosures, settlement and agricultural features, as well as findspots and potential funerary remains.

8.2.35 In summary, the landscape that the PEIR Boundary occupies was extensively settled during the Iron Age, with some settlement sites extending into the Roman period too, illustrating a continuity of people living within well-established settlements that span many centuries. Therefore, there is potential for further buried archaeological remains associated with these known settlement sites to be located within the PEIR Boundary, for example agricultural features, remains of roads or trackways, funerary remains; and currently unknown settlements.

Early medieval and medieval remains

8.2.36 This sub-section presents a summary of the discussion within the DBA (Appendix 8-1, paragraphs 3.107-3.134).

8.2.37 The archaeological record for the early medieval period is sparse. A holy well dedicated to St Elaeth is located c. 20m to the east of Maen Hir North within the Cable Route Corridor (Appendix 8-1 figure 9: 83). Within the wider landscape, some limited early medieval inscriptions and evidence of settlement, and further religious activity is recorded.

8.2.38 During the medieval period, the landscape within the PEIR Boundary and the surrounding area would have likely comprised scattered settlements, with associated churches, and agricultural land. The evidence within the PEIR Boundary includes:

- The site of a potential mill within Maen Hir North (Appendix 8-1 Figure 9: 90), with other potential mill sites recorded in the 1km Study Area;
- A bank and potential house platform (known as 'Old Church Field'), indicating agricultural and settlement or religious remains, recorded within Maen Hir Central (Appendix 8-1 Figure 9: 91-92);
- Agricultural features (former field boundary) in Maen Hir South A (Appendix 8-1 Figure 10: 97);

- Medieval objects found during non-Project metal detecting in Maen Hir South B (Appendix 8-1 Figure 10: 93).

8.2.39 It also cannot be ruled out that some of the former field boundaries or ridge and furrow remains, as identified on LiDAR imagery and historic mapping (Appendix 8-1) are of medieval origin.

8.2.40 Based on the evidence it is considered that the PEIR Boundary likely comprised an agricultural landscape beyond the periphery of early medieval and medieval settlements within the 1km Study Area, although some localised evidence of settlement or religious establishments cannot be ruled out. It is possible that further medieval agricultural features (such as ridge and furrow and/or field boundaries or enclosures) may survive as below ground features.

Post-medieval and later remains

8.2.41 This sub-section presents a summary of the discussion within the DBA (Appendix 8-1, paragraphs 3.135-3.195).

8.2.42 The area within the PEIR Boundary, from the post-medieval period onwards, was located within an agricultural landscape of scattered villages and farmsteads. The recorded post-medieval and modern features within the PEIR Boundary and in the surrounding landscape shown in the DBA (Appendix 8-1, Figures 11-13), comprise former farms and outbuildings, ponds, field boundaries and quarries. There may be remnants of these features surviving as landscape features or buried archaeological remains within the PEIR Boundary.

Summary

8.2.43 Known remains, including four Scheduled Monuments, are located within the PEIR Boundary, and there is potential for further remains to be present, largely associated with prehistoric and Roman settlement and activity within the landscape. It should be noted that the high potential for remains to be present is unrelated to the potential importance of any remains. The likely impacts of the Project on the baseline conditions are set out in the following sections.

## **Built Heritage**

### ***Designated historic assets***

- 8.2.44 Four Listed Buildings are situated within the PEIR Boundary:
- Grade II Listed Clorach-bach (Figure 8-2: D5), a 19th century farmhouse within the Cable Route Corridor north of Maen Hir South B; and
  - A complex of Grade II\* and Grade II Listed buildings at Llwydiarth Esgob Farm (Figure 8-2: D15), an 18th-19th century farmstead, comprising a farmhouse, an agricultural range, hammels, a stable and a corn barn, located to the east of Maen Hir South A, within the cable Route Corridor;
- 8.2.45 Located within the 5km Study Area around the Solar PV Site are 187 Listed Buildings (two Grade I, 20 Grade II\* and 165 Grade II), four Conservation Areas and one Registered Park and Garden. The Listed Buildings comprise occasional medieval churches and mostly 19th/20th century dwellings and agricultural structures and the Conservation Areas encompass historic cores of settlements.
- 8.2.46 As mentioned, the 5km Study Area considered for the DBA excluded parts of Highway Works extending beyond the Solar PV Site. An additional 109 Listed Buildings and one Conservation Area (Llangefni) are located within 5km around the PEIR Boundary (including Highway Works). These will be subject to further assessment and consideration as part of the ES Chapter.

### **Stage 1 Settings Assessment (DBA)**

- 8.2.47 As part of the DBA, a Stage 1 settings assessment in line with Cadw guidance 'Setting of Historic Assets in Wales' (Ref 8-2) was also carried out for all Listed Buildings and Conservation Areas (see annex 6 in the DBA Appendix 8-1 and Figures 8-1 and 8-2). As per the Scheduled Monuments, Stage 1 utilised the ZTV, analysis of GIS data and walkover survey. The vast majority of the designated built historic assets are unlikely to be affected by the Project. This is due to the distance between them and the Project; a lack of any meaningful historic or functional relationship between the locations; historic value of the asset that would not be affected by change within their setting; and often a combination of all three of these.



8.2.48 A field examination was undertaken for the majority of assets which could be affected by the Project (from public rights of way). Whilst due to the PEIR Boundary changes and amendments to the Project some of the assets may require further consideration to inform the DCO Application, the surveys undertaken have allowed the identification of the following Listed Buildings as potentially sensitive to the Project, and they have been scoped into a more detailed assessment following completion of Stage 1:

- A complex of Grade II\* and Grade II Listed buildings at Llwydiarth Esgob Farm (Figure 8-2: D15);
- Grade II\* Plas Bodewryd and Grade II Dovecote at Plas Bodewryd (Figure 8-1: D4.1), located 90m-230m west of Maen Hir North;
- Grade II Listed Church of St Mary and Lychgate (Figure 8-1: D4.2), located 50m north of Maen Hir North;
- Grade II Listed Gwredog (Figure 8-1: D8), located 50m south of Maen Hir North, with Solar PV Site to north, west and south, and the Cable Route Corridor to the east;
- Grade II Listed windmill and Pearl Engine House within the Amlwch and Parys Mountain RHL (Figure 8-1: D10), over 2km east of Maen Hir North;
- Grade II Listed The Old Rectory (Figure 8-2: D11), located 50m north-west of Maen Hir South B;
- Grade II Listed Melin Llidiart (Figure 8-2: D17), located 260m north of Maen Hir North and adjacent to one of the Highway Works;
- Grade II Listed Church of St Michael (Figure 8-2: D19), located 20m north of Maen Hir South B;
- Grade II Listed Church of St Ceidio (Figure 8-2: D24), located 1km north-west of Maen Hir South A;
- Grade II Listed Church of St Pabo and Fferam-gyd (Figure 8-2: D26), located 330m and 80m south of Maen Hir Central;
- Grade II Listed Church of St Peirio (Figure 8-1: D29), located 900m west of Maen Hir North.

Further designated historic assets

- 8.2.49 Of the Listed Buildings and Conservation Area that fall within a 5km buffer of the Highway Works, beyond the 5km Study Area used in the DBA, the vast majority of these designated historic assets would not be affected by the potential highway works on public highways. Those in proximity to Highway Works will be reassessed through further research and site visits once more detail on the extent of the highways works (including traffic) is known. Those that could be sensitive to Highway Works will be scoped into detailed assessment within the ES.

Potential direct impacts to designated historic assets

- 8.2.50 No works to the residential properties (designated and not designated) and no demolition of any historic structures which could be non-designated historic assets are proposed. Therefore, Likely Significant Effects upon the assets themselves are not anticipated and thus this component of the resource is scoped out of further assessment.

**Non-designated built heritage**

- 8.2.51 Extant and ruinous buildings dating to post-medieval and modern periods are recorded within the PEIR Boundary (largely within the Cable Route Corridors).

**Historic Landscape**

**Designated historic assets**

- 8.2.52 There are no Registered Historic Landscapes within the Solar PV Site. The Registered Historic Landscape (RHL) of Amlwch and Parys Mountain is situated c. 1km to the east of the Solar PV Site (Figure 8-1: D10). The Highway Works cross the RHL.

Stage 1 Settings Assessment

- 8.2.53 Following Stage 1 settings assessment carried out in line with the methodology listed above for the archaeology and built heritage, this designated historic asset has been scoped into detailed settings assessment as it may be sensitive to potential change within its landscape setting. The potential for Highway Works within the RHL, such as highway improvements to facilitate construction traffic, would be unlikely to significantly affect the historic landscape character of the RHL, and therefore it is proposed that an Assessment of the Significance of the

Impact of Development on Historic Landscape (ASIDOHL) 2 Assessment (Ref. 8-5) will not be undertaken. Any potential impacts of the Project (if likely) upon the RHL will be explored through further assessment and discussed as part of the ES.

***Non-designated historic landscape***

- 8.2.54 The DBA (Appendix 8-1) includes an assessment of historic landscape and historic landscape features within the PEIR Boundary.
- 8.2.55 The Historic Landscape Character (HLC) of the Solar PV Site is by and large characterised as an irregular enclosure, with a mixture of large and small fields, with scattered settlement and farmsteads. A fieldscape of regular enclosure is recorded to the south of Maen Hir South B.
- 8.2.56 The assessment within the DBA highlights that most the recorded field boundaries likely date to the post-medieval period, and those extant boundaries which are marked by hedgerows would be considered 'important' under the criteria within the Hedgerows Regulations 1997. Furthermore, historic field boundaries characteristic to this landscape comprises cloddiau (earth banks faced with stone), as well as earth banks and dry-stone walls.

**8.3 Assessment Methodology**

**Assessment Scope**

- 8.3.1 Based on the preliminary assessment presented above, it is highly likely that the Project would not result in significant environmental effects on the cultural heritage resource. However, based on the Scoping Opinion, and because further assessment work and surveys to inform proportionate Mitigation measures are pending, cultural heritage is scoped into the EIA, with the scope of the assessment as follows:

***Scoped In***

***Effects on buried archaeology during construction and decommissioning***

- 8.3.2 Known and potential buried archaeological remains within the PEIR Boundary could be affected during construction by ground breaking work, with the Scoping Opinion ID ref. 3.3.6 and 3.3.7) providing direction with regard to assessment and mitigation which will be further considered for the ES.

8.3.3 PINS in the Scoping Opinion advised that with regard to impacts on buried archaeological remains during decommissioning (Scoping Opinion ID ref. 3.3.2). As depending on the methodologies used, there is potential for Decommissioning Phase impacts, this is also Scoped In.

8.3.4 The archaeological resource within the PEIR Boundary will be appropriately considered using methodologies discussed below, to ensure any Likely Significant Effects of the Project during those phases can be understood and mitigated, thus addressing the comments in the Scoping Opinion.

*Effects on designated historic assets, built heritage and historic landscape during construction, operation and decommissioning*

8.3.5 PINS in the Scoping Opinion concluded that noise, vibration, dust, traffic, lighting and visual disturbance associated with Construction and Decommissioning Phases (Scoping Opinion ID ref. 3.3.3), could impact on the setting of designated historic assets, built heritage and historic landscape. As such potential impacts from the Project during those phases will be scoped into the ES and considered in detail as part of the process.

8.3.6 With regard to impacts on those historic assets during the Operational Phase, this is Scoped In. PINS advised in their Scoping Opinion (ID ref. 3.3.4) that a robust justification should be presented for the Study Area in relation to designated historic assets, with Cadw expecting a 3km buffer to be used. Based on previous consultation response from Cadw, which stemmed from the Setting of Historic Assets in Wales guidance (Ref. 8-2; see Consultation section of this Chapter), a 5km Study Area was implemented in the DBA (as per paragraph 8.2.7 of this Chapter), to ensure any potentially sensitive assets are captured and assessed, and will be utilised in the ES.

8.3.7 Designated historic assets, built heritage and historic landscape will be appropriately considered using methodologies discussed below, to ensure any Likely Significant Effects of the Project during those phases can be understood and mitigated, thus addressing the comments in the Scoping Opinion.

**Scoped Out**

- 8.3.8 Effects on buried archaeology during operation are scoped out as agreed in the Scoping Opinion (ID ref. 3.3.1).

**Guidance and Policy**

***Legislation and Planning Policy Context***

- 8.3.9 This preliminary assessment and the DBA have been undertaken in accordance with the following relevant legislation and planning policy which is set out in further detail in Appendix 8-1.

Legislation

- 8.3.10 The Ancient Monuments and Archaeological Areas Act 1979, Planning (Listed Buildings and Conservation Areas) Act 1990 and Historic Environment (Wales) Act 2016 provide the legislative framework for the protection and sustainable management of the historic environment in Wales:

- The Ancient Monuments and Archaeological Areas Act 1979 sets out the controls of works affecting Scheduled Monuments and related matters. The Act refers explicitly to the monuments and does not refer to the ‘setting’ of Scheduled Monuments. The Act also provides for the maintenance of a schedule of archaeological remains of the highest significance, i.e. of national interest, affording them statutory protection.
- Infrastructure Planning (Decisions) Regulations 2010 contain the statutory obligation on the Secretary of State to have regard to the desirability of preserving a listed building / scheduled monument, and its setting.
- Planning (Listed Buildings and Conservation Areas) Act 1990 states that “in considering whether to grant planning permission for development which affects a listed building or its setting, the local planning authority or, as the case may be, the Secretary of State, shall have special regard to the desirability of preserving the building or its setting or any features of special architectural or historic interest that it possesses” (Section 66).
- The Historic Environment (Wales) Act 2016 was passed by the National Assembly for Wales on 9 February 2016 and became law on 21 March 2016. The Act made a number of amendments to the 1979 and 1990 Acts

to address the needs of the Welsh historic environment. Additionally, it contains new stand-alone provisions for matters such as historic place names and historic environment records.

- The Hedgerows Regulations 1997 is a UK Statutory Instrument (1997 No. 1160) and provides protection for ‘important’ hedgerows within the countryside, controlling their alteration and removal by means of a system of statutory notification.

8.3.11 A new Historic Environment (Wales) Act 2023 received Royal Assent on 14 June 2023 and aims to provide bilingual, orderly and accessible legislation for the protection and management of historic environment in Wales. The Act will not come into force until supporting secondary legislation has been made and relevant guidance documents have been updated to reflect this. The expected date for the Act to come into force is in the latter part of 2024

National Planning Policy

8.3.12 The national planning policy relevant to cultural heritage assessment includes:

- The Overarching National Policy Statement for Energy 2023 (NPS EN-1), Section 5.9: historic environment. This states that “the construction, operation and decommissioning of energy infrastructure has the potential to result in adverse impacts on the historic environment” (Paragraph 5.9.1). It then continues to define heritage assets, how the potential impact of development should be assessed, and how this should be regarded in decision making, before detailing why and how to record heritage assets in advance of development. The general principles of the Policy in section 5.9 broadly reflect those of the Planning Policy Wales.
- The National Policy Statement for Renewable Energy Infrastructure (EN-3) 2023, Section 3.10 considers solar photovoltaic generation, with paragraphs 3.10.98 - 3.10.110 relating to cultural heritage. The document recognises (at paragraph 3.10.100) that “below ground impacts are generally limited” and states further (at paragraph 3.10.101) that “solar PV developments may have a positive effect, for example archaeological assets may be protected ... as the site is removed from regular ploughing”

- Planning Policy Wales (PPW) Edition 12 provides the Welsh Government's planning policies and describes how these are expected to be applied within the planning system. The Historic Environment is subject to Chapter 6 (pages 129-135).

Local Planning Policy

8.3.13 Anglesey and Gwynedd Joint Local Development Plan 2011 - 2026 (2017) comprises the local development plan, as required to be compiled, published, and maintained by the local authority, consistent with the requirements of PPW (2021) and TAN 24 (2017). The following policies are applicable to the historic environment:

- Policy PS 20: Preserving and where appropriate enhancing heritage assets;
- Policy AT 1: Conservation Areas, World Heritage Sites and Registered Historic Landscapes, Parks and Gardens;
- Policy AT 2: Enabling development;
- Policy AT 3: Locally or regionally significant non-designated heritage assets; and
- Policy AT 4: Protection of non-designated archaeological sites and their setting.

**Relevant Guidance**

8.3.14 The following guidance documents are relevant to this assessment:

- Technical Advice Note (TAN) 24: The Historic Environment;
- Conservation Principles for the Sustainable Management of the Historic Environment in Wales (Cadw 2011);
- Chartered Institute for Archaeologists' Standard and guidance for historic environment desk-based assessment (2020);
- Setting of Historic Assets in Wales (Cadw 2017);
- Heritage Impact Assessment in Wales (Cadw 2017);
- The Institute of Environmental Management and Assessment (IEMA), Institute of Historic Building Conservation (IHBC) and Chartered Institute for Archaeologists (CIfA) Principles of Cultural Heritage Impact Assessment in the UK (2021);

## **Assessment and survey work**

### **Study Areas**

- 8.3.15 The Study Areas for archaeology and designated historic assets are 1km and 5km respectively with justification provided in the following subsections.

### ***Archaeology***

- 8.3.16 For the assessment of archaeological potential, a minimum 1km Study Area is considered appropriate, with relevant historic assets of archaeological interest beyond this Study Area also considered, if deemed appropriate, to ensure a thorough understanding of the archaeological potential. This approach was considered more than sufficient to characterise the potential for buried archaeological remains and was agreed within the WSI.
- 8.3.17 It is noted that some of the Highway Works extend beyond the 1km Study Area in the DBA. Whilst this presents a gap in the current understanding of the resource along some of the Highway Works, it will be addressed through an update to the DBA for the ES.

### ***Designated Historic Assets***

- 8.3.18 For the assessment of the Likely Significant Effects on designated historic assets, a 5km Study Area has been utilised for Stage 1 assessment (as per paragraph 8.2.7 of this Chapter). This was informed by advice from Cadw Inspector (received during consultations on 9 November 2023; see Consultation section of this Chapter). The results of the assessment are included within an annex in the DBA (Appendix 8-1). It is noted that a 3km Study Area was suggested in the Scoping Opinion, based on EIA Scoping Response from Cadw, however it was deemed appropriate to report on the initial assessment of assets within the 5km Study Area of the Solar PV Site as the Cadw Inspector advice was based on Cadw guidance 'Setting of Historic Assets in Wales'.
- 8.3.19 A number of designated historic assets (built heritage and archaeology) have not yet been subject to Stage 1 assessment as they extend beyond the 5km Study Area considered in the DBA. These will be subject to further desk-based work and assessment in line with the guidance, with a 5km Study Area proposed for the Stage 1 assessment.



**Further desk-based work**

- 8.3.20 To ensure the DBA provides appropriate and proportionate information to inform the ES Chapter and Development Consent Order (DCO) Application, further desk-based research will be undertaken to address any identified gaps.
- 8.3.21 In addition to the research undertaken to date, further assessment will be carried out to further explore the potential extent and the historic value of buried archaeological remains which may be affected by the Project. Additional data gathering, research and site visits will be undertaken to cover the full extent of the PEIR Boundary and associated Study Areas within the final DBA to be submitted as part of the ES. The final DBA will present the results of the examination of further data including aerial photographic records, historic mapping and LiDAR imagery and discuss the potential for the presence, and likely importance, of any archaeological remains that may be affected by the Project. The results will be used to inform detailed Project design and appropriate Mitigation measures.
- 8.3.22 The final DBA will allow for an understanding of the historic values of any assets within the PEIR Boundary and the 5km Study Area which may be affected by the Project. An understanding of the Project (the impact of change to the baseline environment) alongside the understanding of importance of the assets will allow for a robust impact assessment to be undertaken to inform the ES Chapter.

**Further Investigations**

- 8.3.23 To further clarify the archaeological potential, in the first instance, a suite of non-intrusive surveys will be undertaken within the Solar PV Site. The scope of the potential non-intrusive survey was discussed with Heneb on 17 November 2023 and later agreed through a Written Scheme of Investigation, approved by the Senior Planning Archaeologist at Heneb on 12 August 2024 (Appendix 8-2). The scope of the survey comprises magnetometer survey of the entire Solar PV Site, as well as supplementary non-intrusive surveys to provide additional information about reliability of the results across each of the four areas (Maen Hir North, Central, South A and South B) to include electromagnetic ground conductivity survey, multi spectral imaging and detailed drone-flown LiDAR. The survey is due to commence in Autumn 2024.

8.3.24 The results of the final DBA and the geophysical survey will then inform the need for and scope of any additional investigations which may be required to ensure the potential archaeological remains are further characterised, investigated and recorded at an appropriate stage in the development process, in line with the requirements of the national and local planning policies requiring the protection of archaeological remains, and that appropriate Mitigation measures can be designed and secured. Based on advice from Heneb, and Scoping Opinion (ID ref. 3.3.6), trial trenching will be required as the next step, informed by the results of the final DBA and the geophysical survey.

8.3.25 It is anticipated that the final DBA, the results of the geophysical survey and a suite of other non-intrusive surveys, and trial trenching reports will inform the ES Chapter and will be included as Appendices.

**Determining Significance of Effect**

8.3.26 The approach to the assessment of the sensitivity of historic assets, magnitude of impacts and the significance of effect in relation to cultural heritage is described below.

***Receptor Sensitivity/Importance/Value***

8.3.27 The assessment of historic value has been guided primarily by the policies and guidance contained in Cadw’s ‘Conservation Principles’ (Ref 8-1). This defines the value of a historic asset with reference to the following four key forms of value set out in Table 8-1.

**Table 8-1 Historic values**

<b>Values</b>	<b>Description</b>
Evidential	Derives from those elements of a historic asset that can provide evidence about past human activity, including its physical remains or historic fabric
Historical	Derives from aspects of past ways of life, or association with notable families, persons, events, or movements – it embodies the connection between past events and society with the present

Values	Description
Aesthetic	Derives from the sensory and intellectual stimulation drawn from a historic asset. It may include its physical form, and how it lies within its setting. It may also be the result of design, or an unplanned outcome of a process of events
Communal	Derives from the meanings that a historic asset has for the people who relate to it, or for whom it figures in their collective experience or memory. It may be commemorative or symbolic and relate to issues of identity or collective memory

8.3.28 Criteria for assessing historic value (sensitivity / importance) are set out in Table 8-2. As well as considering the principles above, this reflects current heritage statute and policy for Wales and professional best-practice guidance, including Cadw publications ‘Setting of Historic Assets in Wales’ (Ref. 8-2) and ‘Heritage Impact Assessment in Wales’ (Ref. 8-3). The terms expressed in the PPW are used. This defines that the ‘most important historic assets’ often have statutory protection or are included in formal registers. These include World Heritage Sites, Scheduled Monuments, Protected Wreck Sites, Registered Battlefields, Grade I and II\* Listed Buildings, and Grade I and II\* Registered Parks and Gardens. The term significance, as adopted by EN-1, EN-3 and PPW to describe the interests or values of a historic asset or assets, has been avoided here to save confusion with the EIA terminology of significance criteria and ‘Likely Significant Effects’ (the term ‘importance’ is used instead).

**Table 8-2 Importance of Historic Assets**

Importance of resource / asset	Description
High	World Heritage Sites and historic assets of acknowledged international importance, or that can contribute significantly to acknowledged international research objectives. Historic landscapes of international sensitivity (designated or not) and extremely well-preserved historic landscapes with exceptional coherence, time depth, or other critical factor(s).  Scheduled Monuments (or archaeological site shown to be of national importance) . Historic assets or groups of assets that can contribute substantially to acknowledged national research objectives. Historic landscapes exhibiting considerable

Importance of resource / asset	Description
	<p>coherence, time depth or other critical factors and displaying considerable evidential, historic, aesthetic and communal value as identified by Conservation Principles. Registered Historic Landscapes. Grade I and II* Registered Parks/Gardens.</p> <p>Grade I and II* Listed Buildings or other Listed Buildings that can be shown to have exceptional qualities in their fabric or associations not adequately reflected in their Listing grade, or undesignated structures of clear national importance.</p> <p>Conservation Areas containing very important buildings.</p>
Medium	<p>Historic assets, or groups of assets or landscapes, that contribute to regional research objectives. Historic landscapes exhibiting reasonable coherence, time depth or other critical factors (including degree of preservation) and displaying evidential, historic, aesthetic, and communal value as identified by Conservation Principles. Grade II Registered Parks/Gardens. Grade II Listed Buildings or historic buildings which can be shown to be of comparable significance. Conservation Areas containing important buildings which contribute significantly to their historic character, or historic townscapes with important historic integrity.</p>
Low	<p>Historic assets displaying limited evidential, historic, aesthetic, or communal value as identified by Conservation Principles.</p> <p>Historic assets, or groups of assets, that contribute to a limited degree to regional research objectives. Historic landscapes exhibiting limited coherence, time depth or other critical factors.</p> <p>Historic landscapes whose sensitivity is limited by poor preservation and/or poor survival of contextual associations.</p> <p>Locally Listed buildings and unlisted buildings of modest quality in their fabric or historical association.</p>
Uncertain	<p>Historic assets, the importance of which has not yet been ascertained.</p>
Negligible	<p>Historic assets with very little or no surviving archaeological interest. Historic assets or groups of assets that cannot appreciably contribute to acknowledged regional research objectives. Historic landscapes exhibiting little or no coherence, time depth or other critical factors and displaying evidential, historic, aesthetic, and communal value as identified by</p>

Importance of resource / asset	Description
	Conservation Principles. Buildings of no architectural or historical note.

Magnitude of Impact

- 8.3.29 The magnitude of impact upon historic assets is defined as the change resulting from development that affects the asset's values. The classification of the magnitude of impact on historic assets is rigorous and based on consistent criteria. This takes account of such factors as the physical scale and type of disturbance anticipated and whether features or evidence that would be lost or altered are fundamental to their historic character and integrity (values). Impacts may be adverse or beneficial. Depending on the nature of the change and the duration of development, the impacts can be temporary and/or reversible or permanent and irreversible. Change in itself may not necessarily result in an impact to a historic asset. It is noted that Cadw's 'Conservation Principles' (Ref. 8-1) defines 'preserve' as "*to keep safe from harm*".
- 8.3.30 In terms of the assessment of effects arising from change to an asset's setting, the guidance provided by Cadw in 'Setting of Historic Assets in Wales' (Ref. 8-2) makes clear that 'setting is not itself a historic asset' and that its importance 'lies in what it contributes' to the historic values of an asset'.
- 8.3.31 Thus, in summary, this preliminary assessment has included the consideration of such issues as: which, and how many, elements of a historic asset are affected; whether the change physically modifies the asset or whether it comprises changes in visual aspects, noise or access that would alter its setting; and whether the change in the value of an asset will be adverse or beneficial.
- 8.3.32 The magnitude of impact on each individual historic asset is assessed using the criteria in Table 8-3. As noted above, changes may be adverse or beneficial; however, in the most part the descriptions offered below focus on adverse change.

**Table 8-3 Magnitude of Impact**

<b>Magnitude of Impact</b>	<b>Description</b>
High	Change to most or all key archaeological or historic building values, such that the asset is totally altered. Total changes to valued components of the setting of archaeological or historic building assets. Change to most or all key valued historic landscape elements, Parcels or components; changes to valued sound quality; fundamental changes to valued use or access.
Moderate	Changes to many key archaeological or historic building elements, such that the asset's values are noticeably modified. Changes to the valued settings of archaeological or historic building assets, such that it is noticeably modified. Changes to many key historic landscape elements, Parcels or components; noticeable differences in valued sound quality; considerable changes to valued use or access.
Low	Changes to key archaeological or historic building elements, such that the values of the asset are slightly modified. Changes to the valued settings of archaeological or historic building assets, such that it is slightly altered. Change to a few key historic landscape elements, Parcels or components; some limited changes to valued sound quality; slight changes to valued use or access.
No Impact	Inconsequential changes to archaeological or historic building elements or their settings; to key historic landscape elements, Parcels or components; to use or access.

***Significance of Effect***

8.3.33 The significance of effect upon any historic asset is a product of the importance of the asset, and the magnitude of change upon its values. This is summarised in Table 8-4. Where two alternatives are given in the table, professional judgement is used to decide which best reflects the significance of effect.

**Table 8-4 Criteria for Significance of Effect**

<b>Magnitude of Impact</b>	<b>Historic Asset Importance</b>			
	<b>High</b>	<b>Medium</b>	<b>Low</b>	<b>Negligible</b>
<b>High</b>	Major	Major	Minor to Moderate	Neutral

<b>Medium</b>	Major to Moderate	Minor to Moderate	Minor	Neutral
<b>Low</b>	Minor to Moderate	Minor to Moderate	Minor	Neutral
<b>No Impact</b>	Neutral	Neutral	Neutral	Neutral

8.3.34 Regarding the scale of the effect upon historic assets, the key principle to be considered, in EIA terms, is whether the 'effect is likely to be significant'. For the purposes of this report 'Likely Significant Effects' are considered to be 'Moderate' or higher.

8.3.35 The measured significance of effect can be equated to key concepts in planning policy and heritage guidance regarding the assessment of development effects upon historic assets, as per Table 8-5. Key principles that are considered, in accordance with EN-1, EN-3 and PPW, are whether the effect comprises substantial harm or total loss. When a likely significant effect is identified, suitable Mitigation measures are proposed to avoid, prevent, reduce or offset the effect.

**Table 8-5 Description of the significance of effect with reference to heritage policy**

<b>Significance of Effect</b>	<b>Criteria</b>
<b>Major Adverse</b>	<p>Extensive harm to or total loss of the values of a designated historic asset (or asset worthy of designation) such that development should not be consented unless substantial public benefit is delivered by the development.</p> <p>Total loss of a historic asset of medium importance without the possibility of viable compensatory Mitigation measures.</p> <p>Extensive harm to a landscape designated by virtue of its historic landscape value.</p>
<b>Moderate Adverse</b>	<p>Less than extensive harm to or total loss of the values of a designated historic asset (or asset worthy of designation) such that the harm should be weighed against the public benefit delivered by the development to determine consent.</p> <p>Total loss of a non-designated historic asset of medium importance (i.e. which may contribute to regional research objectives) with compensatory Mitigation measures agreed with statutory consultees.</p>

<b>Significance of Effect</b>	<b>Criteria</b>
	<p>Harm to a non-designated historic asset, of a greater degree than that perceived of as Minor Adverse, which should be considered in determining the consent.</p> <p>Harm to a historic landscape type of more than low importance, and of some rarity.</p>
<b>Minor Adverse (not significant)</b>	<p>Less than extensive harm to the value of a designated historic asset, of a lesser degree than that perceived as Moderate Adverse, but which should still be weighed against the public benefit delivered by the development to determine consent.</p> <p>Harm to a non-designated historic asset that can be adequately compensated through the implementation of a programme of industry standard Mitigation measures.</p> <p>Harm to a historic landscape type of limited historic value, and not of a rare form.</p>
<b>Neutral</b>	Effect that is nil or imperceptible.
<b>Minor Beneficial (not significant)</b>	Development will deliver a positive contribution and / or better reveal the values of a non-designated historic asset.
<b>Moderate Beneficial</b>	Development will deliver a positive contribution and / or better reveal the values of a designated historic asset (or asset worthy of designation) such that a consent should be treated favourably.
<b>Major Beneficial</b>	Development will deliver a positive contribution and / or better reveal the values of a designated historic asset of recognised international importance such that a consent should be treated very favourably.

### Assumptions and Limitations

8.3.36 This Chapter of the PEIR relies upon desk-based research which has utilised secondary information derived from a variety of sources (Appendix 8-1). The assumption is made that this data, as well as that derived from secondary sources, is accurate, in so far as their own limitations will allow. The information held within these repositories, however, is not complete and does not preclude the subsequent discovery of further elements of the historic environment that are, at present, unknown.



- 8.3.37 It is important to acknowledge the limitations of the information presented here. Whilst a number of historic and non-Project related archaeological investigations have been undertaken within the landscape, only small number of investigations extended within discrete areas of the PEIR Boundary. In addition, further surveys (i.e. geophysical survey) are yet to be undertaken within the PEIR Boundary for the Project. The information gleaned from the DBA for the PEIR is therefore predominately informed by those types of archaeological remains that can be more readily identified from aerial photography (cropmarks), LiDAR or walkover (earthworks) and / or in some cases from artefacts recovered from the ploughsoil (chance finds). It should be noted however that the results of the investigations, where carried out, do indicate a high potential for buried archaeological remains, associated in particular with later prehistoric and Roman period activity.
- 8.3.38 The DBA research undertaken to date was carried out in respect of the Scoping Study Area (as per the WSI for the DBA). Subsequent changes to the PEIR Boundary (which replaced the Scoping Study Area) mean there are gaps in the data gathering and research. Whilst this is a limitation, including both potential buried archaeological remains (especially along the Highway Works) and sensitive designated historic assets, there is sufficient data available to provide a preliminary assessment (any gaps will be addressed through further surveys and investigations; see paragraphs 8.3.20-8.3.25 of this Chapter).
- 8.3.39 It is accepted however that there are currently some gaps in the knowledge and understanding of the cultural heritage resource at this stage, with limitations discussed in the DBA. As part of the EIA process, further data gathering, assessment and walkover surveys will be carried out, informed by further non-intrusive and intrusive surveys, to ensure a robust understanding of the cultural heritage resource and Likely Significant Effects of the Project. These will be reported in the ES.
- 8.3.40 A scoping exercise carried out as part of Stage 1 of the settings assessment considered the 5km Study Area utilised in the DBA and did not consider a number of designated historic assets (Scheduled Monuments and Listed Buildings) which may be affected by the Project (principally alongside the Highway Works

extending beyond the previously adopted 5km Study Area). There will be a level of uncertainty regarding those assets, but a preliminary assessment can be carried out based on collated information.

- 8.3.41 The preliminary assessment below considers the parameter plans submitted with the PEIR (Figures 5-1 to 5-3 and Table 1-1 Project Parameters). The full details of the Solar PV Site materials or foundations are not available at this time, but reliable assumptions can be made on the basis of information provided. There is also uncertainty regarding Mitigation within and outside of the Solar PV Site including potential for underground cabling in the Mitigation and Enhancement Areas. An assumption is made that appropriate Mitigation measures can be put in place within those parameters to ensure any harm to historic assets is minimised or avoided altogether, including avoidance or archaeological recording (for buried archaeological remains) or buffers or vegetation screening (for designated historic asset).
- 8.3.42 The location of the cable trenches (within the Cable Route Corridor) is currently undefined. An assumption is made that appropriate Mitigation measures can be put in place to ensure any harm to sensitive historic assets is minimised or avoided (such as archaeological investigation).

### **Consultation**

- 8.3.43 A Written Scheme of Investigation for a Historic Environment Desk-Based Assessment was submitted to Heneb: Gwynedd Archaeology (formerly Gwynedd Archaeological Planning Service; GAPS) and approved on 27 October 2023.
- 8.3.44 Additional consultations followed. A meeting between Cotswold Archaeology and the archaeological advisor at Heneb took place on 17 November 2023 in which approach to the DBA, Scoping and further investigations was discussed, and further clarifications were provided on 27 November 2023.
- 8.3.45 A meeting with Cadw was also offered and though not held, the Senior Historic Environment Planning Officer at Cadw provided comments via email, during consultations on 9 November 2023, in which the Study Area for the stage 1 of the settings assessment was discussed, with 5km buffer recommended.

8.3.46 The Scoping Opinion included further responses from Heneb and Cadw, and those comments have informed this report.

8.3.47 Further consultations with Heneb and other stakeholders will be undertaken to provide updates from the on-going survey work and to agree the scope of the non-intrusive surveys and further investigations. The consultations will also seek views on the scope of any Mitigation.

## **8.4 Embedded Mitigation**

### **Design**

8.4.1 The design of the Project is an iterative process and the development parameters have been determined and fixed for the purposes of the PEIR assessment through an iterative approach taking into account baseline environmental information, the evolving design and any associated technical requirements.

8.4.2 The incorporation of Mitigation and Enhancement Areas within the PEIR Boundary will serve to maintain separation between the Solar PV Site and surrounding designated historic assets, including Listed Buildings and Scheduled Monuments in the proximity of Maen Hir North, South A and South B (Figures 8-1 and 8-2: D4.1 D4.2, D9, D11, D15). Such areas, where devoid from below ground impacts, would also allow for the protection of archaeological remains within those areas (including within Maen Hir South A).

8.4.3 The majority of the hedgerows, earthwork boundaries and tree-lines defining historic field systems will be preserved, within which the Project will be contained. The exceptions to this will be discrete areas where small sections of hedgerow will be removed for temporary or permanent access, or for cable routing. Retention and management of these features, which will be detailed in the outline Landscape and Ecological Management Plan (oLEMP), would serve to minimise the effect of the Project upon historic landscape features within the PEIR Boundary.

### **Construction and Decommissioning**

8.4.4 Works during the Construction and Decommissioning Phases have the potential to affect both buried archaeological remains (potential Mitigation discussed

below) and designated historic assets as a result of temporary change within their settings (including traffic, noise, dust etc.).

- 8.4.5 Embedded Mitigation relevant to the Construction phase will be described within an outline Construction Environmental Management Plan (CEMP) and an outline Construction Transport Management Plan (CTMP) submitted with the DCO Application. These will incorporate measures to ensure any effects on designated historic assets are avoided or minimised.
- 8.4.6 Similarly, traffic, noise and dust may be anticipated during the Decommissioning Phase. An outline Decommissioning Environmental Management Plan (DEMP) will be submitted with the DCO Application and will present appropriate Mitigation measures to ensure any effects on designated historic assets as a result of temporary works within their settings are avoided or minimised. The DEMP will also include good practice regarding protection of archaeological remains decommissioning works which could affect or disturb below ground archaeological remains.

## 8.5 Preliminary Likely Significant Effects

### Archaeology

#### **Construction**

- 8.5.1 Likely Significant Effects upon buried archaeological remains would occur principally during the Construction Phase. Buried archaeological remains within the PEIR Boundary could be affected by the Project during construction work that disturbs the ground, which have the potential to physically impact upon any surviving buried archaeological remains. Duration of Construction Phase or phasing (works carried over two phases) would result in the same effects (there is no worst case over another).
- 8.5.2 Construction activities relating to the installation of PV Arrays typically result in very minor below-ground disturbance (compared to other forms of development which require foundations and extensive landscaping). The extent of disturbance likely to be caused by the installation of PV Arrays would depend on the nature of the construction techniques used (to be set out in the DCO Application or post-consent) and therefore can vary across the Solar PV Site.

- 8.5.3 The Mounting Structure will be pile driven or screw mounted into the ground to a typical depth of approximately 2.5m, subject to ground conditions. The option to install concrete blocks, avoiding the need for driven and screw anchored installation will be based on the results of the archaeological survey and the geotechnical analysis.
- 8.5.4 Typically, the foundation will include piles (rammed or pre-drilled) which will involve very minimal disturbance of the subsoil. Should a pile location (or even several pile locations) coincide with buried archaeological remains, the quantity of displaced archaeological remains in the case of larger features, such as the in-filled ditches, would be insignificant compared to that left undisturbed. For discrete or less robust buried features such as pits, post holes or stake holes, the probability that piles would be aligned in such a way that any more than a tiny percentage of the features would be affected is very low, and complete avoidance is the most likely outcome. Additionally, where known or potential highly sensitive remains are located, additional Mitigation measures can be secured as required (see below).
- 8.5.5 The other elements of the Project, including Access Tracks, Ancillary Buildings, BESS, Construction Compounds, Inverters, Cable Route Corridor, 33kV and 132kV Substations, Project Substation, Switchgears, Project Substation Switch Room, and Transformers, have the potential to result in damage to or loss of buried archaeological remains which may be present within their footprint. The final details and locations of these are not yet known. Whilst these areas encompass only a small percentage of the PEIR Boundary overall, the magnitude of impact on any potential archaeological remains present within the footprint of such works is anticipated to be high adverse. Appropriate additional Mitigation measures (see below) will be implemented, informed by further surveys and assessment, to ensure any such impacts are reduced, removed or offset, as required.
- 8.5.6 The Highway Works have the potential to have adverse effects on archaeology although this is unlikely given that the works will likely be limited to verges where remains are likely to have already been truncated.

***Decommissioning***

- 8.5.7 There is a degree of uncertainty regarding potential harm upon the archaeological remains during Decommissioning Phase as the likely methodology of the removal of the Solar PV infrastructure is not finalised at this stage (or may indeed differ as a result of potential change in technology in the coming years). Whilst removal of piles, cables, foundations or Access Tracks, or restoration of these elements of land to agricultural use may impact archaeological remains which survive just outside the areas of disturbance caused during the construction works, appropriate methodology will be agreed within a DEMP to minimise those effects. It should be noted that construction works within BESS, 33kV/132kV Substation etc. are likely to result in truncation of archaeological remains, where present, so those areas would be unlikely to require further consideration during Decommissioning Phase (additional Mitigation measures, prior to truncation, are discussed below and will be applied prior to or during Construction Phase).
- 8.5.8 An outline DEMP will present appropriate protection of archaeological remains during decommissioning works or, where changes are likely, specify that any departures from the proposed DEMP (which may be deemed appropriate at the time of decommissioning) would also safeguard archaeological remains (including identification of any further Mitigation measures). Therefore, it is likely there will be no additional disturbance to buried archaeological remains during this phase, but where impacts are likely, additional Mitigation measures will be put in place.

**Built Heritage and Historic Landscape**

***Construction and Decommissioning***

- 8.5.9 Potential effects upon designated historic assets during the Construction Phase of the Project would derive from the presence of machinery, fencing, Construction Compounds, as well as increased noise, traffic and dust. Construction operations are temporary by nature, and the impacts associated with these works would be temporary and limited and would not be likely to cause significant effects to designated historic assets. Duration of Construction Phase or phasing (works carried over two phases) would result in comparable effects (there is no worst case over another).

- 8.5.10 Similarly, there would be temporary change within the settings of the designated historic assets during decommissioning from the use of machinery and traffic to disassemble the elements of the Project. As above, such impacts would be temporary and limited and would likely not cause significant effects.
- 8.5.11 However, due to the changes to the PEIR Boundary following the initial assessment in the DBA (Appendix 8-1), a number of assets will require further assessment and consideration. As such, these assets will be further considered within the ES Chapter, with further embedded Mitigation introduced where appropriate and additional Mitigation measures implemented, through the oCEMP and oCTMP (as discussed above), as necessary. Due to embedded and additional Mitigation measures available, it is considered unlikely that any significant effects would arise.

***Operation***

- 8.5.12 Following the completion of the construction works, the Project would introduce change into the landscape setting of designated historic assets, and any impacts upon those assets as a result of change within their settings would be perceived for the duration of the Operational Phase (60 years). Whilst operational impacts would be temporary (and would be removed following decommissioning), this change can be acknowledged as being permanent with regard to the experience of historic assets (the duration being 60 years, spanning two generations). However, in the same context of landscape character and experience of heritage values, this change is wholly reversible (any Operational Phase impacts would be temporary and reversible, although long-lasing).
- 8.5.13 The Project would change the character of land Parcels within the setting of a number of designated historic assets (historic buildings, structures and monuments, and Registered Historic Landscape). The historic landscape character of the Site itself has not been recognised as of particular importance. Furthermore, the fundamental rural character of fieldscape within the setting of these designated historic assets would be unchanged by the introduction of the Solar PV Array (although 33kV/132kV Substations, Project Substation and BESS

or Highway Works would introduce elements of energy and highway infrastructure).

- 8.5.14 The DBA (Appendix 8-1) identified 15 groups of designated historic assets (Listed Buildings, Scheduled Monuments and RHL) as requiring detailed assessment to understand their importance, and, for all designated historic assets, their historic value is largely derived from their physical fabric, which will not be affected by the Project.
- 8.5.15 With regard to their setting, the DBA (Appendix 8-1) considered which elements of their settings contribute to their importance and whether the PEIR Boundary forms part of this setting. For the majority of Listed Buildings scoped into the detailed assessment, the key settings comprise their immediate surroundings, with the PEIR Boundary lying within a wider, less important - less relevant, setting. For Scheduled Monuments, landscape prominence or intervisibility between assets of similar date contribute, although key views are considered to be from the immediate environs.
- 8.5.16 Whilst key experiences of the buildings and monuments are unlikely to be altered, further assessment will be necessary to inform design development and understanding of impact, with options to incorporate additional Mitigation measures for any sensitive assets. The DBA (Appendix 8-1) includes consideration of a select number of assets which may require additional Mitigation measures. Significant effects upon those are unlikely considering the embedded Mitigation, and as the key contributors to the assets' importance would unlikely be affected.

## **8.6 Additional Mitigation**

### ***Archaeology***

- 8.6.1 Further research as part of the DBA, the geophysical survey and non-intrusive surveys as well as any further work (such as trial trenching) will ensure that any sensitive remains can be identified, assessed and appropriately safeguarded.
- 8.6.2 The detailed design process will allow for important (specifically sensitive) buried archaeological remains to be protected from harmful disturbance. This will be achieved by the measures that will be set out within the outline CEMP which will



accompany the ES. The option for Mitigation through design (avoidance) can allow important or sensitive buried archaeological remains (such as human remains) to be safeguarded from any disturbance. This could include areas devoid of development (such as those within the Mitigation and Enhancement Areas) or in exceptional cases utilising non-ground disturbing construction techniques. These could comprise excluding discrete areas from PV Arrays and associated infrastructure as well as creating 'archaeology exclusion zones' during construction. The 'no-dig' complimentary techniques involve ballast footings (such as concrete shoes) to avoid piling completely, or areas where cabling is excluded (to reduce any impacts to the low level piling only).

- 8.6.3 In any instances where the detailed design determines that 'no-dig' solutions are not viable or warranted, small-scale and localised archaeological excavations could take place, to record the expected buried remains in advance of construction. These locations are more likely to be those where ground disturbance would be more extensive, for instance the construction of the Project Substation, BESS, Cable Route Corridor and other infrastructure (highways, Access Tracks, Construction Compounds) and where there is less flexibility in the design (regarding the specific location of the works or the required construction methods).
- 8.6.4 The scope of these archaeological excavations will be defined in a WSI, secured by the requirements of the DCO, in accordance with EN-1 and PPW. The results of these archaeological excavations will be published and disseminated to the public in a manner proportionate to the nature of the importance of the discovered remains. The unavoidable loss of evidential value would be mitigated by the enhanced historical value.
- 8.6.5 These are typical industry Mitigation and good practice responses to discovered (and important) buried archaeological remains and these responses are secured by the requirements to the DCO (by reference to the CEMP and the need for the WSI).

***Designated historic assets, built heritage and historic landscape***

- 8.6.6 Not all potentially sensitive assets were considered in the DBA, due to the evolving nature of the design at this stage, and detailed design is not known at this stage. As such further research and assessment will be undertaken to inform the DCO Application, and potential effects on designated historic assets and historic landscape will be considered further within the ES.
- 8.6.7 Where potential impacts are identified, informed by research, or as the design of the Project is developed, opportunities for further measures will be explored so that any effects on historic assets can be avoided altogether or minimised (to non-significant effects) . This could include a number of additional measures, including planting to provide screening, buffers to allow assets to be experienced within their important setting, layouts to ensure key views are unaffected or restoration of historic field boundaries (to enhance appreciation of the historic landscape and where relevant important setting of assets).

***Heritage benefit***

- 8.6.8 A Project of this scale includes opportunities for heritage benefits as a result of increased understanding of the cultural heritage resources and options to ensure this is disseminated and shared with the local community and wider public. This can include a range of measures, including but not limited to opportunities to restore lost or deteriorated historic field boundaries, which could help illustrate the historic landscape to improved access as well as maintenance and interpretation of designated and non-designated historic assets. The latter would apply specifically but not solely to the Scheduled Monuments within the PEIR Boundary (with appropriate management plan in place to ensure long-term management of the assets that will form part of the PEIR Boundary).
- 8.6.9 As discussed in the DBA (Appendix 8-1, paragraph 4.46), solar schemes may have a positive effect on buried archaeological remains within cultivated fields, as such fields would be removed from regular ploughing (and impacts upon buried remains associated within this). This beneficial effect would apply to any cultivated land within the PEIR Boundary that will change from arable to Solar PV Array (although it should be noted that only a fraction of land within the Solar PV Array

of the PEIR Boundary) is currently under arable cultivation so overall those benefits would be localised and limited.

## **8.7 Residual Effects**

- 8.7.1 Known and potential buried archaeological remains are anticipated to be present within the PEIR Boundary. However, the limited nature of ground disturbing activities associated with the construction and decommissioning of the Project, as well as a suite of Mitigation measures (in line with industry standard and good practice approaches) which will be defined and implemented following completion of further investigations, means that significant effects on the archaeological interest (importance) of any potentially surviving remains is very unlikely. Any such potential impacts will be removed or reduced through appropriate Mitigation measures.
- 8.7.2 Whilst a number of designated historic assets, built heritage and historic landscape features (and character) could be affected by the Project (principally but not solely during the Operational Phase), design measures, as outlined above (additional Mitigation), are expected to completely avoid or minimise any adverse impacts (to a level that would not be significant).
- 8.7.3 However, as this report is informed by desk-based research only, and based on a number of assumptions with regard to the Project, the cultural heritage topics scoped into EIA will be further explored and assessed in detail within the ES Chapter that will support the DCO Application, informed by further research, investigations and Mitigation measures where necessary.

## **8.8 Effect Interactions**

- 8.8.1 Potential effect interactions between the LVIA and Heritage disciplines have been considered in this Chapter through reference to the ZTV developed as part of the LVIA (PEIR Chapter 06) and any adverse visual effects on the setting of designated historic assets.
- 8.8.2 Potential adverse glint and glare effects on the setting of designated historic assets has been taking into consideration in this chapter.

- 8.8.3 Potential adverse noise disturbance and visual effects on the settings designated historic assets caused by the Construction Phase have been considered within Section 8.5 of this Chapter.
- 8.8.4 Furthermore, no historic asset that may possess other values, such as ecological interest or amenity value, is anticipated to be adversely affected in a way whereby likely significant effect interactions would materialise.
- 8.8.5 Historic assets (archaeology, built heritage or historic landscape) may have interactions, in which some assets (i.e. archaeological remains or historic landscape character) contribute to the importance of other assets. This contribution and interactions between the assets have been considered within the DBA, and will be further explored as assessment progresses. However, once the additional Mitigation as detailed above is undertaken, Likely Significant Effects would be unlikely to take place.

## 8.9 References

- Ref 8-1 Cadw Conservation Principles
- Ref 8-2 Setting of Historic Assets in Wales
- Ref 8-3 Heritage Impact Assessment in Wales
- Ref 8-4 Planning (Listed Buildings and Conservation Areas) Act 1990
- Ref 8-5 Cadw, Welsh Assembly Government and Countryside Council for Wales 2007 Guide to Good Practice on Using the Register of Landscape of Historic Interest in Wales in the Planning and Development Process. Revised (2nd) Edition Including Revisions to the Assessment Process (ASIDOHL2)

