



Preliminary Environmental Information Report

Chapter 7: Cultural Heritage and Archaeology

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7.0 Cultural Heritage and Archaeology

7.1 Introduction

7.1.1 This Chapter sets out the preliminary assessment of likely significant effects of the Proposed Development on Cultural Heritage and Archaeology during construction, operation and decommissioning phases. It sets out the methodology applied for the Cultural Heritage and Archaeology assessment in this Chapter. This assessment considered information from other discipline assessments including:

- **Chapter 11: Landscape and Visual Amenity;**
- **Chapter 12: Glint and Glare,** and
- **Chapter 16: Ground Conditions.**

7.1.2 Statutory provision for the safeguarding of historic assets has been made at a national and local level. Historic assets comprise below and above ground archaeological remains, buildings, structures, monuments and heritage landscapes.

7.1.3 This Chapter describes:

- The legislation, policy and technical guidance that has informed the assessment (**Section 7.2**);
- Limitations and assumptions (**Section 0**);
- Stakeholder Engagement (**Section 7.4**);
- Description of the methodology underpinning the assessment (**Section 7.5**);
- Description of the Study Area (**Section 7.5**);
- Identification of the potential sensitive receptors within the vicinity of the Site (**Section 7.5**);
- Description of the EIA Significance Criteria (**Section 7.5**);
- Description of the baseline conditions (**Section 7.6**);

- Embedded Design Mitigation (**Section 7.7**);
- Preliminary assessment of likely impacts and effects (**Section 7.8**);
- Consideration for the potential mitigation and enhancement measures to reduce the impact of the Proposed Development (**Section 7.9**);
- A summary of significant residual effects (**Section 7.10**);
- A summary of significant cumulative effects (**Section 7.11**);
- An overall summary (**Section 7.12**); and
- References (**Section 7.13**).

7.1.4 This Chapter is supported by the following technical appendices as set out in **Table 7-1**.

Table 7-1 Appendices within the DCO Application that accompany Cultural Heritage and Archaeology

Drawing number / Document reference	Drawing Description
Appendix 7A	Historic Environment Desk-Based Assessment (HEDBA)
Appendix 7B	Summary of known non-designated historic assets within the Site
Appendix 7C	Scope of Sites Assessed for Setting
Appendix 7D	Impact Assessment
Appendix 7E	Project Design for Historic Environment Desk-Based Assessment

7.1.5 The figures in **Table 7-2** below also accompany this Chapter.

Table 7-2 Figures within the DCO Application that have informed the Cultural Heritage and Archaeology

Drawing number / Document reference	Drawing Description
Figure 7-1	Gwent Levels Registered Historic Landscape
Figure 7-2	Designated Historic Assets within 5km Study Area
Figure 7-3	Historic Landscape Character Areas
Figure 7-4	Non-designated Historic Assets within 1km Study Area
Figure 7-5	Previous Investigations within 1km Study Area

7.2 Legislation and Planning Policy

7.2.1 Relevant national legislation, policy and guidance which have informed this Chapter are listed in **Table 7-3**.

Table 7-3 Summary of National Legislation, Policy and Guidance Relevant to the Development

Legislation / Policy/ Guidance	Description
Legislation	
The Historic Environment (Wales) Act 2023 (Ref 7-1)	The Historic Environment (Wales) Act 2023 made provision to consolidate legislation relating to the historic environment in Wales in one place
The Hedgerows Regulations 1997 (Ref 7-2)	Sets out legal requirements that protect important hedgerows by controlling their removal.
Policy	
Planning Policy Wales, Edition 12 (Ref 7-3)	National planning policy for Wales is set out in Planning Policy Wales (Edition 12, 2024) (PPW). Chapter 6, '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.
National Policy Statements (Ref 7-4)	National energy infrastructure planning policy is set out in National Policy Statement (2023) (NPSEN-1, 'Overarching National Policy Statement for energy' and NPS EN-3. 'National Policy Statement for renewable energy infrastructure' explain how the historic environment may be impacted by the construction, operation and decommissioning of energy infrastructure, how to assess and mitigate harm, and opportunities for enhancement.
Future Wales: The National	The National Development Framework Future Wales –

Legislation / Policy/ Guidance	Description
Plan 2040 (February 2021) (Ref 7-5)	the National Plan 2040, sets out the Welsh Government's land use priorities and provides a national land use framework.
Newport City Council Local Development Plan (adopted 2015) (Ref 7-6)	<p>Local planning policy that highlights key objectives for the local council, which include the following policies relating to the Historic Environment:</p> <ul style="list-style-type: none"> • CE4 Historic Landscapes, Parks, Gardens and Battlefields; • CE5 Locally Listed Buildings and Sites; • CE6 Archaeology; and • CE7 Conservation Areas.
Monmouthshire County Council Adopted local development plan (adopted 2014) (Ref 7-7)	Local planning policy that highlights key objectives for the local council, which include the following policies relating to the Historic Environment:
Guidance	
Technical Advice Note (TAN) 24: The Historic Environment (Ref 7-8)	TAN 24 was adopted in May 2017 to provide guidance on how the planning system should consider the historic environment during development plan preparation and decision making on planning applications. TAN 24 provides best practise guidance on the planning considerations relating to the historic environment. Specifically, TAN 24 provides guidance on the significance and setting of historic assets and which factors should be considered in that assessment, including Conservation Principles for the sustainable management of the historic environment in Wales (CADW 2011).

Legislation / Policy/ Guidance	Description
CADW. Heritage Impact Assessment in Wales (Ref 7-9)	Sets out the general principles to consider when planning changes to historic assets and applying for listed building, conservation area and scheduled monument consent.
CADW. Setting of Historic Assets in Wales (Ref 7-10)	Sets out the principles used to assess the potential impact of development or land management proposals within the settings of World Heritage Sites, ancient monuments (scheduled and unscheduled), listed buildings, registered historic parks and gardens, and conservation areas.
CADW. Managing Historic Character in Wales (Ref 7-11)	Explains why it is important to recognise historic character and use it as an evidence base for conservation, regeneration and planning work. It shows how policies and programmes to manage change can take inspiration from the past to help create and sustain distinctive places for the future.
CADW Guide to Good Practice on using The Register of Landscapes of Historic Interest in Wales in The Planning and Development Process Revised (2nd) Edition (2007) (Ref 7-12)	Describes the assessment methodology for the Assessment of the Significance of the Impact of Development on Historic Landscape (ASIDOHL).
ClfA: Code of conduct: professional ethics in archaeology (2025) (Ref 7-13)	Ensuring professional conduct in archaeology.
ClfA Code of conduct: Regulations for	Ensuring professional conduct.

Legislation / Policy/ Guidance	Description
professional conduct (2024) (Ref 7-14)	
ClfA Standard and guidance for historic environment desk-based assessment (2020) (Ref 7-15)	Guidance for producing desk-based assessment.
ClfA Standard and guidance for commissioning work or providing consultancy advice on archaeology and the historic environment (2020) (Ref 7-16)	Guidance for archaeological and built heritage consultancy work.
Welsh Assembly Government: Conservation Principles for the sustainable management of the historic environment in Wales (2011) (Ref 7-17)	Guidance for interpreting and managing the historic environment in Wales, including assessing heritage values and significance.
Newport City Council Archaeology & Archaeologically Sensitive Areas (ASA): Supplementary Planning Guidance (Ref 7-18)	Local planning guidance for development within ASAs, including what works may be required and how procedures for consultation and evaluation will be implemented.

7.3 Assessment Assumptions and Limitations

- 7.3.1 The main limitation to assessment is the nature of the archaeological resource - buried and not visible - which means it can be difficult to predict the presence and likely significance of buried historic assets accurately, and consequently the impact upon them, based primarily on desk-based sources. The principal source of information is the Historic Environment Record (HER) which lists all known archaeological sites and finds. The information provides an initial indication of archaeological potential rather than a definitive list of all potential buried historic assets because the full extent of a buried historic resource cannot be known prior to site-specific archaeological field investigation.
- 7.3.2 Current understanding may be limited, in particular for periods not represented or poorly represented, in the historical record (prehistoric, Roman and early medieval periods) particularly where no past archaeological investigation of the Site has been carried out. There may also be a bias with the available baseline with the majority of previous archaeological investigations within the 1km Study Area taking place along the intertidal zone.
- 7.3.3 Walkover surveys were mostly confined to roads, public rights of way (PRoW), and well-established tracks. Access into existing fields systems was made where possible. Any requirement to undertake more detailed Site walk overs will be conducted at a later date and fed into the Environmental Statement (ES).
- 7.3.4 Notwithstanding these limitations, the methodology presented in this Chapter is considered to be robust, utilising reasonably available information, and conforms to the requirements of local and national guidance and planning policy. Typically, appropriate standard archaeological prospection and evaluation techniques are used to reduce the uncertainties inherent in any desk-based assessment, as part of an overall Environmental Impact Assessment (EIA) mitigation strategy.

7.4 Stakeholder Engagement

- 7.4.1 An EIA Scoping Report (**Appendix 1C**) for the Proposed Development and a request for an EIA Scoping Opinion from the Planning Inspectorate was submitted in December 2024. **Table 7-4** presents a summary of comments provided by the Planning Inspectorate and consultees (**Appendix 1D**) as part of the scoping process

and the Applicant's response, highlighting where relevant how these comments have been addressed within this Chapter.

7.4.2 Consultation was sought in June 2024 with CADW, the national historic environment service for Wales, and Heneb: the Trust for Welsh Archaeology, to inform Environmental Impact Assessment (EIA) Scoping with respect to Cultural Heritage and Archaeology issues. Responses were received from CADW on 10th June 2024 (Ref 7-19) and from Heneb on 6th August 2024 (Ref 7-20).

Table 7-4 Main matters raised during consultation

Consultee	Main matters raised	How has the concern been addressed	Location of response in chapter
CADW (Ref 7-9)	Agreed that a Historic Environment Desk Based Assessment (HEDBA); an ASIDOHL2 Assessment and an accompanying ES Chapter will be required to support an application for this development.	A HEDBA has been prepared to support the assessment in the PEIR, which will be updated for the ES where necessary. The ASIDHOL will be appended to the ES.	HEDBA is included at Appendix 7A
	The proposed HEDBA should include analysis of LiDAR information, in conjunction with other data, to identify non-designated archaeological sites.	The HEDBA includes analysis of LiDAR data and other relevant data to identify non-designated archaeological sites.	
	CADW advised that archaeological evaluations, if required, should be conducted in line with section 6.1.26 of Planning Policy Wales (2024) (REF 7-3).	The requirement for archaeological investigations shall be considered within the scope of Stage 1 and Stage 2 additional mitigation works.	Section 7.9
	CADW also advised that The Historic Environment (Wales) Act 2023 (Ref 7-1) will be enacted prior to the commencement of the EIA and will be of material consideration.	The legislation has been included in Section 7.2 as being relevant to the assessment presented in this Chapter.	Section 7.2

Consultee	Main matters raised	How has the concern been addressed	Location of response in chapter
	<p>A desk-based assessment will need to be reviewed before it could comment on the suitability of an appropriate mitigation approach.</p> <p>A desk-based assessment should be prepared in accordance with professional standards set out in ClfA Standard and Guidance for historic environment desk-based assessment, section 3.2.1.</p>	<p>A HEDBA has been prepared in line with relevant professional standards to support the assessment in the PEIR, which will be updated for the ES where necessary.</p>	<p>HEDBA is included at Appendix 7A.</p>
<p>Heneb (Ref 7-25)</p>	<p>Suitability of various investigation techniques within the Gwent Levels stating, <i>‘In regard to the effectiveness of geophysical survey and trial trenching within the levels, there have been instances in more recent investigative work within the surrounding area, where geophysical surveying has produced beneficial results, along with trial trenching in which features were encountered. Therefore, we cannot definitely say that those methods are ineffective. Auger surveys within the region have also proven to be</i></p>	<p>Noted.</p>	<p>N/A</p>

Consultee	Main matters raised	How has the concern been addressed	Location of response in chapter
	<p><i>effective in determining the depths and sequences of land surfaces, alluvium and peat deposits, in order to further inform proposed developments in the area.'</i></p> <p>Recommended that any archaeological works be undertaken by a ClfA registered organisation or by an accredited MCIfA level ClfA member.</p>	<p>Noted. The relevant Written Scheme of Investigation (WSI) for archaeological works will identify the requirement for these to be undertaken by a ClfA registered organisation or by an accredited MCIfA level ClfA member. The desk-based assessment and this chapter have been prepared by a registered organisation.</p>	<p>N/A</p>
<p>Planning Inspectorate</p>	<p>In assessing if the likely impact of the development is significant CADW has considered the extent to which the proposals affect those nationally important historic assets that form the historic environment, including scheduled ancient monuments, listed buildings, registered historic parks, gardens and landscapes.</p>	<p>Noted. The attached list of specific historic assets that may be potentially affected by the proposal have been considered as part of the methodology of the HEDBA Project Design (PD) and have been considered for assessment in this Chapter.</p>	<p>Scoping of historic assets to be assessed for setting reasons as a consequence of the Proposed Development is</p>

Consultee	Main matters raised	How has the concern been addressed	Location of response in chapter included in Appendix 7C .
	<p>These views are provided without prejudice to the Welsh Government’s consideration of the matter, should it come before it formally for determination.</p> <p>Impact on the setting of non-designated above-ground historic assets that lie more than 100m from the PEIR Assessment Boundary: This matter is proposed to be scoped out on the basis that non-designated assets are not sensitive enough to result in likely significant effects on setting beyond this distance. Insufficient information has been provided on the nature and location of these heritage assets to rule out significant effects on their setting from the Proposed Development. The ES should include an assessment of significant effects where they are likely to occur or otherwise confirm why they would not, including confirmation of their location, intervisibility with the Proposed Development and evidence of agreement with the relevant stakeholders.</p>	<p>Noted. As such known non-designated above-ground historic assets within a 1km radius of the PEIR Assessment Boundary have been identified and assessed for potential setting-related impacts at construction and operation stages within the HEDBA.</p>	<p>Appendix 7A</p>

- 7.4.3 For the preparation of the Cultural Heritage and Archaeology assessment within the ES, further consultation will be undertaken with the relevant LPA archaeological advisor and the conservation officers at Newport City Council and Monmouthshire County Council, who provide advice on built heritage matters to the LPAs. CADW will be consulted in respect of any significant adverse effects arising on impacts to the setting of statutorily designated assets. Discussions will focus on consensus with respect to Study Areas, methodology, key constraints, and the consideration of other relevant information which may not be available through the Historic Environment Record (HER).

7.5 Assessment Methodology

Study Area

- 7.5.1 In order to inform an understanding of the historic environment context of the Site, a 5 kilometre (km) radius Study Area around the PEIR Assessment Boundary shown in **Figure 7-1** has been utilised to capture relevant data on designated assets. A 1km Study Area, from the PEIR Assessment Boundary, has been used for the identification of non-designated assets. The sizes of the proposed Study Areas are judged sufficient to understand the archaeological potential and historic character of the Site, and broad enough to capture potential impacts to historic assets. A broad range of open-source data has been accessed. The data has enabled a preliminary assessment of the likely nature, extent, preservation and significance of any known or possible buried historic assets that may be present within, or adjacent to, the Site. The 5km radius Study Area around the PEIR Assessment Boundary will also be applied when considering impacts to historic asset significance through changes to setting, alongside the utilisation of a Zone of Theoretical Visibility (ZTV), which is a computer-generated tool used to determine the extent of the likely visibility of the Proposed Development. Where appropriate, reference will be made to key historic assets beyond the Study Area where potential impact may be considered. Further details regarding how collected data will be used to inform the assessment methodology are provided under **Section 7.6**.
- 7.5.2 The distances given for historic assets, within the 5km, and 1km Study Areas from the Site boundary, are approximate to within 10 metres (m) unless otherwise stated.

Desk study

7.5.3 A HEDBA has been undertaken in line with a Project Design (PD), which sets out the sources to be consulted in order to establish the archaeological baseline for the Site. The PD was agreed with the Heneb Archaeological Planning Officer and is included in **Appendix 7E**. A summary of data sources used to support the baseline and assessment in this PEIR chapter is outlined in **Table 7-5**. The HEDBA will be updated as necessary and appended to the ES.

Table 7-5 Data sources used to inform the Historic Environment assessment

Organisation	Data source	Data provided
CADW	Information on statutorily designated historic assets	Statutory designations (scheduled monuments; statutorily listed buildings; registered parks and gardens; historic battlefields) can provide a significant constraint to development.
Heneb: The Trust for Welsh Archaeology	HER	Primary repository of archaeological information. Includes information from past investigations, local knowledge, find spots, and documentary and cartographic sources.
Local Planning Authority	Conservation Area	An area of special architectural or historic interest the character or appearance of which it is desirable to preserve or enhance.
Local Planning Authority	ASAs	Areas that indicate where archaeology may become a component in the determination of planning applications. Historic assets located within ASAs do not necessarily have more heritage significance than those without.

Organisation	Data source	Data provided
The National Monument Record (NMR), RCAHMW	Information on Wales's monuments	Provides detailed information about Welsh monuments, including aspects of archaeological, architectural, ecclesiastical, industrial, defensive and maritime history.
Historic Maps	National Library of Scotland (NHL); Old Maps Online; The Genealogist; Glamorgan Archives.	Historic maps, Ordnance Survey maps, tithe maps (and apportionments), estate maps and any other relevant historical maps will be consulted to enable analysis of change at the Site over time.
Aerial Photography	RCAHMW; Britain from Above; and the Central Registry for Aerial Photography Wales (CRAPW).	Provide aerial images of the Site so that provision can be made for analysis of the Site dating from the early 20th century to the present, including the study of cropmarks, soilmarks and earthworks to identify features that otherwise may not be visible at the present time.
Gwent and Glamorgan Archives	Historic maps; historic landowner information; historic photographs	If appropriate, the Glamorgan Archives will be visited to gather further information pertinent to the Site and cultural heritage.
Data Map Wales (formerly Lle Map)	LiDAR	Data Map Wales is a free online repository for LiDAR imagery in Wales.
Archaeological Data Service (ADS)	Fieldwork reports; Unpublished grey literature.	The Archaeological Data Service includes an archive of digital fieldwork reports.

Organisation	Data source	Data provided
National Library of Wales	Online and locally stored records.	Catalogue records relating to the historic environment of Wales.
British Geological Survey (BGS)	Solid and drift geology digital map; online BGS geological borehole record data.	Subsurface deposition, including buried geology and topography, can provide an indication of potential for early human settlement, and potential depth of archaeological remains.
Groundsure	Ordnance Survey maps from the 1st edition (1860–70s) to present day.	Provides a good indication of past land use and impacts which may have compromised archaeological survival. Provides an indication of the possible date of any buildings on the Site.
Internet	Web-published local history	Many key documentary sources, such as Gwent County History local and specialist studies are now published on the web and can be used to inform the archaeological and historical background.
The Client	Topographical information	Provides an indication of the impact of past land use, e.g., ground raising or lowering, which is useful for understanding possible truncation and likely depth of archaeological remains.

Surveys

7.5.4 A Site walkover was undertaken by suitably qualified individuals on 4th-5th of September 2025 to survey known historic assets and to assess the potential for previously unrecorded remains and historic hedgerows (Ref 7-21). This comprised

a visual inspection of the Site including its topography and land use. The Site consists of land of a rural character comprising irregular field systems sub-divided by hedgerow and mature tree field boundaries. Visibility during the site visits varied from overcast to clear. The heritage specialists were mostly confined to roads, PRowS, and well-established tracks.

- 7.5.5 Visits were carried out on the 13th-14th of February 2025 to designated historic assets within a 5km Study Area, accessed from publicly accessible land, to inform the assessment of effects on heritage significance arising through change to setting.
- 7.5.6 The need for any further surveys will be determined on the basis of the results of the desk-based assessment and in consultation with the LPA archaeological advisor and will be considered where this is necessary to understand the nature of the archaeological interests and to inform the assessment of effects. The scope of surveys will be proportionate to the potential archaeological interests and extent of disturbance which may result from the construction of the Proposed Development.

EIA Approach

- 7.5.7 This Chapter sets out the planning framework with respect to buried historic assets (archaeological remains), built historic assets and historic landscapes. It includes the methodology for assessing the environmental effects predicted during the construction, and operation (completed development) phases. It provides a summary overview of the baseline conditions. The legislation, policies and guidance used during the preparation of the Chapter are set out in **Table 7-3**.
- 7.5.8 The PEIR includes a description of the research undertaken and results obtained, as well as an assessment of the nature and potential significance of the effects arising from the Proposed Development. Consideration is given to any necessary mitigation, following consultation with the Applicant and consultees. All work has been completed in accordance with the Chartered Institute for Archaeologists (CIfA) Code of Conduct (Ref 7-14) and Standard and Guidance for Archaeological Desk-Based Assessments.

Assessment of effects methodology

Potential Receptors

7.5.9 The following types of receptors which have the potential to be affected by the Proposed Development have been identified through desk-based assessment and Site visit:

- Designated historic assets (scheduled monuments, listed buildings, registered historic landscapes, conservation areas);
- Non-designated historic landscapes character area (HLCAs);
- Buried non-designated historic assets within the Site (i.e. discrete archaeological features, residual artefactual remains, human skeletal remains); and
- Non-designated above ground historic assets (locally listed buildings, HER-recorded visible structures).

7.5.10 The Proposed Development could affect cultural heritage and archaeology receptors through:

- Direct disturbance of historic assets;
- Changes to the settings of historic assets, affecting their significance; and
- Changes to the historic landscape.

Direct Disturbance

7.5.11 Any effects arising from direct disturbance to historic assets will be expected to occur during the construction phase and are permanent and irreversible but restricted to the footprint of the Proposed Development.

7.5.12 Direct disturbance will arise only from physical disturbance caused by the construction of the Proposed Development. Therefore, effects on known historic assets will be considered only where these are located within the footprint of the Proposed Development. Direct effects on historic assets outside the footprint of the Proposed Development will not occur and are scoped out.

7.5.13 There is potential for previously unrecorded historic assets within the Site to be

directly affected by the Proposed Development. Such effects are considered with reference to a characterisation of the potential presence of such historic assets developed from an understanding of the historic landscape context, and reference to appropriate cartographic and documentary sources.

Effects on setting

7.5.14 The setting of historic assets is defined in CADW guidance (Ref 7-22) as:

“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”.

7.5.15 Guidance produced by CADW (2017) (Ref 7-22) has been used to adopt a step-based approach for Heritage Impact Assessments (Ref 7-9). CADW recommends this broad approach to assessment using a series of stages that should be considered ‘when assessing the impact of a proposed change or development within the setting of historic assets.’ The guidance sets out four stages:

- Stage 1: Asset identification:
 - Identify the historic assets which might be affected by a proposed change or development.
- Stage 2: Examine setting:
 - Define and analyse the settings to understand how they contribute to the significance of the historic assets and, in particular, the ways in which the assets are understood, appreciated and experienced.
- Stage 3: Assess change:
 - Evaluate the potential impact of a proposed change or development on that significance.
- Stage 4: Mitigation:
 - If necessary, consider options to mitigate or improve the potential impact of a proposed change or development on that significance.

7.5.16 An assessment has been carried out for all designated historic assets within 5km of the Site (**Appendix 7A** and **7C**), In accordance with guidance, with reference to the

ZTV (**Chapter 11: Landscape and Visual Amenity, Figure 11-6**), and also considering:

- the location, size and scale of the Proposed Development; and
the location of the identified historic assets.

Historic Landscape

7.5.17 As the Site is within The Gwent Levels Historic Landscape of Outstanding Historic Interest (HLW(GT)2), an Assessment of the Significance of the Impact of Development on Historic Landscape (ASIDOHL) will be completed in accordance with relevant guidance (Ref 7-23). This will be presented in a separate technical appendix of the ES, with the results incorporated into the ES assessment. The forthcoming ASIDOHL will assess potential effects on the registered historic landscape and the identified non-designated HCLAs that contribute to its character and significance. This involves a staged process aimed at arriving at a quantified assessment of the extent to which the Proposed Development may affect the historic character area on the register.

Significance Criteria

Determining the significance of effects

7.5.18 The EIA Regulations (Ref 7-26) recognise that developments will affect different environmental elements to differing degrees, and that not all of these are of sufficient concern to warrant detailed investigation or assessment through the EIA process. The EIA Regulations (Ref 7-27) identify those environmental resources that warrant investigation as those that are *“likely to be significantly affected by the Proposed Development”*.

7.5.19 EIA Regulations (Ref 7-27) do not define significance, and it will be necessary to state how this will be defined for the EIA. The significance of an effect resulting from a development during construction or operation is most commonly assessed by reference to the heritage significance of a receptor (**Table 7-4**) and the magnitude of the effect (**Table 7-5**). The resultant significance of effect is as set out in **Table 7-6**. This approach provides a mechanism for identifying elements of the Proposed Development for which mitigation measures may be required.

Significance of Historic Assets

- 7.5.20 For the purposes of assessing the significance of effects in EIA terms, heritage significance has been assigned to one of four classes, with reference to the heritage values described in Conservation Principles and relying on professional judgement as informed by policy and guidance. The hierarchy given in **Table 7-6** reflects TAN24 (Ref 7-8) and NPS EN-1 (Ref 7-4) distinction between designated and non-designated historic assets. TAN24 (Ref 7-8) further distinguishes between designated assets of the highest heritage significance (i.e., scheduled monuments, protected wreck sites, Registered Battlefields, Grade I and II* listed buildings, Grade I and II* registered parks and gardens, and World Heritage Sites) and other designated historic assets. **Table 7-4** details the basis for assessing receptor value (heritage significance).
- 7.5.21 Unless the nature and exact extent of buried archaeological remains within any given area have been determined through prior investigation, their significance can be uncertain, and a judgement will be made on the basis of existing knowledge.
- 7.5.22 In relation to designated historic assets, this PEIR will consider the contribution that historic character and setting make to the overall significance of the asset.

Table 7-6 Establishing the heritage significance of assets

Heritage Significance	Summary Rationale	Examples
High	Asset has significance for an outstanding level of archaeological, architectural, historic and/or artistic interest.	All designated historic assets or non-designated assets of demonstrably schedulable quality.
Medium	Asset has significance for a high level of archaeological, architectural, historic and/or artistic interest.	Locally listed buildings and buildings of merit. Regionally significant non-designated historic assets of archaeological interest.
Low	Asset has significance for elements of archaeological,	Locally-significant historic assets of archaeological interest and

	architectural, historic or artistic interest.	important hedgerows.
Negligible	Due to its nature of form/condition/survival, cannot be considered as an asset in its own right.	Non-extant Historic Environment Record (HER) references.

Magnitude of change

7.5.23 Determination of magnitude of change upon the significance of known or potential historic assets is based on the severity of likely impact (e.g., physical effects on built historic assets or the permanent presence of new structures etc. that result in changes to the contribution of setting to the heritage significance of a built historic asset). **Table 7-7** describes the criteria used in this assessment to determine the magnitude of change.

Table 7-7 Criteria for Determining the Magnitude of Impact on Historic Assets

Magnitude of change	Description of change
High	Change to asset significance resulting in an appreciable change in our ability to understand and appreciate the asset and its historical context, character and setting. Notable alterations to the setting of an asset that affect our appreciation of it and its significance; or the unrecorded loss of archaeological interest.
Medium	Change to asset significance resulting in an appreciable change in our ability to understand and appreciate the asset and its historical context, character and setting. Notable alterations to the setting of an asset that affect our appreciation of it and its significance; or the unrecorded loss of archaeological interest.
Low	Change to asset significance resulting in a small change in our ability to understand and appreciate the asset and its historical context, character and setting.
Negligible	Negligible change or no material change to asset significance. No real change in our ability to understand and appreciate the asset and its historical context, character and setting.

Assessment of effects

7.5.24 The assessment of likely significant effects will consider all stages of the Proposed Development. The significance level attributed to each effect will be assessed based on the heritage significance of the affected historic asset and the magnitude of change (impact) to the heritage significance of the asset.

7.5.25 Effects may be either adverse or beneficial and are defined initially without mitigation as set out in **Table 7-8**.

Table 7-8 Significance of Effect Matrix

		Historic Asset (receptor) Heritage Significance			
		High	Medium	Low	Negligible
Magnitude of Change (Impact)	High	Major	Major	Moderate	Minor
	Medium	Major	Moderate	Minor	Negligible
	Low	Major or Moderate	Minor	Negligible	Negligible
	Negligible	Minor or Negligible	Negligible	Negligible	Negligible

7.5.26 As identified in **Chapter 5: EIA Methodology**, residual effects that are classified as Major are considered to be ‘significant’ in EIA terms. Residual effects classified as Moderate have the potential to be significant though there may be exceptions, and this will subject to professional judgment. Residual effects classified as minor or below are considered to be ‘not significant’.

7.5.27 The impact of change to the setting of historic assets will comply with the methodology set out by the Welsh Government and CADW (Ref 7-19). The setting of historic assets is described by Setting of Historic Assets in Wales as ‘important to the way in which historic assets are understood, appreciated and experienced and contributes to their significance’ (Ref 7-25). This includes tangible and intangible factors such as function, sensory perceptions or historical, artistic, literary and scenic associations’ (Ref 7-24).

7.5.28 The methodology outlined above, together with professional judgement, will be used to determine whether the impact of change to historic assets and their setting amounts to substantial harm, total loss, or less than substantial harm to their significance, as set out in NPS EN-1 and NPS EN-3 (Ref 7-4).

7.6 Baseline Conditions

Existing Baseline

7.6.1 This Section provides a summary of the detailed historic environment baseline presented in the HEDBA (**Appendix 7A**). For the purposes of establishing a baseline across such a large site, it has been divided into seven geographical areas, which align with the following Historic Landscape Character Areas (Ref 7-24) (**Figure 7-3**):

- Redwick (East);
- Redwick (West);
- Redwick Broadmead;
- Porton (South);
- Porton (North);
- Whitson and Whitson Black Fen; and
- Northern Redwick.

Location and context

7.6.2 The Site largely comprises agricultural fields, mostly in arable use, of which some are crisscrossed by reens and drainage ditches. The Site is also crossed by Pill Street in Redwick (East) and Redwick (West); by Mead Lane, through Redwick Broadmead and by Rush Wall Road through Whitson and Whitson Black Fen. The northwestern extent of the Site incorporates the existing National Grid Substation. The Site is surrounded by agricultural fields, predominantly arable in use, and a scattering of small villages and hamlets, including Redwick, Summerleaze, and Whitson. The Site's southern border is bounded by Redwick Sea Wall, which provides a sea defence against the intertidal zone and the Bristol Channel to the south. Llanwern Steelworks is situated approximately 2.5km to the north, north of which is a railway line aligned east-west that traverses the Bristol Channel to the east.

7.6.3 In addition to the reens which bisect the Site, the River Usk, which flows through Newport and into the Bristol Channel, is located approximately 4km to the west. Monks Ditch, aligned north-south, traverses the very northwestern extent of the Site,

west of National Grid Substation, before continuing south. St Bride's Brook enters Magor, 1.6km northwest of the Site, from the north and then continues south into the Site as Mill Reen, where it bisects the Site's eastern extent.

- 7.6.4 The topography within the Site ranges from between 2mOD (above Ordnance Datum) to 8mOD, with the majority of the Site ranging between 6mOD and 7mOD, with small areas of lower ground peppering the Site in a patchwork that does not appear to conform to a pattern.

Geology and soils

- 7.6.5 Geology can provide an indication of suitability for early settlement, and potential depth of remains. The British Geological Survey (BGS) notes that across the site the bedrock geology comprises Mercia Mudstone Group – Mudstone, a sedimentary bedrock formed between 252.2 and 201.3 million years ago during the Triassic period. Bedrock geological is overlain by superficial deposits consisting of Tidal Flat Deposits, an estuarine alluvial deposit of clays and silts. These form extensive flat marshy land from successive deposits from the River Severn. Lenses of peat deposits, organic decomposed remains preserved in waterlogged and anaerobic conditions, are recorded within Tidal Flat deposits. British Geology Survey (BGS) Legacy Borehole data suggests that there is a relatively uniform distribution of peat layered between alluvium deposits. The thickness of recorded peat varies from 0.3m to 4.1m with most of the thinnest recorded peat recorded along the south of the Site close to the seawall. There is a general trend that recorded peat is recorded shallower to the north of the Site and deeper towards the south. This may reflect the build-up of tidal alluvium along the seawall.

- 7.6.6 The soilscape within the Site entirely comprises Soilscape 21: Loamy and clayey soils of coastal flats with naturally high groundwater, which is loamy and clayey in texture. There is moderate soil fertility with much of the site comprising a mix of arable and pastoral agricultural field systems.

- 7.6.7 **Chapter 16: Ground Conditions** notes that made ground is not thought to be wider present across the Site, however, shallow made ground may exist within the footprint of the extensive artificial drainage network, access tracks, and within the existing National Grid Substation and parts of the proposed Grid Connection in the northwest

of the Site.

Previous archaeological investigations

- 7.6.8 There have been seven previous archaeological investigations within the Site recorded by the Historic Environment Record (HER) (see **Figure 7-5** and Section 4 of the HEDBA, **Appendix 7A**).
- 7.6.9 An Historic Area Assessment (HAA) (E007476) was commissioned by Energy My Way in 2014 and undertaken by Glamorgan-Gwent Archaeological Trust in 2015 before the proposed development of a solar farm at Llanwern, Newport. The HAA covered the Gwent Levels Registered Historic Landscape (HLW(GT)2), which incorporates all the site, except for a small area surrounding the existing National Grid Substation. The HAA concluded that that the overall significance of the impact of the development on the Gwent Levels (HLW(GT)2) would be 'Severe' but could be mitigated by the use of appropriate screening measures to limit the visual impact of the Proposed Development.
- 7.6.10 In 2005, a field visit was undertaken at Cold Harbour Reen (E001380), the subsequent report noted that the Reen was severely damaged by the *'construction of the sea defences and only approximately 50m in length remains intact'*.
- 7.6.11 Adjacent to Magor Brewery Effluent Plant, south of Magor, a watching brief (E006095) was undertaken in 2015 on behalf of Natural Resource Wales for a sea defence improvement project at Portland Grounds. Seven trenches were excavated along the sea defences outside of Redwick (East), directly east of the Site. Results indicated that mottled silty clay layer sat below a stoney made ground extending 0.6 – 0.8mbgl along the length of the sea defence. No archaeological remains were encountered.
- 7.6.12 A geophysical survey (E004496) was carried out in 1999 immediate west of Magor Brewery Effluent Plant. The magnetometer surveys identified several features of potential archaeological significance, but it was not possible to interpret the features from the results and further investigation was recommended.
- 7.6.13 A watching brief (E004997) was undertaken at the Magor Brewery Effluent Plant in 2004. No archaeological features or artefacts were identified at the Site.

- 7.6.14 An evaluation (E004924) undertaken in the vicinity of Magor Brewery Effluent Plant in 2003 revealed evidence of Roman presence in the form of a 0.1m thick surface layer recorded at 5.15m OD (GGAT11151g) with scatters of pottery sherds and daub flecks, as well as a series of possible drainage ditches (GGAT11152g).
- 7.6.15 A linear borehole survey (E006976) was undertaken in 1999 along the proposed route of the M4 Relief Road Magor to Castleton by Wessex Archaeology. Four boreholes were taken to establish the archaeological potential of the alluvial deposits potentially at risk by proposed heavy engineering works during road construction.

Summary of historic assets records

- 7.6.16 The Site, with the exception of the northwestern area containing the existing National Grid Substation, falls almost entirely within the Gwent Levels Registered Historic Landscape (HLW (Gt)2), which is rated as outstanding (**Figure 7-1**).
- 7.6.17 Within the 5km Study Area, there are a further 121 designated historic assets, including 28 scheduled monuments, three Registered Historic Parks and Gardens, 85 listed buildings, and five conservation areas. Of the 85 listed buildings, three are Grade I listed, 11 are Grade II* listed and the remaining 71 are Grade II listed.
- 7.6.18 The Site comprises seven HLCAs and 43 non-designated historic assets recorded within the Heneb HER (formerly Glamorgan Gwent Archaeological Trust) (**Figure 7-3; Figure 7-4**). The Site also lies within The Levels Archaeologically Sensitive Area (ASA) (**Figure 7-5**).
- 7.6.19 Within the 1km Study Area, there are a further 204 non-designated assets recorded within the Heneb HER and four further HLCAs (**Figure 7-4**).
- 7.6.20 LiDAR imagery interpretation, undertaken as part of the HEDBA (**Appendix 7A**) also identified possible archaeological remains within the Site including eight examples of persevered ridge and furrow of medieval origin, 41 examples of preserved post-medieval ridge and furrow, three possible trackways of unknown origin, three ditched enclosures of medieval origin, three ditched enclosures of unknown origin, and a possible medieval moated site located in the Redwick (West) Site.
- 7.6.21 For those historic assets which are scoped into the assessment of effects arising through change to setting, the baseline information is provided in **Appendix 7A**.

Designated historic assets

7.6.22 **Appendix 7A** provides the details of the scoping exercise undertaken to identify historic assets to be scoped into the assessment of effects arising through change to their setting. **Appendix 7C** provides a summary of those designated historic assets scoped into the assessment. These include six (6) scheduled monuments, one (1) Grade I listed building, four (4) Grade II* listed buildings, 11 Grade II listed buildings, one (1) registered park and garden, and one (1) conservation area.

Non-designated historic landscape

7.6.23 Historic Landscape Character Areas (HLCA) were identified as part of a historic landscape characterisation programme following the creation of Registered Historic Landscapes (RHL). The characterisation programme gathered more detailed information about each RHL, identifying distinct areas within them, primarily to provide information for landscape conservation and management. The seven HLCAs (Ref 7-25) within the Site include (**Figure 7-3**):

- Redwick (HLCA06) covers the eastern half of the Site. The historic landscape is characterised by irregular field patterns of small fields (including some regular areas) and drainage features (reens, surface drainage) that include major medieval reens resulting from gradual enclosure and land reclamation between the 11th to 14th centuries. The area saw more substantial alteration in the 19th century with the establishment of parliamentary enclosures. A few intrusive modern buildings have appeared but overall, the condition of the historic landscape remains good. The landscape's spatial coherence and integrity are considered high.
- Redwick Broadmead (HLCA007) covers the central western section of the Site, and the historic landscape is characterised by regular field patterns of large rectangular fields, drainage features (reens, ridgeing/surface drainage, bridges, medieval drainage channels) and seawall, single green lane (pollards) without waste. The historic landscape has a very high integrity and coherence relating to its 19th-century origins and it demonstrates how landscapes were transformed through Parliamentary enclosure.

- Northern Redwick (HLAC008) covers the northern central section of the Site, and the historic landscape is characterised by uniformity and a limited range of landscape features, regular field-boundary patterns with few lanes and settlements, and a sea wall. Extensive ploughing and the removal of hedges have damaged the condition of parts of this historic landscape, although the western extent is in better condition.
- Green Moor (HLCA009) incorporates a thin section of the northern central extent of the Site. The historic landscape is characterised by uniformity, a strong "wetland" feel, regular field patterns, straight roads (grid-layout), and drainage features (reens, ridgeing/surface drainage, grips and bridges). Industrial and commercial development has intruded upon the central areas of this historic landscape, although the area comprising the Site still appears to retain its character.
- Porton (HLCA004) covers the southwestern extent of the Site, and the historic landscape is characterised by drainage features (reens, surface drainage, grip system), a seawall, rectangular fields in a planned grid of roads, and a network of green lanes, fishery features (important Putter rank). It is believed that this area constitutes a 'planned' landscape established in the 13th century. The land was in the ownership of Goldcliff Priory and Tintern Abbey and consequently reflects the character of medieval monastic agricultural lands. The regularity of this landscape is in contrast to the areas of Redwick and Redwick Broadmead to the east which developed gradually. Overall, the historic landscape is extremely coherent with very high integrity and few visual intrusions.
- Whitson (HLCA003) covers narrow elements of the northwestern extent of the Site, excluding the existing National Grid Substation, which is situated within Whitson Back-fen. The historic landscape is characterised by drainage features (reens, banks, and ridging/surface drainage, including the medieval Monksditch), a linear settlement on the former common, fen-banks, green lanes, long narrow fields, and pollarded trees. The historic landscape is very important and coherent and presents a fine example of an English planted settlement that has been reclaimed in the Welsh Marches.

- Whitson Black-fen (HLCA002) incorporates the most north-westerly extent of the Site, [and the existing] National Grid Substation. The historic landscape is characterised by well-preserved drainage features (reens, banks, and surface drainage), rectilinear field patterns arranged in blocks, very little settlement, and straight roads, lined by pollarded willows, giving a strong "wetland" feel. The integrity and coherence of the historic landscape have been degraded.
- Major Lower Grange (HLCA010) sits immediately north of Pill Street and the Redwick (East) Site. The historic landscape is characterised by several large rectilinear fields enclosed by major reens, which date from the mid-13th century after Tintern Abbey was given licence to drain and enclose the land for agricultural usage. The historic landscape is very significant as the patterns of fields and boundary reens are in good condition and retain their original character as elements of a medieval monastic grange.

Buried non-designated historic assets

7.6.24 The HEDBA at **Appendix 7A** provides detailed information on the archaeological and historic background for the Site, identifying known historic assets within the Site and providing an assessment of potential for as yet unknown buried assets. **Appendix 7B** summarises the known historic assets within the Site.

Archaeological and Historical Background

Prehistoric (800,000 BC – AD 43)

- 7.6.25 While no prehistoric features have been identified within the Site, previous archaeological investigation demonstrates that prehistoric activity within the 1km Study Area was largely limited to the intertidal zone to the south of the Site. Within the 1km Study Area, human activity steadily increased from the Mesolithic through to the Iron Age, with the evidence from the Bronze Age the most abundant.
- 7.6.26 A total of 54 prehistoric records are recorded in the HER (Ref 7-25) within the 1km Study Area, of which five are Mesolithic, 36 are Bronze Age, eight are Iron Age, while five are unspecified and recorded as 'prehistoric'.
- 7.6.27 There is no datable evidence for palaeolithic occupation or activity within the 1km Study Area.
- 7.6.28 Evidence for Mesolithic activity within the 1km Study Area is sparse and is limited to isolated findspots and human footprints (GGAT04906g; GGAT05755g; GGAT05758g; GGAT08002g) within the intertidal zone, c. 150m south-east of the Site boundary at Cold Harbour Reen, suggesting that the area may have been a transitional zone with no compelling occupational evidence. However, evidence also suggests that a forest (now submerged) once existed within the intertidal zone (GGAT12046g), c. 320m south of Redwick (West). This may suggest that the landscape of the time was markedly different with lower sea levels and activity concentrated along the now submerged shoreline.
- 7.6.29 There is no evidence for Neolithic activity within the 1km Study Area.
- 7.6.30 Bronze Age activity within the 1km Study Area is well attested and better represented than Mesolithic, with evidence for wooden structures, fish traps (GGAT08992g; GGAT12041g), c. 130m south-east of Redwick (East) Site boundary, and trackways (GGAT04328.0g; GGAT05745g; GGAT12039g), respectively located c. 160m south of Cold Harbour Reen, c. 145m south-east of Redwick (East) boundary, and c. 95m south-east of Redwick (West) boundary, as well as isolated findspots and footprints, appearing within the intertidal zone. Evidence is concentrated to the south of Redwick (East) and Redwick (West),

although there is not yet sufficient evidence to suggest occupation activity outside of potential seasonal usage of the intertidal zone for subsistence. The presence of houses within this zone would also affirm the interpretation that sea levels were lower during this period making this area more favourable for occupation.

- 7.6.31 In the wider area, activity from the Bronze Age is most common on the peat shelves, with three major areas of Bronze Age settlement identified: Rumney Great Wharf, Redwick/Cold Harbour (GGAT07606g; GGAT07621g; GGAT07593g; GGAT07593g; GGAT02530g), c. 90m south-east of the Site boundary, Chapelump (GGAT05768g; GGAT05767g; GGAT07584g), c. 450m south-east of the Site boundary, and Collister Pill, c. 1km east of the Site boundary. All are located on raised bog and are associated with buildings and occupation debris (Ref 7-29).
- 7.6.32 Iron Age evidence is sparser than that of the Bronze Age with activity within the 1km Study Area concentrated in the intertidal zone to the south of Redwick (East), with no features identified to the southwest; however, occupational evidence, potentially seasonal, including an occupation site, as well as evidence for wooden structures (GGAT07622g), located outside of the RLB c. 290m south-west of Cold Harbour Pill, channels (GGAT04419g), located c. 450m south-east of Redwick (East) boundary, and isolated findspots, persist. A single possible roundhouse structure has been identified c. 580m southeast of the Redwick (East) boundary, near Chapelump (GGAT02529g). Radiocarbon dating suggested a date of 960BC±70 years for the house. An occupation site was recovered along the main peat shelf at Magor (GGAT05760g), c. 240m south-east of Redwick (East) boundary, within the intertidal zone with a small pottery assemblage dating to the 1st century BC. These examples are all located outside of the RLB. Examples of more substantial occupation are located at Wilcrick Hill Camp (MM127), c. 2.3km north of the Northern Redwick boundary, and the Larches Camp (MM069), c. 4km north of the Redwick (East) boundary. These scheduled hill fort sites attest to occupation from c. 800BC up to the early Roman incursions of AD 47. Knowledge of specific social groupings in the later Iron Age is mostly derived from the writings of classical accounts of Ptolemy and Tacitus (Ref 7-33). The Site and Study Area would have been within the control of the supposed Silures tribe prior to Roman occupation.

Romano-British (AD 43 – 410)

- 7.6.33 There is no definitive evidence of Roman military activity within the 1km Study Area, however, the establishment of a fort, and later settlement, at Caerwent, known as *Venta Silurum*, located 5.4km north-east of the Redwick (East) site would have served as a base for military activity in the region.
- 7.6.34 Human activity within the 1km Study Area appears to have intensified during the Romano-British period, with records suggesting that activity was no longer confined to the intertidal zone to the south of the Site. For example, models for the development of the Gwent Levels during the Romano-British period incorporate the creation of sea walls, with intensive systems of drainage behind them (Ref 7-31).
- 7.6.35 Four Romano-British features (GGAT06257g, GGAT11151g, GGAT11152g, GGAT11163g) have been identified within the Site, three within Redwick (East), and one within Porton (South). These comprise a possible Roman road (GGAT06257g), 'Penhow-Magor Pill', a section of medieval or modern road running along the higher ground in the vicinity of Caerwent and south across the Gwent Levels towards Magor Pill. Its near straight alignment is suggestive of Roman origin and may have connected to the Caerwent/Carleon Roman Road (Ref 7-35). Associated ditch (GGAT11152g) and surface (GGAT11151g) features within Redwick (East) also attest to Roman activity within the Magor area. Later medieval evidence around Magor Pill shows clear use of the water course as a small landing point or harbour and it is conjectured that the presence of the road would suggest a similar use in the Roman period. The ditch feature in the Porton (South) site (GGAT11163g) is thought to be a possible drainage ditch and would suggest some degree of land management and irrigation of the Gwent Levels during this time.
- 7.6.36 A further 15 Romano-British records are recorded within the 1km Study Area in the HER. Most have been recovered along the foreshore and intertidal zone. Datable pottery evidence is mostly from the 2nd and 3rd centuries AD. The stone foundation remains of an agricultural building (GGAT11197g) and cremation urn (GGAT11198g) were recovered in Undy, c. 860m north-east of the site. A coin of the usurper emperor, Carausius dated AD 286-293, was discovered amongst the foundations. Further evidence attests to ditch features across the levels (GGAT11163g, GGAT05301g, GGAT11170g) and the possibility of a small

settlement site near Magor Pill (GGAT04730g, GGAT00445g, GGAT05756g, GGAT06165g, GGAT07597g, GGAT07977g, GGAT04319g) due to the domestic nature of much of the recovered assemblages.

7.6.37 The Gwent Levels were prone to successive flood events consequently any permanent occupation would be comprised of sporadic farm sites likely on the higher ground such as at Undy (GGAT11197g).

Early Medieval (AD 410 – 1066)

7.6.38 No early medieval features have been identified within the Site and evidence for early medieval activity within the 1km Study Area is sparse.

7.6.39 One record identified within the HER as the site of a possible ecclesiastical building (GGAT08355g), is thought to be located at the site of an existing farmyard 240m south of the Northern Redwick site. This site is called *Lontre Tunbwlich*, the term *Lonte* is a possible cognate with the Irish term *láthrach* and implies an ecclesiastical house or church. It is mentioned in the Llandaff charters of c. 710 AD. It is supposed that following the Norman Conquest this site formed the centre of the monastic estate owned by Tintern Abbey. Consequently, it is a significant historic asset relating to the later medieval development and land management of the Gwent Levels.

7.6.40 Much like earlier periods, the Site would have been marshy and waterlogged. Occupation and activity would likely have been concentrated along the foreshore, such as at Magor, or sporadic agricultural activity.

Medieval (AD 1066 – 1540)

7.6.41 The Site lies within the parishes of Undy, Magor, Redwick, Goldcliff and Whitson and whilst the surrounding settlements of Caldicot, Caerwent and Caerleon are recorded within the Domesday Book (1086), none of the settlements adjacent to the Site are mentioned. Moreover, none of the sites mentioned in the Domesday Book (Ref 7-34) record an entry from 1066. This may imply that these settlements were newly under the control of King William I at the time of recording. Norman military incursions into Wales began in the 1090s and were spearheaded by Roger Montgomery (Ref 7-28). The Norman conquest of Wales was drawn out into the 12th century, in part due to the irregular and undulating terrain that reduced the

effectiveness of conventional Norman military engagements. Consequently, much of the Welsh landscape was characterised by a series of castles, fortified settlements and other fortifications across the countryside that were intended as bases from which military and political control could be imposed on the immediate vicinity. This influx of Anglo-Norman lords led to prolonged disputes and conflict with local native Welsh rulers throughout the medieval period.

- 7.6.42 As mentioned above, much of the land the covers the Caldicot area of the Gwent Levels and of the Site itself was bestowed to monastic ownership following the Norman conquests namely Tintern Abbey and Goldcliff Priory. The Gwent Levels HLCA descriptions notes that the areas of Redwick, Northern Redwick, Porton, and Whitson develop from the 11th century with the areas of Porton, Whitson, and Northern Redwick being established as 'planned' agricultural estates in the 13th and 14th centuries by their ecclesiastical landowners.
- 7.6.43 It is possible that the village of Redwick has Anglo-Norman origins as the name Redwick is an English name, as opposed to an anglicised Welsh placename, meaning place or town where reeds grow emphasising the wetland landscape of the time (Ref 7-30). The establishment of new settlements may also attest to the Anglo-Norman control of South Wales.
- 7.6.44 Magor Pill (GGAT08902g) is thought to be the site of the medieval harbour of Abergwitha, later abandoned in the 14th century. A large volume of imported pottery wares has been identified near that support this hypothesis as a small trading post / landing point. Moreover, the remains of a medieval vessel were recovered along the foreshore dating from the 13th century (GGAT04777g). Cargo remains of iron ore were recovered nearby (GGAT07583g).
- 7.6.45 Nine non-designated medieval records have been identified within the Site in the HER, of which two are situated within Whitson, three within Porton (South), two within Redwick Broadmead, one within Redwick (West), and one within Redwick (East). A further 54 non-designated medieval records are located beyond the Site within the 1km Study Area as identified within the HER.
- 7.6.46 The site of a possible water mill (GGAT00460g) is recorded within Redwick (East), adjacent to Mill Reen, to the northwest of the Magor Brewery effluent plant.

- 7.6.47 A circular enclosure with a single ditch thought to be a medieval moated site (GGAT10954g) was identified through LiDAR, alongside aerial photography, within the northern extent of Redwick (West), 120m south of Redwick Conservation Area. The circular enclosure measures 52m by 44m and is visible in modern LiDAR mapping. (Ref 7-32) states that it is likely that the feature (GGAT10954g) belongs to the first enclosure of the levels in the medieval period. The introduction of moated sites is thought to be a distinctly English phenomenon which appear most common in the 13th and 14th centuries. This would coincide with the establishment of planned agriculture across the Gwent Levels at this time. This may also be the case with the scheduled monument, Moated Site east of Grangefield Farm (MM205), located c. 290m northwest of the Northern Redwick site. The HER note several other moated sites within the 1km Study Area (GGAT10945g, GGAT10933g, GGAT10951g, GGAT10948g, GGAT10947g, GGAT10946g, GGAT10942g, GGAT10944g, GGAT09027g, GGAT10952g, GGAT10935g, GGAT10943g).
- 7.6.48 Located to the southwest of Redwick village was Redwick Broadmead (GGAT06224g) which was a medieval 'open-field' first recorded in 1422. An open-field system was a communal tract of meadow subdivided into strips that were not enclosed by boundaries ditches. This form of land management would have contrasted with the planned monastic estates elsewhere within the Caldicot Level. Another open common of medieval origin (GGAT06220g) has been identified on North Row, to the north of Redwick Village, in what is now North Court Farm.
- 7.6.49 Across the Site 13 potential features of probable medieval origin have been identified through interpretation of LiDAR mapping, including ridge and furrow, moated sub-rectangular platforms, former field boundaries and a lobe-shaped enclosure. Five are located within Redwick (East), six within Redwick (West) and two within Porton (South). Within the southwest of the Redwick Broadmead site a large ditch feature was partially excavated (GGAT11164g) 5m wide and sealed by 0.5m of alluvium. It is thought to have been a probable silted-up reed bed of medieval date.
- 7.6.50 Three listed churches are found within the 1km Study Area, the Grade I Church of St. Thomas (CADW 2940) located in Redwick, the Grade II* Whitson Church (CADW 2943), and the Grade II listed Church of St. Mary in Undy (CADW 2052). Although subject to various restorations up to the 19th century all three churches were initially

constructed in the 12th century.

- 7.6.51 Located c. 900m north-west of the Redwick (East) site is the scheduled Relict Seawall alongside Collister Pill Reen which would have run north to south to protect against storm surges (MM226).

Post-Medieval (AD 1540 – 1900)

- 7.6.52 The post-medieval period witnessed various social and political upheavals, particularly following the Reformation period of the 1530s and 1540s that resulted in the dissolution of the monasteries and widespread changes in land ownership as a consequence. The emerging conflicts that broke out as a result of these fundamental social changes, including the Civil Wars of the 1640s, would lead to a tradition of religious non-conformism in Wales. These wider political and social episodes would have had implications for the management of the Caldicot Level as much of it had been held in monastic control throughout the medieval period.
- 7.6.53 This period is the most well-documented of all the periods within the Site and the 1km Study Area, with human activity primarily relating to the agricultural management of the Gwent Levels. Features common within the Site, such as footbridges, trackways, sluices, moated platforms and hedgerows, were likely constructed during this period.
- 7.6.54 The settlements of Redwick, Whitson, Goldcliffe and Magor are all evidenced in historic mapping as early as the 16th century and likely comprised small hamlets. Redwick may have undergone names changes throughout the post-medieval periods as it is first depicted as Redwike', then Redewick', Rodwick' in 1720, Redwiek in 1811, until finally 'Redwick' is used in the 1846 Tithe Map.
- 7.6.55 Although a sense of the medieval character of the Caldicot Levels is attested by the HLCAs various changes to field systems did take place over this period. Enclosure of open commons, including Redwick Broadmead (GGAT06224g), began from the 16th century. Little can be firmly dated to the earlier part of this period. This may, in part, be due to the Great Flood of 1607 which was thought to have destroyed many standing structures. A mark by the door of the Grade I listed Church of St. Thomas (CADW 2940) at Redwick recorded to the height of the flood waters. It is recorded in the Caldicot Level HLCA for Porton that the original village may have eroded

away. Although it is not clear whether it was related to the 1607 flood or from rising sea levels, it is observed that earlier settlement patterns may have been disturbed and rebuilt.

- 7.6.56 Although the medieval harbour at Magor Pill is thought to have been abandoned sometime in the 14th century (GGAT 2005) it is clear that use of the pill, and Cold Harbour Pill, as landing points for imports was taking place between the 16th and 18th centuries (Ref 7-27). Pottery remains of the period are mostly from Somerset and Devon, with some wares originating from the Home Counties and continental Europe. Local Welsh-made are unrepresented affirming this stretch of foreshore along the Redwick (East) site as being an economically active trading post. Most of the supposed imports recovered at Magor Pill appear domestic or agricultural in nature. Specifically, pottery types used for the making and transport of dairy products (Ref 7-27). The highly specific nature of the recovered imports suggests that the landing point/ trading post was to service the particular needs of local agricultural industries. Consequently, its continued operation was directly related to the use of the Caldicot Level. The remains of a second craft at Magor Pill, located c. 70m south of Magor Boat I, was recorded as being of 16th or 17th century (Ref 7-36; E004408) and further attests to continued use of the harbour.
- 7.6.57 Throughout the 18th century new farmsteads emerge such as Pill Farm (GGAT14604g), Chapelump Farm (GGAT14616g), Magorpill Farm (GGAT14603g), and Lower Grange (GGAT00456g, GGAT14602g). Around Whitson Church, the hamlet of Porton developed with the establishment of Greater and Lesser Porton. The nearby Grade II listed Little Porton Cottage (CADW 3065) was constructed in a vernacular style at this time. The agricultural practises would have been a mixture of arable and pastoral farming as it appears in the present day. The presence of Windmill Reen as well as the present of an elongated mound named 'Windmill Tump' (GGAT12091g) in the first edition Ordnance Survey (OS) 25" mile of 1881 is suggested of earlier mills being present. Examples of livestock care within the 1km Study Area are LiDAR identified moated platform (GGAT10949g) and ditched enclosures (GGAT10950g) and a cattle byre (GGAT10780g) of 18th century origin.
- 7.6.58 The earliest detailed map of the Caldicot Levels is the Ordnance Survey (OS) 2" mile map of 1811. It shows the individual field systems and enclosures, the

settlements of Redwick and at 'Somerlees', as well as the settlement of Whitson that stretches across Monks Ditch. This time saw the establishment of small country houses that accommodated local landowning class, such as the Grade II* listed Whitson Court (CADW 2944), believed to be completed by the architect John Nash in 1791. Indeed, an existing Grade II listed 18th century farmhouse named Brick House (CADW 3060) was renovated to become the residence of the son of the William Phillips MP, the original owner of Whitson Court. Other examples of country houses within the Study Area, now demolished, are also reported by the HER (GGAT00459g; GGAT00441g). The Broadmead area and Green Moor, north of North Row, remained relatively open despite some attempts to enclose the common. Much of the road networks still used today are recorded in this map of 1811. Additionally, the course of Magor and Undy Pills is mapped, including into the intertidal zone.

7.6.59 The OS 25" : mile series maps of 1881 provided more detail and showed that much of the Site had been further sub-divided by drainage ditches and boundaries. This is a consequence of the parliamentary enclosure practises taking place over the 19th century that was the most extreme alteration to the landscape since the 'planned' estates of the 13th and 14th centuries. Much of the Broadmead area was enclosed by this time. Moreover, a network of footbridge crossings is recorded across the 1km Study Area (GGAT15721g; GGAT15722g; GGAT15723g; GGAT15735g; GGAT15724g; GGAT15715g; GGAT15709g; GGAT15716g; GGAT15742g; GGAT15730g; GGAT15725g; GGAT15726g; GGAT15731g; GGAT15717g; GGAT15732g; GGAT15704g; GGAT15741g; GGAT15718g; GGAT15719g; GGAT15733g; GGAT15727g; GGAT15720g; GGAT15740g; GGAT15734g; GGAT15728g; GGAT15739g; GGAT15729g; GGAT15743g; GGAT15700g; GGAT15713g; GGAT15703g; GGAT15702g).

7.6.60 Within the Site there are 31 HER records dating to the post-medieval period. Available LiDAR data has shown 77 potential features of probable post-medieval origin have been identified across the Site, with the majority comprising ridge and furrow and former fields boundaries, in addition to a handful of potential features such as hedgerow sections, former ponds and a building footprint. The majority of the features are situated within the eastern half of the Site, in Redwick (East, West and Broadmead).

Modern (AD 1901 – Present)

- 7.6.61 The land-use and configuration of the Site and wider Caldicot Level during much of the 20th century remained unchanged from latter half of the 19th century. The OS 25": mile series map of 1901 shows that by that time a series of sluice gates were introduced, or at least recorded, within the complex drainage system (GGAT15755g; GGAT15754g). It is likely that these sluices were actually installed earlier in the post-medieval period.
- 7.6.62 During the Second World War (1939-1945), a coastal observation pill box was constructed (GGAT04292g). Although it has suffered some erosion damage being on the seaward side of the sea wall embankment its form remains relatively intact. No other historic assets from this period are recorded. A modern trig point, now obsolete, is recorded on the tower of the Church of St. Thomas, Redwick (GGAT12003g). It is unclear, however, when this was installed.
- 7.6.63 OS mapping showed little to no change over the Site and wider Caldicot Level throughout the 20th century. A substantial change to the setting of the levels was recorded in the 1:25,000 series OS map of 1956 which showed that an extensive industrial estate for works, later recorded as steel works, had been constructed to the north of Whitson. This industrial estate expanded westward toward Newport and eastward towards Bishton over the course of the latter half of the 20th century. Being on the landward edge of the Caldicot Level, the works severed the previously unbroken views between the Level and the hills to the north. The electrical substation within the Whitson Black Fen site had been constructed by this time.
- 7.6.64 A long pipeline leading from the works into the sea via Elver Pill Reen is recorded in the 1:10,000 series OS map of 1973. Additionally, by this time, sewage works with sludge beds were in operation close to Magor Pill. Other utilities including overhead power lines were also set up.
- 7.6.65 Google imagery shows the construction of modern agricultural buildings across the various active farm complexes within the Caldicot Level over the 2000s and 2010s with major expansions of farm complexes like at Great Porton. A small number of fields have been tarmacked to become storage for caravans and materials, such as along North Row near the Grade II listed Brick House (CADW 3060).

- 7.6.66 Land use within the 1km Study Area has industrialised to an extent through the construction of transport and energy infrastructure, as well as waste and recreation facilities, although it retains a largely agricultural feel. This includes the erection of overhead lines to the east of the Site, bisecting a small portion of Redwick (East), an effluent plant and caravan park adjacent to Redwick (East), three distinct solar farm divisions adjacent to Porton (North) and Whitson, and the A38 and steel works to the north of Whitson and Northern Redwick.
- 7.6.67 During 2020-2021, a large solar farm was constructed within the Whitson and Goldcliff areas in three zones. These zones respected the existing configuration of field systems and extended to a total of c. 93.3ha.
- 7.6.68 LiDAR data interpretation recorded two areas comprising potential modern field lines (ID 216 & 217), however this interpretation is uncertain. These are situated within arable fields towards the eastern extent of Redwick (West). A possible quarry pit (ID 311) was also identified through LiDAR interpretation in good condition, located in the centre of the Whitson and Whitson Black Fen portion of the Site.

Factors affecting archaeological survival

- 7.6.69 Archaeological survival across the Site is anticipated to be variable across the Site sub-divisions. A general lack of modern development, alongside the majority greenfield composition of the Site, is anticipated to have preserved potential archaeological remains; however, agricultural activity across large areas of the Site, namely modern mechanised ploughing, is expected to have impacted potential archaeology close to the surface within fields that have been used for arable purposes; while potential subsurface remains within historically pastoral areas will have benefited from greater levels of preservation.
- 7.6.70 Despite this, remains of medieval and/or earlier periods may be preserved under thick deposits of mottled alluvial clay. As noted in **Section 7.6**, and further detailed in **Appendix 7A**, peat deposits are uniformly preserved under alluvium ranging between 3.6m – 8.6m thick. The deeper peat deposits are located along the Level foreshore. Archaeological remains may still be found within the overlain alluvium.
- 7.6.71 An archaeological evaluation undertaken at Magor Waste Water Treatment Works (WWTW) (E004924) revealed Roman remains (GGAT11151g; GGAT11152g) at a

depth of 1.8mbgl. Conversely, archaeological watching briefs (E004997; E03387) were carried out at the WWTW and observed excavation extending to 2.05mbgl and no archaeological remains were observed. Moreover, a trial trench evaluation (E006095) undertaken along the sea wall embankment from Magor Pill to Collister Pill excavated seven trenches to a depth of 1.8mbgl revealing no archaeological remains.

- 7.6.72 In the Whitson and Porton area, an archaeological watching brief of enabling works for the installation of a solar farm (E06627) recorded residual late post-medieval pottery in the topsoil overburden and a datable surface deposit with medieval period ceramic evidence recorded at 0.4mbgl (5.6m OD), c. 220m south-west of the nearest boundary of the Whitson and Whitson Black Fen site. Another surface deposit also recorded with medieval pottery immediately adjacent to the Whitson and Whitson Black Fen site is thought to be part of the same or similar surface and indicative of a medieval presence.
- 7.6.73 Moreover, LiDAR interpretation has revealed a moated site, enclosures, ridge and furrow, and water meadows. While subsequent overburden may follow the shape of these features it is probable that they are positioned relatively shallow and may be revealed immediately underlying topsoil overburden. Although the apparent trend seems that archaeological deposits may appear in deep stratigraphic sequences closer to the foreshore and at shallower horizons further inland it is also evident that medieval and post-medieval remains of archaeological interest are situated in more shallow horizons across the entire Site.
- 7.6.74 As noted by the archaeological and historic background above, much of the pre-medieval activity is focussed along the intertidal zone. This may represent an investigation bias; however, it is probable that the shoreline and natural watercourse of Magor Pill would have been a more attractive location for temporary activity during these periods. Furthermore, excavated remains of this kind have been revealed at the limits of excavation.

Archaeological Potential

7.6.75 **Table 7-9** provides a summary of the potential for as yet unknown archaeological remains to be present.

Table 7-9 Summary of archaeological potential within the PEIR Assessment Boundary

Period	Potential	Heritage Significance	Predicted asset type/s	Evidence
Palaeo-environmental	Moderate to High	Low to Medium (depending on the presence of datable evidence)	Ecofacts (i.e diatoms, ostracods, molluscs, pollen, seeds and plant fragments)	Available geotechnical information and previous archaeological investigations reveal deep waterlogged alluvial deposits as well as deposits of peat across much of the PEIR Assessment Boundary.
Prehistoric	Low to Moderate (Within Redwick (East) & (West))	Medium	Settlement remains (i.e. discrete cut-features, artefactual remains, surviving worked timbers)	Activity from the Mesolithic to Iron Age is mostly focused along the intertidal zone south of Redwick (East) & (West) sites. Further evidence may be present in the vicinity, however, archaeological investigations (E008409) carried out in the Porton area revealed no archaeological remains of interest.
Roman	Low to Moderate (Within Redwick (East))	Low	Possible road features and associated artefactual remains	It is posed that a possible Roman road (GGAT06257g) runs north to south from Penhow to connect the road networks from the fort town of Venta Silurum, present-day Caerwent, with a

Period	Potential	Heritage Significance	Predicted asset type/s	Evidence
	& (West)			supposed harbour at Magor Pill. Ditches (GGAT11152g) and surfaces (GGAT11151g) of Roman date have been recovered within the vicinity of the supposed road near Magor.
Early Medieval	Low	Low	Possible ditch features and associated artefactual remains	There is no available evidence or record of early medieval activity within the site or 1km Study Area. Any activity is probable to have been agricultural in nature and surviving evidence may be ephemeral.
Medieval	Moderate	Low to Medium (depending on preservation and extent, from derived from archaeological value and apparent rarity at the local	Moated sites, reens, field boundaries, ridge and furrow, datable artefactual remains	Much of the character of the Gwent Levels and of the specific HLCAs of Porton, Redwick Broadmead, Whitson, and Northern Redwick derive from 'planned' field and irrigation systems established under ecclesiastical authorities such as Tintern Abbey and Coldcliff Priory. Many of these features are recorded as extant, although in a poor or altered condition. Further LiDAR

Period	Potential	Heritage Significance	Predicted asset type/s	Evidence
		and regional scale)		evidence (GGAT10954g) reveals possible moated site within Redwick (West), as well as broad ridge and furrow and former field boundaries across the PEIR Assessment Boundary.
Post-medieval	High	Low	Footbridges, trackways, sluices, moated platforms, hedgerows, field boundaries, ridge and furrow, and water meadow	Evidence for these assets is derived from the Heneb HER, historic mapping, site walkovers, and LiDAR data. The Great Flood of 1607 is well attested and is considered to have had a dramatic impact on the Gwent Levels. Various changes occurred such as the construction of the more robust sea wall as well as alterations to field systems and the construction of new farms in secular ownership.
Modern	Moderate	Low	Water drains, field boundaries, agricultural ditches and enclosures	Evidence for these assets is derived from the Heneb HER, historic mapping, site walkovers, and LiDAR data.

7.7 Embedded Design Mitigation and Enhancement

7.7.1 A range of environmental measure commitments have been embedded into the Proposed Development as discussed in **Appendix 19A. Table 7-10** outlines the embedded measure commitments that will influence the Historic Environment assessment.

Table 7-10 Summary of embedded design measure commitments

Potential Impact	Mitigation / Enhancement Measure Commitment
Disturbance to buried non-designated historic assets during construction	Where design adjustments are not feasible or warranted, an appropriate mitigation strategy will be proposed to reduce or mitigate any significant adverse effects identified.
	Measures to mitigate effects will normally consist of design adjustments, to allow significant resources to be protected and retained (preservation in situ) or, where this is not feasible, investigation and recording before and during development, with dissemination at an appropriate level (preservation by record).
	possible mitigation strategy may follow a phased, iterative approach including a programme of non-intrusive surveys, followed by localised evaluation investigations, such as targeted trial trenching, prior to the commencement of construction where necessary. Dependent on investigation results further mitigation measures may be required this may including targeted monitoring of construction works in the form of archaeological watching briefs.
	Proposal for reinstating historic ditch boundaries which would represent an enhancement to baseline conditions and restoration of the historic landscape pattern.
	A decommissioning plan would be developed prior to the end of the project detailing sensitive methods of decommissioning. An outline Decommissioning Environmental Management Plan (oDEMP) has been prepared to support the PEIR (Appendix 2B).
An outline Construction Environmental Management Plan (oCEMP) has been prepared to support the PEIR (Appendix 2A). An	

Potential Impact	Mitigation / Enhancement Measure Commitment
	<p data-bbox="517 248 1439 450">oCEMP will be produced to support the ES. A detailed CEMP will be produced by the appointed contractor to ensure that the construction phase is carefully planned to avoid the more significant impacts, including:</p> <ul data-bbox="517 472 1439 1061" style="list-style-type: none"> <li data-bbox="517 472 1439 674">• Implementing measures to prevent ground-nesting species such as skylark from nesting in the areas to be panelled. Such measures would include keeping the sward very short in the fields and using deterrents such as raptor kites. <li data-bbox="517 696 1439 786">• Surveying and buffering nest sites of Schedule 1 species (e.g. barn owl) during the breeding season. <li data-bbox="517 808 1439 898">• Utilise acoustic barriers where necessary (e.g. at nesting Cetti's warbler sites). <li data-bbox="517 920 1439 1061">• An Ecological Clerk of Works will be on Site, throughout the works but most importantly during the bird breeding season to undertake pre-works checks for nests. <p data-bbox="517 1084 1439 1451">Utilising existing farm access tracks wherever possible during construction, maintenance and decommissioning to minimise impacts to breeding habitat within reens and hedgerows. Whilst improvements to these tracks including possible widening will be required, tracks will aim to utilise existing hedgerow gaps wherever possible and only very small-scale hedgerow loss will be required.</p> <p data-bbox="517 1473 1439 1615">An oCEMP has been prepared to support the PEIR.. A detailed CEMP will be produced by the appointed contractor and will include:</p> <ul data-bbox="517 1637 1439 1957" style="list-style-type: none"> <li data-bbox="517 1637 1439 1727">• Adoption of best practice pollution prevention, drainage control, and waste management procedures; <li data-bbox="517 1749 1439 1839">• Control of drainage and sediment runoff from excavation areas and any access tracks; <li data-bbox="517 1861 1439 1957">• Agreement on watercourse crossing schedule (method and type of structure);

Potential Impact	Mitigation / Enhancement Measure Commitment
	<ul style="list-style-type: none"> • Control of drainage and sediment runoff during the construction of watercourse crossings (where applicable); • Control of concrete pouring; and • Appropriate design of foundation installation, the management of soil water levels and the potential to generate excessive quantities of groundwater contaminated sediments. <p>Existing internal tracks, points of access and field gates would be utilised where practical, however, in cases where these tracks need to be upgraded or new tracks constructed a Type 1 track would be constructed to provide access. The internal tracks would be 5 m wide and comprised of compacted stone.</p>
<p>Effects to the significance of the historic asset through change to its setting during construction and operation</p>	<p>All aspects of the construction work will be in accordance with the Construction (Design and Management) Regulations 2015.</p> <p>Following construction, construction compounds will be returned to previous conditions as far as reasonably possible.</p> <p>Best practice air quality management measures will be applied as described in Institute of Air Quality Management (IAQM) (2016) guidance on the Assessment of Dust from Demolition and Construction 2016, version 1.1.</p> <p>An outline landscape strategy (the Landscape and Environmental Management Plan or 'oLEMP') has been prepared to support the PEIR (Appendix 8J). An oLEMP will be prepared to support the ES.</p> <p>The oLEMP may include the following:</p> <ul style="list-style-type: none"> • Advance survey of landscape elements and other environmental receptors; • retention plans to ensure the protection of particular landscape elements; • advance landscape works to 'grow' proposed planting as early as possible, where practicable; • restoration of temporary construction works, (post construction);

Potential Impact	Mitigation / Enhancement Measure Commitment
	<ul style="list-style-type: none"> • implementation of landscape works which are likely to include earthworks and drainage, fencing/boundary, colour coordination, hard works, soft works/planting and maintenance; enhancement works; • a maintenance period of five years will be implemented to ensure the establishment of proposed landscape planting works; and • a management plan will be implemented to care for the landscape and environmental measures as part of the on-going operational period.
	<p>Solar Panel optimisation: Adjusting the orientation, tilt, or spacing of Solar Panels to minimize glare reflection.</p>
	<p>Screening: Implementing physical barriers or vegetation to obstruct the line of sight between the solar farm and sensitive receptors where viable.</p>
	<p>Exploring design options that minimize the visual impact of the solar farm on the surrounding landscape.</p>
	<p>Opportunities for direct enhancement may come through potential mitigation measures, specifically design alterations to preserve historic assets in-situ. This will be dependent on the preservation state and importance of the encountered archaeological remains being considered.</p>
	<p>Where feasible, and warranted, design adjustments will be agreed with the Principal Design team, in consultation where necessary with other environmental discipline teams, with an aim to minimise impacts to known and previously unrecorded historic assets.</p>
	<p>Where design adjustments are not feasible or warranted, an appropriate mitigation strategy will be proposed to reduce or mitigate any significant adverse effects identified.</p>
	<p>Existing farm access tracks will be used wherever possible during construction, maintenance and decommissioning; improvements</p>

Potential Impact	Mitigation / Enhancement Measure Commitment
	<p>to these tracks including possible widening will be required. These will aim to utilise existing hedgerow gaps wherever possible. Any hedgerow lost during the creation of an access will be replaced within the scheme.</p> <p>Mature trees, particularly those with potential for roosting bats, will be retained.</p> <p>A decommissioning plan would be developed prior to the end of the project detailing sensitive methods of decommissioning.</p> <p>Utilising existing farm access tracks wherever possible during construction, maintenance and decommissioning to minimise impacts to breeding habitat within reens and hedgerows. Whilst improvements to these tracks including possible widening will be required, tracks will aim to utilise existing hedgerow gaps wherever possible and only very small scale hedgerow loss will be required.</p> <p>Habitat creation for loss of breeding and foraging habitat, including infill hedgerow planting in gaps of retained hedgerows.</p> <p>A draft Travel Plan has been included to support the PEIR (Appendix 15A). A Travel Plan will be included as part of the ES, which will encourage car sharing and alternatives to arriving by private car, including encouraging the adoption of mini buses for staff.</p>
<p>Effects to historic landscape through disturbance of landscape features and/or change to setting during construction and operation</p>	<p>Existing farm access tracks will be used wherever possible during construction, maintenance and decommissioning; improvements to these tracks including possible widening will be required. These will aim to utilise existing hedgerow gaps wherever possible. Any hedgerow lost during the creation of an access will be replaced within the Proposed Development.</p> <p>Mature trees, particularly those with potential for roosting bats, will be retained.</p> <p>A decommissioning plan would be developed prior to the end of the project detailing sensitive methods of decommissioning.</p>

Potential Impact	Mitigation / Enhancement Measure Commitment
	<p>Utilising existing farm access tracks wherever possible during construction, maintenance and decommissioning to minimise impacts to breeding habitat within reens and hedgerows. Whilst improvements to these tracks including possible widening will be required, tracks will aim to utilise existing hedgerow gaps wherever possible and only very small scale hedgerow loss will be required.</p> <p>Habitat creation for loss of breeding and foraging habitat, including infill hedgerow planting in gaps of retained hedgerows.</p> <p>A draft Travel Plan will be included as part of the PEIR, and the ES, which will encourage car sharing and alternatives to arriving by private car, including encouraging the adoption of mini buses for staff.</p>

7.8 Assessment of Likely Impacts and Effects

- 7.8.1 A detailed assessment of the likely impacts and effects of the Proposed Development on the overall significance of the Gwent Levels (HLW (Gt) 1) landscape of outstanding historic interest will be addressed in the forthcoming ASIDOHL2 report. This will form a technical appendix to the ES.
- 7.8.2 The following impacts will be considered during the construction phase of the Proposed Development.

Construction

- **Permanent loss, truncation and/or disturbance to known or previously unrecorded buried historic assets (archaeological remains) due to construction activities** (such as site preparation, construction compound, installation of mounting structures, bases for transformer and switchgear modules, access tracks, on-site cabling and grid connection) as well as landscaping and planting (where applicable).
- **Temporary impacts to the setting of designated historic assets within 5km of the PEIR Assessment Boundary during construction** (e.g., from light, noise or traffic movement).

Design parameters

7.8.3 Below-ground construction elements for permanent works consist of:

- Various cable installation trenches across the site area will be dug to a depth of 0.9mbgl as well as alternative option for cable laying will be through Horizontal Directional Drilling (HDD). For the purposes of this assessment, it is assumed that HDD may be carried out to a depth of 0.5mbgl.
- The installation of the individual Solar Panels by driving of screw-type support piles (**Figure 2-2** and; **Figure 2-4**). The extent and depth of these screw piles is not finalised. For the purposes of this assessment, it is assumed that screw-piles may extend into, and beyond, known depth of archaeological horizons.
- Perimeter fencing will be constructed of a galvanised steel design extending 2.0m tall. Fencing will be supported by timber posts that will be evenly spaced 5m apart and driving into the ground to a depth of 0.9mbgl. Access gates will be supported by posts set in concrete foundation blocks. These blocks will measure 0.6m x 0.6m and extend 1.2mbgl. Where the perimeter fencing crosses over an existing ditch feature the nearby support posts will also be set within a concrete foundation block measuring 0.6m x 0.6m x 1.2mbgl (**Figure 2-25**).
- Where the route of cables crosses a reen feature a crossing will be created to either cross over the reen or drainage ditch with a pipe bridge crossing

for low voltage cables or beneath the water course via HDD method for high voltage cables (**Figure 2-7a** and **2-7b**):

- The methodology for pipe bridge crossing will entail the excavation of foundation pits to 0.3mbgl and infilled with well-graded compact fill. Pre-cast or cast in-situ mass concrete block footings will sit on these foundation pads with vertical rods fixed into the concrete blocks. Cables will be run through protective piping that will be fixed to the vertical support rods. The above ground height of the pipe bridge crossing will be dependent on the dimensions of the specific water course. The maximum length of pipe crossing will extend to 6m (**Figure 2-20**).
- The HDD method will entail the drilling along a 15°-25° angle to match the indicative slope of a given water course. There will be a minimum 0.5m clearance between the bed of the water course/ drainage ditch and proposed HDD service crossing.
- Various transformer units and two coupler stations will be constructed across the Site area. (**Figure 2-5**). The construction of these units will entail:
 - The excavation of a structural footing for transformer units to a depth of 0.3mbgl. A raised flood defence platform made from compacted hardcore materials will be constructed above to a height 1.2m. Concrete foundation pads/blocks will be set into this platform. The top of the transformer unit will be 4.5m.
- The excavation of 6.4m by 6.4m foundation pits to the depth of 0.3mbgl. RC raft concrete slabs will sit in these pits and cap mini-piles. Each foundation slab will cap nine mini-piles. For the purposes of this assessment, it is assumed that mini-piles may extend into, and beyond, known depth of archaeological horizons.
- Ground preparation and soil stripping for 11 temporary construction compounds which will collectively encompass a 4.8ha area across the PEIR Assessment Boundary.
- Across the Site various construction trackways and field access tracks will be established for the efficient movement of plant and material across the site area (**Figure 2-1a** and **Figure 2-1b**). Approximately 5.5km of existing

roads and paths will be retained, however, c. 22km of new track is anticipated. Where new road surfaces and tracks will be required across field systems these will be 4.5m wide for main construction trackways and 3m for field access tracks. Although the methodology details for the construction trackways are not yet finalised it is assumed, for the purposes of this assessment, that any establishment of new trackway for the movement of plant and materials will require shallow soil strips and infilling with hardcore ballast materials.

- Within the Whitson and Whitson Black Fen area of the Site, there are multiple options for the proposed grid connection as described in **Section 2.4 of Chapter 2: Description of the Proposed Development**. These proposed options comprise of the following:
 - Option 1: Integration of MV cables through the construction of two Tee Connections and Point of Connection 1 at the National Grid Substation. The construction of two compounds near the existing electrical substation (North Compound 1 and North Compound 2), as well as a coupler station (South Compound) near the intersection between Hares Road and Elver Pill Reen.
 - Option 2: The route of the MV cable alignment will remain unchanged from Option 1, however, an additional compound (North Compound 3) is proposed at the electrical substation.
 - Option 3: The route of the MV cable alignment will remain unchanged from Option 1, however, the construction around the existing electrical substation will be greatly reduced with only North Compound 1 proposed here. The footprint of South Compound, located near the intersection between Hares Road and Elver Pill Reen, will be expanded to accommodate three 132kV transformers and a coupler station.
 - Option 4: The route of the MV cable will remain similar to Option 1, however, the construction would be greatly reduced with only a single compound, North Compound 1, and the connections within the National Grid Substation and the two Tee connections.

Assessment

7.8.4 There will be significant direct physical impacts on the following assets during construction as a result of the groundbreaking associated with proposed design activities outlined in **paragraph 7.8.3**:

- Moated Site (GGAT 10954g);
- Moated sub-rectangular platform (GGAT 10946g);
- Moated platform (GGAT 10947g);
- Moated sub-rectangular platform (GGAT 10948g);
- Small agricultural building (C8);
- Footbridges, Redwick (GGAT 15715g; GGAT 15716g; GGAT 15717g; GGAT 15718g; GGAT 15719g; GGAT 15720g; GGAT 15721g; GGAT 15722g; GGAT 15730g; GGAT 15731g; GGAT 15732g; GGAT 15733g; GGAT 15734g; GGAT 15735g); and
- Footbridges near Goldcliff (GGAT 15709g; GGAT 15728g; GGAT 15729g; GGAT 15735g).

7.8.5 These will all result in a significance of effect of **moderate adverse**, without additional mitigation. This is deemed to have a noticeable and **significant** effect due to the partial and/or total removal of the non-designated historic assets identified in **paragraph 7.8.4**.

7.8.6 A table detailing the results of the impact assessment can be found in **Appendix 7D**.

Operation

7.8.7 The following impacts will be considered during the operational phase of the Proposed Development:

- **Permanent changes to the setting of significant historic assets within the 5km Study Area.** Specifically, any changes or alterations to the existing rural, expansive agricultural character of the Gwent Levels which contributes to our understanding of designated historic assets. These changes may include the severing of primary visual

relationships/connections between assets, disturbances to apparent rural tranquillity, and the loss of possible curtilage that may inform the heritage significance of designated historic assets. This may include the permanent removal of hedgerow, field boundaries, footbridges, and drainage systems which are key elements that define the unique nature(s) of the Gwent Levels HCLAs.

- **Change in historic landscape character as a result of change in land use during the operational phase.**

7.8.8 The following effects are not considered to be significant and are scoped out of the assessment:

- **Operational effects on known and previously unrecorded buried historic assets** on the basis that once the Proposed Development has completed construction no further ground disturbance will occur;
- **Setting of non-designated above-ground historic assets that lie more than 100m from the PEIR Assessment Boundary.** An assessment of the effect upon the setting of these assets is scoped out on the basis that such assets are not significant enough to warrant such an assessment, and it is considered unlikely that significant environmental effects will arise where these assets are not within or immediately adjacent to the Site. This is in line with proportionality set out in Planning Policy Wales Edition 12 (Ref 7-8)

Design parameters

7.8.9 Above ground elements of the Site in operation will consist of:

- Rows of PV Arrays spaced 3m apart. The top edge of panels will extend to 3.5m high.
- Reen pipe bridge crossing. The height of these over-crossings will be determinant on the dimensions of the given water course(s).
- Galvanized steel perimeter fencing extending to 2m tall.
- Satellite dishes and posts extending to 4m tall.
- CCTV and posts extending to 3m tall.

- Transformer units and coupler stations will extend to 4.5m.
- Grid connection infrastructure will extend to 9.5m tall.

Assessment

- 7.8.10 No designated above-ground historic assets within a 5km Study Area will be subject to significant effects.
- 7.8.11 There will be no significant effects on non-designated assets within, or immediately adjacent to, the Proposed Development during operation.
- 7.8.12 No further additional mitigation for the reduction of impact is therefore necessary at this stage.
- 7.8.13 A table detailing the results of the impact assessment can be found in **Appendix 7D**.

Decommissioning

- 7.8.14 Based on the proposed options for decommissioning outlined in **Chapter 2: Description of the Proposed Development**, potential impacts on buried and above ground historic assets from related activities are considered to be **negligible**. Any impacts to buried historic assets within the footprint of Proposed Development at construction stage will be permanent and lead to the removal/ degradation of affected assets. All control cabinets, substations, inverters, transformer stations, and internal cables are removed. Buried cables can be removed using an efficient reverse ploughing system to minimise soil impact, which pulls cables to the surface through a single knife-like cut without needing an open trench, limiting potential further effects on adjacent buried archaeological remains through ground disturbance. Likewise, the removal of above ground infrastructure associated with the Proposed Development will revert the setting of above ground historic assets to their existing character. Consequently, the assessment of decommissioning-related effects is scoped out from the Cultural Heritage and Archaeology chapter as outlined **Section 7.4**.
- 7.8.15 An outline Decommissioning Environmental Management Plan (oDEMP) (**Appendix 2B**) has been produced to support this PEIR.

7.9 Additional Monitoring, Mitigation and Enhancement Measures

- 7.9.1 It is considered that it will be possible to mitigate the impacts of the Proposed Development upon the buried archaeological resource through a staged programme of archaeological investigation and recording, the purpose of which will be to ensure that surviving remains within the footprint of areas of notable ground disturbance are recorded prior to their destruction by construction activities. This scope, extent and timing of the programme of investigation will be subject to further consultation with Heneb but may include (within those areas to be subject to notable ground disturbance) the completion of archaeological evaluation, to further assess the potential for previously unrecorded archaeological remains to be located. This could be followed by archaeological monitoring and recording during the construction phase, where required (in areas of notable archaeological potential), or areas of archaeological excavation to mitigate any impacts on unrecorded remains.
- 7.9.2 Further enhancement measures may seek to limit the harm to non-designated above-ground historic assets such as additional screening, buffering, and reduction of proposed light in sensitive locations. This will be reviewed and set out within the ES.
- 7.9.3 An oCEMP would include measures to eliminate or as far as possible to avoid risks to the historic assets present on the Site. The oCEMP would notify all parties working on the project on the measures to take, in accordance with The Historic Environment (Wales) Act 2023 (Ref 7-1), Planning Policy Wales 2024 (Ref 7-3), the Newport City Council Local Development Plan (2015) (Ref 7-6) and Monmouthshire County Council Local Development Plan (2014) (Ref 7-7), if any unexpected archaeological remains are encountered during construction. All work should be completed in line with a Project Design, also known as a Written Scheme of Investigation, to be agreed with Heneb and, if required, CADW.
- 7.9.4 A detailed CEMP will be produced by the appointed construction contractor following the making of the DCO and prior to the start of construction. An oCEMP (**Appendix 2A**) has been produced to support this PEIR. A detailed oCEMP which will be updated following appointment of a construction contractor and prior to

commencement of construction.

7.10 Summary of Likely Significant Residual Effects

- 7.10.1 The measures set out above in **Section 7.7**, would offset the environmental effects to buried historic assets identified in **Appendix 7D** through preservation by record. This would result in residual effects of minor adverse, depending on the value of the affected buried historic asset. These effects would be considered **not significant**.
- 7.10.2 As stated in **paragraph 7.8.12**, no significant setting related environmental effects on designated above ground historic assets were identified. Despite this, selected non-designated above ground historic assets, identified in **paragraph 7.8.10**, within the Site may be subject to significant effects. These effects are inherent to the design of the Proposed Development. Consequently, no additional mitigation or enhancement measures will reduce the significance of these effects.
- 7.10.3 **Table 7-11** details the resultant residual effects to identified historic assets with an identified significant impact by the Proposed Development with mitigation in place.

Table 7-11 Summary of Residual Effects

Asset Ref. No.	Description	Description of Impact	Significance of Effect without additional mitigation	Additional Mitigation/Enhancement measure	Residual effect after mitigation
GGAT10954g	Moated Site	Direct physical	Moderate adverse (Significant)	Additional mitigation through preservation by record.	Minor adverse (Not Significant)
GGAT10946g	Moated sub-rectangular platform	Direct physical	Moderate adverse (Significant)	Additional mitigation through preservation by record.	Minor adverse (Not Significant)
GGAT10947g	Moated platform	Direct physical	Moderate adverse (Significant)	Additional mitigation through preservation by record.	Minor adverse (Not Significant)
GGAT10948g	Moated sub-rectangular platform	Direct physical	Moderate adverse (Significant)	Additional mitigation through preservation by record.	Minor adverse (Not Significant)
C8	Small agricultural building	Setting	Moderate adverse (Significant)	None	No change
GGAT 15715g; GGAT 15716g; GGAT 15717g; GGAT 15718g;	Footbridges, Redwick	Setting	Moderate adverse (Significant)	None	No change

Asset Ref. No.	Description	Description Impact	Significance of Effect without additional mitigation	Additional Mitigation/Enhancement measure	Residual effect after mitigation
GGAT 15719g; GGAT 15720g; GGAT 15721g; GGAT 15722g; GGAT 15730g; GGAT 15731g; GGAT 15732g; GGAT 15733g; GGAT 15734g; GGAT 15735g					
GGAT 15709g; GGAT 15728g; GGAT 15729g; GGAT 15735g	Footbridges near Goldcliff	Setting	Moderate adverse (Significant)	None	No change

7.11 Cumulative impacts

Historic Landscape

- 7.11.1 A thorough assessment of the physical and setting-related impacts to the Registered Historic Landscape of the Gwent Levels and associated HLCAs will be presented in the ASIDOHL which will be appended to the forthcoming ES chapter. This will include an assessment of cumulative impacts using the methodology detailed in the **Chapter 5: EIA Methodology**.

Designated above-ground historic assets

- 7.11.2 The following designated above-ground historic assets including Bishton Castle (MM128), Pencoed Castle (MM201; MM274; PGW(Gt)3(NPT); CADW 17076; CADW 2904; CADW 3089; CADW 3090; CADW 3091), and Wilcrick Hill Camp (MM127) may be subject to cumulative impacts from the surrounding proposed Craig y Perthi Solar Farm (application reference: DNS/3279787) which would amount to **Minor adverse**. This would not result in an unacceptable and significant cumulative effect.
- 7.11.3 The designated above-ground historic assets of Relict Seawall alongside Collister Pill Reen (MM226) and Redwick Conservation Area may be subject to cumulative impacts from the surrounding proposed Magor Net Zero project (application reference: DNS/CAS-01960-J2H3X5). This project involves the establishment of a Renewable Energy & Green Hydrogen Production Facility including ground-mounted Solar Panels, wind turbine, hydrogen electrolysers, hydrogen and energy storage and ancillary and associated infrastructure and cabling. This would result in a **Minor adverse** impact and the effect would therefore be considered **not significant**.

7.12 Summary and Next Steps

- 7.12.1 The information provided in this PEIR is preliminary; the final assessment of potential significant effects will be reported in the ES. This Section concludes the preliminary findings of this PEIR assessment and describes the further work to be undertaken to support the cultural heritage and archaeology assessment presented in the ES.

- 7.12.2 The main conclusion to be drawn at this stage of the assessment is that the Proposed Development may significantly adversely impact buried non-designated historic assets within the Site during Construction phase, and above ground non-designated historic assets within the Site during Construction and Operational phases. Designated historic assets within a 5km Study Area will be subject to the setting-related adverse impacts, however, these will not be considered significant.
- 7.12.3 The assessments within this PEIR Chapter will be reviewed following further design refinement, taking into account the updated assessments of **Chapter 11: Landscape and Visual Amenity**; **Chapter 12: Glint and Glare**; **Chapter 16: Ground Conditions**; and **Chapter 17: Other Environmental Topics**. A final conclusion of significance for all identified receptors will be made in the ES. In addition, the assessment of employment generation and agricultural viability will be undertaken. Further work will be undertaken with regard to design elements, including the proposed Construction Compounds (as described in **Chapter 2: Description of the Proposed Development**).

7.13 References

- Ref 7-1 National Assembly for Wales. (2023). Historic Environment (Wales) Act. Available at: <https://www.legislation.gov.uk/asc/2023/3/contents/enacted> [Accessed November 2025].
- Ref 7-2 Welsh Government. (1997). The Hedgerows Regulations 1997. Available at: <https://www.legislation.gov.uk/uksi/1997/1160/introduction/made> [Accessed November 2025].
- Ref 7-3 Welsh Government. (2024). Planning Policy Wales, Edition 12. Available at: <https://gov.wales/planning-policy-wales> [Accessed November 2025].
- Ref 7-4 Department for Energy Security and Net Zero. (2023). National Policy Statement for energy infrastructure. Available at: [National Policy Statements for energy infrastructure - GOV.UK \(www.gov.uk\)](https://www.gov.uk/government/policy-statements/national-policy-statements-for-energy-infrastructure) [Accessed November 2025].
- Ref 7-5 Welsh Government. (2021). Future Wales: The National Plan 2040. Available at: <https://www.gov.wales/future-wales-national-plan-2040> [Accessed November 2025].
- Ref 7-6 Newport City Council. (2015). Newport Local Development Plan 2011-26 Adopted Plan. Available at: <https://www.newport.gov.uk/documents/Planning-Documents/LDP-2011-2026/LDP-Adopted-Plan-January-2015.pdf> [Accessed November 2025].
- Ref 7-7 Monmouthshire County Council. (2014). Monmouthshire County Council Adopted Local Development Plan: 2011-2021. <https://www.monmouthshire.gov.uk/app/uploads/2017/05/Adopted-Local-Development-Plan-with-PDF-tags.pdf> [Accessed November 2025].
- Ref 7-8 Welsh Government (2017). Technical Advice Note 24: The Historic Environment. Available at: <https://gov.wales/technical-advice-note-tan-24-historic-environment> [Accessed November 2025].
- Ref 7-9 CADW 2017. Heritage Impact Assessment in Wales. Available at: <https://cadw.gov.wales/advice-support/placemaking/heritage-impact-assessment/heritage-impact-assessment> [Accessed November 2025].

- Ref 7-10 CADW 2017. Setting of Historic Assets in Wales. Available at: <https://cadw.gov.wales/advice-support/placemaking/heritage-impact-assessment/setting-historic-assets> [Accessed November 2025].
- Ref 7-11 CADW 2017. Managing Historic Character in Wales. Available at: <https://cadw.gov.wales/advice-support/placemaking/historic-character/managing-historic-character> [Accessed November 2025].
- Ref 7-12 CADW 2007. Guide to Good Practice on using The Register of Landscapes of Historic Interest in Wales in The Planning and Development Process. Available at: https://cadw.gov.wales/sites/default/files/2019-05/LandscapesRegisterGoodPractice_EN_0.pdf [Accessed November 2025].
- Ref 7-13 Chartered Institute for Archaeologists (CIfA). (2025), Code of conduct: professional ethics in archaeology, Available at: https://www.archaeologists.net/sites/default/files/2025-10/Code-of-conduct_revOct-2025.pdf [Accessed November 2025].
- Ref 7-14 Chartered Institute for Archaeologists (CIfA), (2021) Code of conduct: professional conduct. Available at: <https://www.archaeologists.net/sites/default/files/Regulations%20for%20professional%20conduct.pdf> [Accessed November 2025].
- Ref 7-15 Chartered Institute for Archaeologists (CIfA), (2020) Standard and guidance for historic environment desk-based assessment. Available at: https://www.archaeologists.net/sites/default/files/CIfAS%26GDBA_4.pdf [Accessed November 2025].
- Ref 7-16 Chartered Institute for Archaeologists (CIfA). (2020), Standard and guidance for commissioning work or providing consultancy advice on archaeology and the historic environment. Available at: https://www.archaeologists.net/sites/default/files/CIfAS%26GCommissioning_2.pdf [Accessed November 2025].
- Ref 7-17 Welsh Assembly Government. (2011). Conservation Principles for the sustainable management of the historic environment in Wales. Available at: <https://cadw.gov.wales/sites/default/files/2019->

[05/Conservation Principles EN 0.pdf](#) [Accessed November 2024].

Ref 7-18 Newport City Council. (2015). Archaeology & Archaeologically Sensitive Areas: Supplementary Planning Guidance. Available at: [Archaeology-SPG---August-Adoption-Version \(newport.gov.uk\)](#) [Accessed November 2025].

Ref 7-19 CADW, Future Energy Llanwern - Request for Pre-application Advice email correspondence 10/06/2024

Ref 7-20 Heneb/GGAT, Future Energy Llanwern - Request for Pre-application Advice GGAT email correspondence 06/08/2024 File Reference: NEW1673

Ref 7-21 Welsh Government. (1997). *The Hedgerows Regulations 1997*. Available at: <https://www.legislation.gov.uk/ukxi/1997/1160/introduction/made> [Accessed November 2025].

Ref 7-22 CADW (2017). Setting of historic assets in Wales. Available at: <https://cadw.gov.wales/sites/default/files/201905/Setting%20of%20Historic%20Assets%20in%20Wales%20EN.pdf> [Accessed November 2025].

Ref 7-23 CADW. (2007). Guide to Good Practice on using The Register of Landscapes of Historic Interest in Wales in the Planning and Development Process. Available at: <https://cadw.gov.wales/sites/default/files/2019-05/LandscapesRegisterGoodPractice EN 0.pdf> [Accessed November 2025].

Ref 7-24 GGAT. Historic Landscape Characterisation: The Gwent Levels. Available online at: https://www.ggat.org.uk/cadw/historic_landscape/Gwent%20Levels/English/GL_Main.htm#06 [Accessed November 2025].

Ref 7-25 Heneb/GGAT, *Future Energy Llanwern - Request for Pre-application Advice GGAT email correspondence* 06/08/2024 File Reference: NEW1673

Ref 7-26 Ministry of Housing, Communities and Local Government (2017). *The Town and Country Planning (Environmental Impact Assessment) Regulations 2017*. Statutory Instrument 2017 No. 571. London: The Stationery Office. Available at: <https://www.legislation.gov.uk/ukxi/2017/571/contents> [Accessed November 2025].

- Ref 7-27 Allen, J.R.L. (1999), *Magor Pill (Gwent) Multiperiod Site: post-medieval pottery and the shipping trade*. *Archaeology in the Severn Estuary* Vol. 10. pp.75-97
- Ref 7-28 Austin, D., (2003). A Research Framework for the Archaeology of Wales, South-Wales – Medieval. Available at <http://clywd-48911-002.dvs.demon.net/research/swmed.htm> [Accessed November 2025].
- Ref 7-29 Bell, M, Caseldine, A, and Neumann, H. (2000). Prehistoric Intertidal Archaeology in the Severn Estuary. CBA Research Report 120: Council for British Archaeology.
- Ref 7-30 Bell, M. (2013). The Bronze Age in the Severn Estuary. CBA Research Report 172: Council for British Archaeology. [Accessed November 2025].
- Ref 7-31 Carew, T. (2003). *An assessment of the archaeological excavations, evaluations, test pits, field surveys and watching briefs along the South East Coastal Strategy Pipeline between Chepstow and Magor South Wales*. CBA Research Report 172: Council for British Archaeology 2013
- Ref 7-32 Cooke, N. (2011), *New M4 Project - Review of sites on Lidar Plots*
- Ref 7-33 Cunliffe, B., (1991). *Iron Age Communities in Britain* (3rd edition).
- Ref 7-34 Domesday Book Online. Available at: <https://opendomesday.org/map/> [Accessed November 2025].
- Ref 7-35 Margary ID, (1967). *Roman Roads In Britain*.
- Ref 7-36 Nayling, N, (1996). *Magor Pill Boat II, Gwent: Archaeological Evaluation*. GGAT Report No. 045/96