



# Connah's Quay Low Carbon Power

## Environmental Statement Volume II Chapter 17: Terrestrial Heritage

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# 17. Terrestrial Heritage

## 17.1 Introduction

### Overview

- 17.1.1 This chapter of the Environmental Statement (ES) presents an assessment of the likely significant environmental effects of the Connah's Quay Combined Cycle Gas Turbine (CCGT) fitted with Carbon Capture Plant (CCP) (hereafter referred to as the Proposed Development) with respect to Terrestrial Heritage during the construction, operation (including maintenance), and decommissioning phases of the Proposed Development. A description of the Proposed Development, including details of maximum parameters, is set out in **Chapter 4: The Proposed Development (EN010166/APP/6.2.4)**.
- 17.1.2 The Order limits represent land required for both permanent and temporary works as part of the construction and operation of the Proposed Development. The Proposed Development is located approximately 0.6 km north-west of Connah's Quay in Flintshire, North Wales and is located within the administrative boundary of Flintshire County Council (FCC).
- 17.1.3 The full extent of the Order limits is shown on **Figure 3-1: Order Limits (EN010166/APP/6.3)** and the main components of the Proposed Development, as shown in **Figure 3-3: Areas Described in the ES (EN010166/APP/6.3)**, include:
- Main Development Area;
  - Repurposed CO<sub>2</sub> Connection Corridor; Proposed CO<sub>2</sub> Connection Corridor;
  - Water Connection Corridor;
  - Electrical Connection Corridor; Construction and Indicative Enhancement Area (C&IEA); and
  - Accommodation Work Areas.
- 17.1.4 Further information on the Proposed Development is provided in **Chapter 4: The Proposed Development (EN010166/APP/6.2.4)** and the components of the Proposed Development are presented on **Figure 3-3: Areas Described in the ES (EN010166/APP/6.3)**.
- 17.1.5 For the purposes of this assessment, land within the Order limits is hereafter referred to as 'the Site' and the Construction and Operation Area.
- 17.1.6 This chapter is supported by the following figures in **EN010166/APP/6.3**:
- **Figure 3-3: Areas Described in the ES;**
  - **Figure 17-1a and b: Terrestrial Designated Heritage Assets;**
  - **Figure 17-2: ZTV (Zone of Theoretical Visibility) and Terrestrial Designated Heritage Assets;** and

- **Figure 17-3: Terrestrial Non-designated Heritage Assets.**

17.1.7 This chapter is supported by the following appendices in **EN010166/APP/6.4**:

- **Appendix 1-A: Scoping Report;**
- **Appendix 1-B: Scoping Opinion;**
- **Appendix 2-B: Scoping Opinion Response;**
- **Appendix 7-A: Legislative, Policy and Guidance Framework for Technical Topics;**
- **Appendix 17-A: Terrestrial Heritage Desk Based Assessment (DBA);**
- **Appendix 17-B: Gazetteer of Terrestrial Heritage Assets; and**
- **Appendix 17-C: Geophysical Survey Report.**

## Legislation, Policy and Guidance

17.1.8 Legislation, planning policy, and guidance relating to Terrestrial Heritage and pertinent to the Proposed Development are listed in **Table 17-1**<sup>1</sup>. Further detail regarding these can be found in **Appendix 7-A: Legislative, Policy and Guidance Framework for Technical Topics (EN010166/APP/6.4)**.

**Table 17-1: Legislation, Planning Policy, and Guidance relating to Terrestrial Heritage**

Type	Legislation, Policy and Guidance
Legislation	<ul style="list-style-type: none"> <li>• Ancient Monuments and Archaeological Areas Act 1979 (Ref 17-1);</li> <li>• Planning (Listed buildings and Conservation Areas) Act 1990 (Ref 17-2);</li> <li>• Historic Environment (Wales) Act 2023 (Ref 17-3); and</li> <li>• The Hedgerow Regulations 1997 (Ref 17-4).</li> </ul>
National Planning Policy	<ul style="list-style-type: none"> <li>• The Overarching National Policy Statement (NPS) for Energy (EN-1) (Ref 17-5);</li> <li>• The NPS for Electricity Networks Infrastructure (EN-5) (Ref 17-6); and</li> <li>• Future Wales: The National Plan to 2040 (Ref 17-7).</li> </ul>
Local Planning Policy	<ul style="list-style-type: none"> <li>• FCC Local Development Plan (LDP) (2015-2030) (Ref 17-8).</li> </ul>
National Guidance	<ul style="list-style-type: none"> <li>• Conservation Principles for the sustainable management of the historic environment in Wales (2011) (Ref 17-9);</li> </ul>

<sup>1</sup> Whilst the Proposed Development is located wholly within Wales, the study areas defined for this assessment extend into England, therefore relevant English legislation, policy and guidance is included here for those assets located in England.

Type	Legislation, Policy and Guidance
	<ul style="list-style-type: none"> <li>• Heritage Impact Assessment in Wales (2017) (Ref 17-10);</li> <li>• Managing Change to Listed Buildings in Wales (2017) (Ref 17-11);</li> <li>• Managing Change to Registered Historic Parks and Gardens in Wales (2017) (Ref 17-12);</li> <li>• Managing Conservation Areas in Wales (2017) (Ref 17-13);</li> <li>• Managing Historic Character in Wales (2017) (Ref 17-14);</li> <li>• Managing Lists of Historic Assets of Special Local Interest (2017) (Ref 17-15);</li> <li>• Setting of Historic Assets in Wales (2017) (Ref 17-16);</li> <li>• Historic Environment Good Practice Advice in Planning Note 2. Managing Significance in Decision Taking in the Historic Environment; Historic England (2015) (Ref 17-17);</li> <li>• Historic Environment Good Practice Advice in Planning Note 3. The Setting of Heritage Assets; Historic England (2017) (Ref 17-18);</li> <li>• Statements of Heritage Significance: Analysing Significance in Heritage Assets. Historic England Advice Note 12; Historic England (2019) (Ref 17-19); and</li> <li>• Chartered Institute for Archaeologists Standard and guidance for historic environment desk-based assessment (DBA) (2020) (Ref 17-20).</li> </ul>

## 17.2 Consultation and Scope of Assessment

### Consultation

#### Scoping Opinion

- 17.2.1 A request for an Environmental Impact Assessment (EIA) Scoping Opinion was sought from the Secretary of State (SoS) through the Planning Inspectorate (PINS) in February 2024 as part of the EIA Scoping Process. The EIA Scoping Opinion was adopted on 20 March 2024 (**Appendix 1-B: Scoping Opinion (EN010166/APP/6.4)**).
- 17.2.2 Key issues raised in the EIA Scoping Opinion are summarised and responded to in **Appendix 2-B: Scoping Opinion (EN010166/APP/6.4)**. All issues are being considered during the EIA process.
- 17.2.3 **Table 17-2** below outlines how and where the EIA Scoping Opinion comments have been addressed within this ES.

### *Statutory Consultation*

- 17.2.4 Further consultation in response to formal pre-application engagement was undertaken through the Preliminary Environmental Information Report (PEIR), issued in October 2024. Responses to this statutory consultation are presented in the **Consultation Report (EN010152/APP/5.1)** and **Table 17-3** below outlines how and where these comments have been addressed within the ES.

### *Targeted Consultation*

- 17.2.1 Following Statutory Consultation changes were made to the heights of the proposed absorber and HRSG stacks and the Applicant undertook further targeted consultation. This consultation included a Supporting Information Report which detailed the environmental considerations associated with these changes. This Targeted Consultation was held between Thursday 8 May to Friday 6 June 2025. Responses to this targeted consultation are presented in the **Consultation Report (EN010152/APP/5.1)** and **Table 17-4** below outlines how and where these comments have been addressed within this chapter.

### *Additional Technical Engagement*

- 17.2.2 Additional technical engagement has been undertaken with the Archaeological Advisor at Clwyd Powys Archaeological Trust (CPAT) (now part of Heneb), Cadw and the Senior Investigator at the Royal Commission on the Ancient and Historical Monuments of Wales (RCAHMW), to ensure, as far as practicable, that heritage issues are identified and potential impacts to heritage assets are included in the assessment. Consultation has also been undertaken with the Conservation Officer for FCC to identify and assess any potential impacts to built heritage assets. A summary of this additional consultation is set out in **Table 17-5**.

**Table 17-2: Scoping Opinion Responses**

Comment ID	Consultee	Comment	Response
3.10.1	PINS	<p><i>'The Scoping Report notes that any impacts on terrestrial cultural heritage will have occurred and been mitigated during the construction phase.</i></p> <p><i>The Inspectorate [(PINS)] is content that significant effects on buried archaeology during operation and decommissioning are not likely and this matter can be scoped out of the assessment.</i></p> <p><i>However, information regarding decommissioning is limited and therefore [PINS] directs the Applicant to comments in ID 2.1.12 which should be addressed in the ES in relation to decommissioning.'</i></p>	<p>An assessment of effects on terrestrial heritage assets during decommissioning is presented in Section 17.6.</p>
3.10.6	PINS	<p><i>'The Applicant should seek to agree a methodology with relevant consultation bodies including Cadw and Flintshire Council. Cadw have highlighted as part of their representation that the Historic Environment (Wales) Act is to be enacted in the near future, updating a number of guidance and policy documents. The EIA methodology should be based upon the most up to date methodology.'</i></p>	<p>The assessment presented in Section 17.6 takes account of the most up to date methodology at the time of writing. Technical engagement has been undertaken with relevant consultees including Cadw and FCC to agree the methodology for the heritage assessment.</p>
N/A	Cadw	<p><i>'The designated historic assets in Annex A are inside 3km of the application area. As such, we expect that the impact of the proposed windfarm [sic] [it is assumed this is reference to the Proposed Development] on all these designated historic assets will be assessed in accordance with the Welsh Government guidance given in the document "The Setting of Historic Assets in Wales". We would expect a stage 1 assessment to be carried out for all the listed designated historic assets, which will determine the need, if necessary,</i></p>	<p>The assessment presented in Section 17.6 utilises a 3 km study area for designated heritage assets and this has been agreed with Cadw. An assessment for all designated heritage assets located within this study area is presented in <b>Appendix 17-A: Terrestrial Heritage DBA (EN010166/APP/6.4)</b>.</p>

Comment ID	Consultee	Comment	Response
		<i>for stages 2 to 4 to be carried out for specific historic assets. The results of the stage 1 assessment should be included in the EIA, possibly as an appendix.'</i>	
N/A	Cadw	<i>'It is noted that section 15.4.40 identifies that there may be a need for archaeological fieldwork to be carried out after the completion of the desk-based assessment. It is recommended that Cadw and the Dyfed Archaeological Trust are consulted once the desk-based assessment and walkover survey have been completed to agree if there is a need for further surveys.'</i>	Technical engagement has been undertaken with CPAT (the archaeological advisors to FCC) to agree the scope of any archaeological fieldwork required. Cadw have confirmed that they would defer agreement of the scope of fieldwork to CPAT.
N/A	Cadw (also FCC for second paragraph)	<i>'The requirement for geophysical survey would be triggered by clusters of surface monuments suggesting high levels of nearby activity, for which associated sub-surface archaeology may be present, but cannot be properly quantified and located. It may also be triggered where prior surveys cannot accurately define the nature of surface or sub-surface features without retrieving more information. If geophysical anomalies are located but are not diagnostic enough to allow informed opinions on dating, function, level of preservation and importance then additional intervention by targeted evaluation trenching may also be required within the pre-determination assessment stage and in accordance with Planning Policy Wales and TAN24.</i>  <i>A realistic time period should be set aside to complete the archaeological assessment, reporting and mitigation discussion before the application is formally submitted for examination and in accordance with guidance on pre-determination archaeological evaluation set out in Technical</i>	Technical engagement has been undertaken with CPAT (the archaeological advisors to FCC) to agree the scope of any archaeological fieldwork required to inform the baseline. Cadw have confirmed that they would defer agreement of the scope of any archaeological fieldwork to CPAT. It was agreed with CPAT that a geophysical survey would be undertaken in the first instance on land not previously disturbed by historic construction or where existing made ground is present, the results of which would inform the requirement for any further stages of archaeological fieldwork. The geophysical survey was carried out in October 2024 and the results presented in <b>Appendix 17-C: Geophysical Survey Report (EN010166/APP/6.4)</b> . In agreement with CPAT, no further

Comment ID	Consultee	Comment	Response
		<i>Advice Note 24 (May 2017), paragraph 4.7 and Planning Policy Wales (Feb 2021), paragraph 6.1.26. Failure to complete the appropriate surveys may result in delays at the examination stage if additional information is required. The applicant should therefore adjust their application submission dates if necessary to ensure these surveys are fully completed.'</i>	archaeological evaluation surveys are required in advance of the DCO submission. Mitigation strategies have been identified based on the results of the geophysical survey, which are set out in Section 17.7 of this chapter and presented in the <b>Overarching Written Scheme of Investigation (WSI) for Terrestrial and Marine Heritage Mitigation (EN010166/APP/6.8)</b> .  The assessment presented in Section 17.6 takes account of the most up to date and relevant guidance and policies at the time of writing.
N/A	Cadw	<i>'Finally, it should be noted that the Historic Environment (Wales) Act 2023 will have been enacted before the EIA is completed and that many associated documents, such as TAN 24, will be updated in accordance with the Act.'</i>	The assessment presented in Section 17.6 takes account of the most up to date and relevant guidance and policies at the time of writing.
N/A	FCC	<i>'Planning/site constraints and opportunities:' '• Clwyd Powys Archaeological Trust assets on and surrounding the site.'</i>	Technical engagement has been undertaken with CPAT (the archaeological advisors to FCC) with regard to potential impacts to non-designated archaeological assets.
N/A	FCC	<i>'The CPAT Planning Services section are the primary advisors to the Local Planning Authority on matters relating to development impacts on any non-designated heritage assets.'</i>	Technical engagement has been undertaken with CPAT (the archaeological advisors to FCC) with regard to potential

Comment ID	Consultee	Comment	Response
		<p><i>Information on designated assets would be obtained from Cadw via <a href="mailto:cadwplanning@gov.wales">cadwplanning@gov.wales</a> (scheduled monuments, registered parks and gardens, battlefields, world heritage sites) and from the Built Heritage Conservation Officer for Flintshire County Council (Chris Rees Jones) in terms of listed buildings, conservation areas.</i></p> <p><i>With regard to marine and intertidal archaeology and related ship or aircraft wrecks the applicant should consult [redacted] regarding this scope and future assessment at the Royal Commission on the RCAHMW.'</i></p>	<p>impacts to non-designated terrestrial heritage assets. Technical engagement has also been undertaken with Cadw with regards to designated terrestrial heritage assets and engagement has been undertaken with the Conservation Officer for FCC with regards to built heritage assets.</p> <p>Effects on marine heritage are assessed in Section 18.6 of <b>Chapter 18: Marine Heritage (EN010166/APP/6.2.18)</b> and technical engagement has been undertaken with RCAHMW in order to confirm the scope and methodology for assessment of impacts to marine heritage assets.</p>
N/A	FCC	<p><i>'We normally expect all of the following sources to have been consulted to inform the baseline data:</i></p> <ul style="list-style-type: none"> <li><i>• Designated asset data from Cadw (<a href="http://historicwales.gov.uk">http://historicwales.gov.uk</a>).</i></li> <li><i>• Archaeological records held by the National Monuments record RCAHMW including information on historic place names <a href="https://rcahmw.gov.uk/discover/list-of-historic-place-names/">https://rcahmw.gov.uk/discover/list-of-historic-place-names/</a></i></li> <li><i>• Archaeological records held by Clwyd-Powys Archaeological Trust HER (via direct consultation with the HER team <a href="mailto:her@cpat.org.uk">her@cpat.org.uk</a> and not just relying on Archwilio data).</i></li> <li><i>• Relevant Conservation Area details from [FCC].</i></li> </ul>	<p>The assessment presented in Section 17.6 utilises these sources.</p>

Comment ID	Consultee	Comment	Response
		<ul style="list-style-type: none"> <li>• LANDMAP datasets from NRW for Cultural Landscape and Historic Landscape aspect areas and associated character areas with the significance of impact to be quantified.</li> <li>• Maps, plans and documents held in the Flintshire Archives <a href="https://www.newa.wales/">https://www.newa.wales/</a></li> <li>• Maps, plans and documentary sources held at National Library of Wales including the Tithe Maps of Wales <a href="https://places.library.wales/home">https://places.library.wales/home</a></li> <li>• Aerial photos held by the Central Register for Aerial Photography Wales (CRAPW) <a href="http://aerialphotos.wales.gov.uk/">http://aerialphotos.wales.gov.uk/</a> and the National Monuments Record RCAHMW</li> <li>• Records held on the Portable Antiquities Scheme database here <a href="https://finds.org.uk/">https://finds.org.uk/</a></li> <li>• Readily available and relevant primary and secondary published sources and unpublished archaeological reports.</li> <li>• ZTV / cumulative ZTV from roof/chimney top to determine those heritage assets within the study areas which will be affected visually for subsequent setting impact assessments.</li> <li>• Findings of other environmental topics (landscape, peat, water, soils, noise, &amp; vibration).'</li> </ul>	
N/A	FCC	<p>'During the iterative design process, and depending on the feedback from the desk based assessment and walkover surveys, there may be a requirement to gather more information on the sub-surface archaeological potential of the development area, which will not normally be apparent from a desk based and walkover study alone. We note the comments in Paragraph 15.4.23 and Paragraph 15.4.24 about the depths of made ground across the Main Site [Main</p>	<p>Technical engagement has been undertaken with CPAT to agree the scope of any archaeological fieldwork required to inform the baseline. A summary of consultation to date is provided in <b>Table 17-3</b> and <b>Table 17-5</b>.</p>

Comment ID	Consultee	Comment	Response
		Development Area] which vary between 1.6 - 4 metres of dumped material from the 1960's and later events. Depending on the depth of the new foundations and service trenches in this area it would seem highly unlikely that any significant archaeology survives or will be impacted. The potential for further geophysics and trenching within the Main Site area [Main Development Area] should be clearly stated in the desk based assessment and walkover report.'	
N/A	FCC	'With regard to reporting and archiving of any archaeological reports produced by the archaeological consultants/contractors for this assessment it should be noted that a high resolution digital pdf will be required by the CPAT Historic Environment Record [(HER)] to be sent via HEDDOS <a href="https://cpat.org.uk/heddos.html">https://cpat.org.uk/heddos.html</a> in accordance with the Welsh Archaeological Trusts HER submission guidelines here <a href="https://cpat.org.uk/curatorial-services/historic-environment-record/#page-content">https://cpat.org.uk/curatorial-services/historic-environment-record/#page-content</a> And the full digital archive will need to be forwarded to the National Monuments Record, RCAHMMW, Aberystwyth and/or the Archaeology Data Service in accordance with their submission guidelines.'	The DBA and fieldwork reports produced from archaeological fieldwork surveys undertaken for the Proposed Development will be deposited with the HER in accordance with the requirements of CPAT and in line with their guidance. The full digital archive will be deposited with the HER, the Archaeology Data Service, National Monuments Record and RCAHMMW where appropriate and in accordance with their submission guidelines.
N/A	FCC	'We will need to approve a Written Scheme of Investigation (WSI) document (sometimes called a project design) before any new assessment work commences and WSI's will be required for any additional geophysics and evaluation trenching also. All WSI's and resulting final reports must include a Data 3 Management Plan (updated for final report), Archive Selection Strategy, Archive Content List and Archive Deposition Location Statement'	WSI's for each stage of assessment (including DBA and archaeological fieldwork) have been prepared and agreed with CPAT. All WSI's include a Data Management Plan, Archive Selection Strategy, Archive Content List and Archive Deposition Location Statement where relevant.

Comment ID	Consultee	Comment	Response
N/A	FCC	<p><i>'We would welcome further direct correspondence and communication with the archaeological consultants/contractor who are engaged to complete the cultural heritage assessment as part of an iterative design process, and we would also wish to see copies of any cultural heritage assessment reports completed as the design process moves forward. We would expect to be consulted on the draft final ES cultural heritage chapter before it is submitted for examination.'</i></p>	<p>Engagement with CPAT has been undertaken with regards to non-designated archaeological assets. Engagement with the Conservation Officer for FCC is ongoing with regards to built heritage assets. The DBA has been shared with CPAT (Heneb) prior to DCO submission.</p>

**Table 17-3: Statutory Consultee Responses**

Consultee	Comment	Response
Historic England	<p><i>‘Assessment appears to be broadly in accordance with current best practice, although we would take issue with the suggestion made in Table 17-3 that Grade II Listed Buildings and Grade II Registered Parks &amp; Gardens are only of medium sensitivity/value. These are national designations, and should therefore be considered of high sensitivity/value.’</i></p> <p><i>Historic England considers that the assessment of potential impacts on heritage assets has been carried out in an appropriate manner, and that the very low magnitude of impact identified accurately reflects the potential impact of the proposed development on the settings of designated terrestrial heritage assets and marine heritage sited in England. We agree that the temporary impact of the proposed development on the settings of the two scheduled monuments during the construction phase is not significant, and that there would be no impact on the settings of the three Grade II* Listed Buildings or on known marine heritage.’</i></p>	<p>Regarding the value of Grade II listed buildings and Registered Parks and Gardens, as outlined in Section 17.3.2, <b>Table 17-7</b> is a guide that is used alongside professional judgement, assessment of significance and consultation to assign heritage values to assets. The assets are not automatically ascribed a value on the basis of their level of designation. NPPF paragraph 213 makes a distinction between Grade II listed buildings and ‘assets of the highest significance’ (i.e. scheduled monuments, protected wreck sites, grade I and II* listed buildings grade I and II* registered parks and gardens and World Heritage Sites). This distinction is built into <b>Table 17-7</b> where Grade II listed buildings are placed in the medium value category and the assets listed above are in the high value category.</p>
Cadw	<p><i>‘Having carefully considered the information provided, we have no objection to the proposed development in regard to the scheduled monuments or registered historic parks and gardens listed in our assessment of the application below.’</i></p> <p><i>‘We concur with the above conclusions; the proposed development will not have an unacceptably damaging effect upon the settings of any of the above designated historic assets.’</i></p>	<p>Technical engagement has been undertaken with CPAT (the archaeological advisors to FCC), and the HER has been consulted, with the HER data obtained set out within the desk-based assessment (<b>Appendix 17-A: Terrestrial Heritage DBA (EN010166/APP/6.4)</b>).</p>

Consultee	Comment	Response
	<p><i>Finally, there may also be undesignated historic assets that could be affected by the proposed development and, if you have not already done so, we would advise that you consult the Historic Environment Record held by the Gwynedd Archaeological Trust: <a href="http://heneb.co.uk">heneb.co.uk</a></i></p>	
FCC	<p><i>'A geophysical survey of the western spur area has been completed and mitigation proposals for the pipeline in this area are being worked on. The main development site [Main Development Area] is to undergo some bore holing, and this will allow paleo-environmental sampling of the peat under the made ground when completed. The main site [Main Development Area], at present, does not have any plans to enter the natural under the made ground and this should not require any archaeological mitigation in this area.'</i></p>	<p>Technical engagement has been undertaken with CPAT (the archaeological advisors to FCC) to agree the scope of any archaeological fieldwork required to inform the baseline. Mitigation requirements within the Order limits has been agreed with CPAT and set out within the <b>Overarching WSI for Terrestrial and Marine Heritage Mitigation (EN010166/APP/6.8)</b>.</p>
FCC	<p><i>'References Technical Advice Note 5: Nature Conservation and Planning (2009) should be added to the reference list.'</i></p>	<p>The assessment presented in Section 17.6 takes account of the most up to date and relevant guidance and policies at the time of writing.</p>
FCC	<p><i>'The submitted environmental statement will need to have regard for Planning Policy Wales (PPW) (edition 12, 2024) and any relevant legislation and guidance such as relevant Technical Advice Notes that is in force/adopted in Wales. Also the application should have regard to the respective and relevant policies within the Flintshire Local Development Plan (LDP) adopted by the Council on 24 January 2023.'</i></p>	<p>The assessment presented in Section 17.6 takes account of the most up to date and relevant guidance and policies at the time of writing.</p>
Heneb (CPAT, advisors to FCC)	<p><i>'We are currently in contact with Wessex Archaeology and AECOM regarding the ongoing development of the Environmental Statement and the archaeological mitigation within that statement.'</i></p>	<p>An <b>Overarching WSI for Terrestrial and Marine Heritage Mitigation (EN010166/APP/6.8)</b> has been prepared and agreed with CPAT which sets out the mitigation strategies agreed for the Proposed</p>

Consultee	Comment	Response
	<p><i>We have reviewed the content of the PEIR and we are in agreement with the proposed mitigation which includes a Protocol for Unexpected Archaeological Discoveries and a scheme of Archaeological Monitoring and Recording (formerly called a watching brief) during initial topsoil stripping of the field west of the current plant which may change to a Strip/Map and Excavate protocol if archaeological features are revealed. The archaeological monitoring would also cover any new groundwork that may be necessary on the Dee foreshore.</i></p> <p><i>The majority of the scheme is on reclaimed and raised ground with deep modern dumping materials present and no archaeological potential is likely in these locations. In addition, the scheme uses existing lengths of pipeline to transport the waste gas to storage under the Dee Estuary which further reduces archaeological impacts.</i></p> <p><i>We understand that the bore hole logs will be passed to AECOM for review of potential paleoenvironmental deposits at depth (normally peat deposits) which may be of archaeological interest. Deep deposits of interest are highly unlikely to be affected where reclaimed and raised ground is present assuming new foundations do not reach these deposits.'</i></p>	<p>Development, including archaeological monitoring and recording and a protocol for unexpected archaeological discoveries.</p> <p>A review of borehole logs undertaken as part of Ground Investigation (GI) works undertaken for the Proposed Development has been completed and the results summarised in the desk-based assessment (<b>Appendix 17-A: Terrestrial Heritage DBA (EN010166/APP/6.4)</b>).</p>

**Table 17-4: Targeted Consultation**

Consultee	Summary of Comment	Response
Flint Town Council	<p>The Council expects:</p> <ul style="list-style-type: none"> <li>• Transparent, accountable mitigation strategies for all identified environmental risks—including noise and vibration (e.g., from pile driving) in relation to nearby Listed Buildings;</li> <li>• Clear summaries of these assessments for public understanding;</li> </ul> <p>Full details of compensation mechanisms available to adversely affected residents and businesses, including:</p> <ul style="list-style-type: none"> <li>• How compensation will be calculated;</li> <li>• Who will administer the scheme;</li> <li>• How the public will be made aware of it;</li> <li>• Additionally, the Council requests: <ul style="list-style-type: none"> <li>– Clarification on how often the project's environmental performance will be reviewed, and How local residents will be kept informed of those findings.</li> </ul> </li> </ul>	<p>Details of all mitigation and monitoring proposed is included within the <b>Commitments Register (EN010166/APP/6.10)</b>.</p>

**Table 17-5: Additional Relevant Engagement**

Consultee	Date and Nature of Engagement	Summary of Response	How and where addressed
Director, Clwyd-Powys Archaeological Trust (CPAT)	14 December 2023. Email correspondence	<p>An email was sent to CPAT seeking confirmation that CPAT are archaeological advisors to FCC and if they have any specific requirements for the DBA.</p> <p>A response was received confirming CPAT are archaeological advisors to FCC. CPAT confirmed that a WSI would be required to set out the scope of the DBA and that agreement with stakeholders should be sought in regard to the study areas for the DBA.</p>	<p>The DBA (<b>Appendix 17-A: Terrestrial Heritage DBA (EN010166/APP/6.4)</b>) has been carried out in accordance with a WSI agreed with CPAT.</p> <p>The DBA's study area has been agreed with CPAT.</p>
Senior Planning Archaeologist, CPAT (Heneb)	22 <sup>nd</sup> February 2024. Email correspondence	AECOM sent an email to CPAT requesting feedback regarding the study areas to be used in the DBA, PEIR and ES and information on any assets that will be scoped in and out of the PEIR/ES.	The study areas that have been agreed with CPAT are defined in the DBA in Section 3.1 ( <b>Appendix 17-A: Terrestrial Heritage DBA (EN010166/APP/6.4)</b> ) and 17.4 in this chapter.
CADW Planning	23 <sup>rd</sup> February 2024. Email Correspondence	AECOM sent an email to CADW requesting feedback regarding the study areas to be used in the DBA, PEIR and ES and information on any assets that will be scoped in and out of the PEIR/ES.	No response was received from CADW regarding this issue.
Cheshire Archaeology Planning Advisory Service (APAS)	23 <sup>rd</sup> February 2024. Email Correspondence	AECOM sent an email to APAS requesting feedback regarding the study areas to be used in the DBA, PEIR and ES and information on any assets that will be scoped in and out of the PEIR/ES.	The study areas that have been agreed with APAS are defined in the DBA in Section 3.1 ( <b>Appendix 17-A: Terrestrial Heritage DBA</b>

Consultee	Date and Nature of Engagement	Summary of Response	How and where addressed
		<p>APAS sent clarification that no physical impacts will be within the boundary of Cheshire West and Chester Council. It was noted that Historic England advice had been sought and APAS would not deviate from their advice.</p>	<p>(<b>EN010166/APP/6.4</b>)) and 17.4 in this chapter.</p> <p>As highlighted by APAS, there would be no physical impacts to heritage assets located within the boundary of Cheshire West and Chester Council, therefore no further consultation was undertaken with regards to below ground archaeological remains.</p>
<p>Historic England, North-West Regional Office</p>	<p>23<sup>rd</sup> February 2024. Email Correspondence</p>	<p>AECOM sent an email to Historic England requesting feedback regarding the study areas to be used in the DBA, PEIR and ES and information on any assets that will be scoped in and out of the PEIR/ES.</p>	<p>No response was received from Historic England regarding this issue.</p>
<p>CPAT Regional HER</p>	<p>23<sup>rd</sup> February 2024. Email Correspondence</p> <p>27<sup>th</sup> February 2024. Email correspondence</p>	<p>A data request for HER data within the Site and within 1 km of the Site was requested and received. The license for use of the HER data expires 6 months after issue.</p> <p>Confirmation received on 27 January 2025 that the HER data previously obtained was still valid, and the HER license extended for an additional 12 months for use in association with this DCO application.</p>	<p>HER data received from CPAT was used in the DBA assessment (<b>Appendix 17-A: Terrestrial Heritage DBA (EN010166/APP/6.4)</b>) and to support the ES.</p>

Consultee	Date and Nature of Engagement	Summary of Response	How and where addressed
Senior Planning Archaeologist, (CPAT (Heneb))	26 <sup>th</sup> February 2024. Email correspondence.  29 <sup>th</sup> February 2024. Email correspondence	An email was received with draft comments on the Scoping Report.  An email was sent by AECOM to organise a meeting to discuss the scoping opinion responses sent by CPAT.	Comments raised by CPAT were incorporated in the EIA Scoping Opinion as requested.
Planning Archaeologist, CPAT (Heneb)	29 <sup>th</sup> February 2024. Email correspondence	An email was sent by AECOM to organise a meeting to discuss the scoping opinion responses sent by CPAT.  A response was received, and it was noted that the main point of contact for the project was Neil Bayliss.	Comments raised by CPAT were incorporated in the EIA Scoping Opinion as requested.  Neil Bayliss has been the main point of contact at CPAT for this project for AECOM.
Conservation Officer for FCC	4 <sup>th</sup> March 2024. Email Correspondence	An email was sent by AECOM to the Conservation Officer for FCC requesting feedback the study areas to be used in the DBA, PEIR and ES and information on any assets that will be scoped in and out of the PEIR/ES.	No response was received by AECOM.
Senior Investigator (Marine), RCAHMW	4 <sup>th</sup> March 2024. Email Correspondence  5 <sup>th</sup> March 2024. Email correspondence	An email was sent by AECOM to the RCAHMW requesting feedback the study areas to be used in the DBA, PEIR and ES and information on any assets that will be scoped in and out of the PEIR/ES.  The RCAHMW sent a response broadly agreeing to the methodology in the Scoping Report. The RCAHMW provided further advice relating to	Advice received from the RCAHMW was integrated into the terrestrial heritage baseline set out in <b>Appendix 17-A: Terrestrial Heritage DBA (EN010166/APP/6.4)</b> and is located in Section 6: Conclusion.

Consultee	Date and Nature of Engagement	Summary of Response	How and where addressed
		evaluation techniques that may be required to inform the heritage baseline.	
Senior Investigator (Marine), RCAHMW	5 <sup>th</sup> March 2024. Email correspondence	An email was sent by AECOM to the RCAHMW confirming that Wessex Archaeology would be procured to undertake the Marine heritage scope and would be the main point of contact regarding this moving forward.	No response was received from the RCAHMW.
Conservation Officer for FCC	5 <sup>th</sup> March 2024. Email correspondence	An email was sent by AECOM to the Conservation Officer from FCC seeking feedback the study areas to be used in the DBA, PEIR and ES and information on any assets that will be scoped in and out of the PEIR/ES.	No response was received from the Conservation Officer for FCC.
Planning Archaeologist, CPAT (Heneb)	7 <sup>th</sup> March 2024. Email correspondence	A Teams meeting was undertaken between the Planning Archaeologist at CPAT and AECOM to discuss proposals for baseline surveys within the site. CPAT confirmed that geophysical surveys would only be required within the Proposed CO <sub>2</sub> Connection Corridor only. All other areas within the site are not considered viable for evaluation surveys due to the presence of extensive made ground and reclaimed land deposits.	Baseline surveys within the Proposed CO <sub>2</sub> Connection Corridor have been highlighted in Section 17.8.
Planning Archaeologist, CPAT (Heneb)	18 <sup>th</sup> September 2024. Email correspondence.	An email was sent by AECOM to the Planning Archaeologist at CPAT confirming that the geophysical survey was programmed to be undertaken and AECOM provided the archaeological contractors WSI for agreement.	Baseline surveys within the Proposed CO <sub>2</sub> Connection Corridor have been highlighted in Section 17.8 and the geophysical survey report provided in <b>Appendix 17-C:</b>

Consultee	Date and Nature of Engagement	Summary of Response	How and where addressed
		CPAT responded on 19 <sup>th</sup> September 2024 requesting minor changes to the WSI, and not withstanding those changes, confirmed approval of the WSI.	<b>Geophysical Survey Report (EN010166/APP/6.4).</b>
Planning Archaeologist, CPAT (Heneb)	7 <sup>th</sup> October 2024. Email correspondence.	An email was sent by AECOM to the Planning Archaeologist at CPAT providing the interim results of the geophysical survey and to request a meeting to discuss the results.	
Planning Archaeologist, CPAT (Heneb)	29 <sup>th</sup> October 2024. Teams meeting.	<p>A Teams meeting was held on 29<sup>th</sup> October 2024 to review the results of the geophysical survey which did not identify any remains of potential archaeological origin. CPAT agreed that no further archaeological evaluation surveys were required to be undertaken pre-submission.</p> <p>CPAT confirmed that due to the residual potential for archaeological remains to survive within the Proposed CO<sub>2</sub> Connection Corridor, archaeological monitoring and recording during construction would be required, which would need to be set out within a WSI to be submitted alongside the DCO.</p> <p>AECOM advised that a geotechnical investigation was proposed to be undertaken across the Main Development Area, following which the results would be assessed and incorporated into the Terrestrial Heritage DBA and then assessed as part of the ES to determine the potential for impacts on potential archaeological deposits /</p>	<p>A WSI setting out the mitigation strategies agreed with CPAT is provided as <b>Overarching WSI for Terrestrial and Marine Heritage Mitigation (EN010166/APP/6.8).</b></p> <p>A review of borehole logs undertaken as part of Ground Investigation (GI) works undertaken for the Proposed Development has been completed and the results summarised in the desk-based assessment (<b>Appendix 17-A: Terrestrial Heritage DBA (EN010166/APP/6.4)</b>).</p> <p>This chapter has been updated to assess the potential for impacts on peaty / organic deposits of paleoenvironmental potential and</p>

Consultee	Date and Nature of Engagement	Summary of Response	How and where addressed
		palaeoenvironmental remains. This would then determine the requirement for any mitigation works across the wider Order limits.	confirmed with CPAT (Heneb) (see consultation log at end of this table) that no mitigation works are required across the Main Development Area with regards to these deposits.
Senior Investigator (Marine), RCAHMW	27 <sup>th</sup> January 2025. Email correspondence.	An email was sent by AECOM to the RCAHMW providing an update on the Terrestrial Heritage Assessment undertaken to date and a summary of potential impacts to below ground archaeological remains.  A response was received on 29 January from RCAHMW confirming that they had no further questions / comments to make at this time.	No action required.
Conservation Officer for FCC	29 <sup>th</sup> January 2025. Email Correspondence	An email was sent by AECOM to the Conservation Officer for FCC requesting feedback on the assessment undertaken to date, as set out within the DBA and PEIR.	No response was received from the Conservation Officer for FCC.
Planning Archaeologist, CPAT (Heneb)	29 <sup>th</sup> May 2025. Teams meeting.	A Teams meeting was held on 29 <sup>th</sup> May 2025 to discuss the results of the GI works undertaken for the Proposed Development and the deposits identified. CPAT agreed with AECOM's assessment that the ground levelling works would not reach the depth of any deposits of palaeoenvironmental potential, and any piling required would result in limited impacts to these deposits. CPAT agreed that	A WSI setting out the mitigation strategies agreed with CPAT is provided as <b>Overarching WSI for Terrestrial and Marine Heritage Mitigation (EN010166/APP/6.8)</b> .

Consultee	Date and Nature of Engagement	Summary of Response	How and where addressed
		no further evaluation or mitigation works were required within the Main Development Area. CPAT confirmed the requirement for a watching brief within the Proposed CO <sub>2</sub> Connection Corridor, as well as a general Protocol for Unanticipated Archaeological Discoveries across the Order limits.	
<p>Planning Archaeologist, CPAT (Heneb)</p> <p>Senior Investigator (Marine), RCAHMW</p>	<p>27<sup>th</sup> June, Email Correspondence</p>	<p>An email was sent by AECOM to confirm the draft WSI shared for comment was aligned to requirements and expectations of CPAT and RCHMW. Emails were received in response to confirm the draft WSI was appropriate and agreeable.</p>	<p>The version of the WSI shared is consistent with the <b>Overarching WSI for Terrestrial and Marine Heritage Mitigation (EN010166/APP/6.8)</b>.</p>

## Scope of the Assessment

- 17.2.3 This assessment has considered assets located within the Order limits and defined study areas (as set out in Section 17.4).
- 17.2.4 This chapter focuses solely on terrestrial heritage. **Chapter 18: Marine Heritage (EN010166/APP/6.2.18)**, and associated appendices, provide an assessment of effects of the Proposed Development on marine heritage.
- 17.2.5 Following the scoping and consultation process that have been undertaken, the assessment considered in this chapter is as follows:
- permanent physical impacts to below ground archaeological remains during the construction phase of the Proposed Development; and
  - permanent and temporary changes to the setting of assets as a result of the Proposed Development during the construction, operation (including maintenance) and decommissioning phases of the Proposed Development. With regards to setting, the physical presence of the Proposed Development is assessed as a permanent construction phase impact which continues through the operation phase.
- 17.2.6 The following aspects have not been considered within the scope of the assessment of this chapter:
- potential impacts on below ground archaeological remains as a result of the operation (including maintenance) and decommissioning phase of the Proposed Development have been scoped out of the assessment. This is because any impacts on below ground archaeological remains would have occurred and been mitigated during the construction phase. This is in line with the EIA Scoping Opinion; and
  - potential impacts on below ground archaeological remains as a result of changes to hydrology / groundwater have been scoped out of the assessment. This is because based upon the assessment in **Chapter 13: Water Environment and Flood Risk (EN010166/APP/6.2.13)**, it is anticipated that there would be negligible or no changes to hydrogeology / groundwater within the Order limits during construction and operation which would not result in impacts to below ground archaeological remains. In addition, the EIA Scoping Opinion sets out that potential impacts to marine heritage assets due to altered sediment hydrodynamics and sediment process during construction and operation are expected to be negligible. This assessment considers that the same assumption applies to below ground archaeological remains.
- 17.2.7 **Table 17-6** provides a summary of the above and identifies items that are scoped in and out of this assessment for Terrestrial Heritage, as set out within the Scoping Report (**Appendix 1-A: Scoping Report (EN010166/APP/6.4)**) and confirmed through the EIA Scoping Opinion (**Appendix 2-B: Scoping Opinion Response (EN010166/APP/6.4)**).

**Table 17-6: Items scoped in and out of this assessment**

	Scoped In	Scoped Out	Rationale for Scoping Out
Construction	Designated assets within 1 km and high value designated assets within 5 km; non-designated built heritage assets within 1 km of the Site.	-	-
	Archaeological remains and deposits, including peat and other palaeoenvironmental deposits, within 1 km of the Site		
Operation	Designated assets within 1 km and high value designated assets within 5 km; non-designated built heritage assets within 1 km. Historic landscape within 1 km.	Buried archaeology	There is not expected to be any potential impacts to buried archaeology during the operational phase of the Proposed Development as any impacts would have occurred during the construction phase.
Decommissioning	Designated assets within 1 km and high value designated assets within 5 km; non-designated built heritage assets within 1 km. Historic landscape within 1 km.	Buried archaeology	There is not expected to be any potential impacts to buried archaeology during the decommissioning phase of the Proposed Development as any impacts would have occurred during the construction phase.

## 17.3 Assessment Methodology

### Impact Assessment

17.3.1 This section sets out the scope and methodology for the assessment of the potential impacts of the Proposed Development on designated and non-designated terrestrial heritage assets. The assessment criteria presented in **Table 17-7**, **Table 17-8**, **Table 17-9**, and **Table 17-10** are based on Cadw guidance on Heritage Impact Assessment in Wales (Ref 17-10) and the Setting of Historic Assets in Wales (Ref 17-11). Further details of the assessment methodology are set out in **Chapter 2: Assessment Methodology (EN010166/APP/6.2.2)** and **Appendix 17-A: Terrestrial Heritage DBA (EN010166/APP/6.4)**.

#### Assessment of Value

17.3.2 The value of an asset is guided by its designated status, but is also derived from its heritage interests, which may be evidential, historical, aesthetic or communal. The setting of an asset can also contribute to its value. Using professional judgment and the results of consultation, assets are assessed on an individual basis with regional variations and individual qualities considered where applicable.

17.3.3 Each asset is assigned a level of heritage value in accordance with the criteria set out in **Table 17-7**.

**Table 17-7: Sensitivity / Value Criteria for Terrestrial Heritage**

Sensitivity / Value	Sensitivity / Value Criteria
High	World Heritage Sites. Scheduled Monuments. Aircraft crash sites. Grade I and II* Listed Buildings. Registered battlefields. Grade I and II* registered parks and gardens. Conservation areas of demonstrable high value. Non-designated historic assets (archaeological sites, historic buildings, monuments, parks, gardens, or landscapes) that can be shown to have demonstrable national or international importance. Well preserved historic landscape character areas, exhibiting considerable coherence, time-depth, or other critical factor(s).
Medium	Grade II Listed Buildings. Conservation areas. Grade II registered parks and gardens. Non-designated historic assets (archaeological sites, historic buildings, monuments, park, gardens, or landscapes) that can be shown to have demonstrable regional importance.

Sensitivity / Value	Sensitivity / Value Criteria
	<p>Averagely preserved historic landscape character areas, exhibiting reasonable coherence, time-depth, or other critical factor(s).</p> <p>Historic townscapes with historic integrity in that the assets that constitute their make-up are clearly legible.</p>
Low	<p>Locally Listed Buildings.</p> <p>Non-designated historic assets (archaeological sites, historic buildings, monuments, park, gardens, or landscapes) that can be shown to have demonstrable local importance.</p> <p>Assets whose values are compromised by poor preservation or survival of contextual associations to justify inclusion into a higher grade.</p> <p>Historic landscape character areas whose value is limited by poor preservation and/ or poor survival of contextual associations.</p>
Very Low / Negligible	<p>Assets identified on national or regional databases, but which have no evidential, historical, aesthetic and communal value.</p> <p>Assets whose values are compromised by poor preservation or survival of contextual associations to justify inclusion into a higher grade.</p> <p>Landscape with no or little significant historical merit.</p>

### *Magnitude of Impact*

- 17.3.4 Impacts may arise during construction, operation (including maintenance) or decommissioning phases of the Proposed Development and may occur to the physical fabric of an asset or may arise from changes within its setting. The assessment of the level and degree of impact is made in consideration of any design mitigation measures that have been embedded within the Proposed Development as part of the design development process (embedded mitigation), as detailed in Section 17.5. The level and degree of impact rating is assigned with reference to a five-point scale as set out in **Table 17-8**.

**Table 17-8: Magnitude Criteria for Terrestrial Heritage**

Magnitude	Magnitude Criteria
High	<ul style="list-style-type: none"> <li>• Changes to most or all key components of the asset through physical impact, such that it is totally altered or destroyed, resulting in a comprehensive impact upon its overall value; and/or</li> <li>• Comprehensive alteration, including the total loss or complete restoration, of elements of an asset's setting that cause a fundamental change in our ability to understand and appreciate its heritage interests; thereby resulting in a comprehensive impact upon its overall value.</li> </ul>
Medium	<ul style="list-style-type: none"> <li>• Changes to many key components of the asset through physical impact, such that it is significantly altered or modified, resulting in a noticeable impact upon its overall value; and/or</li> <li>• Changes to the setting of an asset which noticeably affect our ability to understand and appreciate its heritage interests, resulting in a noticeable impact upon its overall value.</li> </ul>
Low	<ul style="list-style-type: none"> <li>• Changes to some key components of the asset through physical impact, such that it is slightly altered, resulting in a slight impact on its overall value; and/or</li> <li>• Changes to the setting of an asset that slightly alter our ability to understand and appreciate its heritage interests, resulting in a slight impact upon its overall value.</li> </ul>
Very Low / Negligible	<ul style="list-style-type: none"> <li>• Very minor changes to key components of an asset through physical impact, resulting in no real change upon its overall value; and/or</li> <li>• Changes to the setting of an asset that have little effect on our ability to understand and appreciate its heritage interests, resulting in no real change upon its overall value.</li> </ul>
No Change	<ul style="list-style-type: none"> <li>• No physical impacts upon the asset and/or no alteration or change to the asset's setting.</li> </ul>

**Significance of Effect**

17.3.5 The principals of the impact assessment methodology rest upon evaluating the value of the heritage asset and the magnitude of impact upon that significance. By combining the value of the asset with the predicted magnitude of impact, the significance of the effect can be determined. The matrix for this is set out in **Table 17-9**.

17.3.6 Major or moderate effects are deemed to be 'significant' for the purposes of the EIA Regulations, in accordance with standard EIA practice. Minor and negligible effects are deemed to be 'not significant' and may not be important

or relevant to the decision-making process, although they may be matters of local concern.

- 17.3.7 Where the ES identifies that there would be no change to a heritage asset, this is classified as 'no impact' and 'no effect'.
- 17.3.8 If appropriate, additional mitigation is proposed, as set out in Section 17.7, where significant effects are predicted. It is noted that mitigation does not reduce the magnitude of the impact where the impact relates to physical loss but may reduce the effect if used to offset or compensate for an adverse effect.

**Table 17-9: Criteria for determining the significant of effect**

Value of Heritage Asset	Magnitude of Impact			
	High	Medium	Low	Very Low
High	Major	Major	Moderate	Minor
Medium	Major	Moderate	Minor	Negligible
Low	Moderate	Minor	Negligible	Negligible
Very Low	Minor	Negligible	Negligible	Negligible

## Rochdale Envelope

- 17.3.9 The setting of design parameters using the Rochdale Envelope approach is described in **Chapter 2: Assessment Methodology (EN010166/APP/6.2.2)**. The maximum parameters for the principal components of the Proposed Development are set out in the **Design Principles Document (EN010166/APP/7.8)** and are illustrated on the **Works Plans (EN010166/APP/2.4)** and the **Parameter Plans (EN010166/APP/2.5)**. These parameters, together with assumptions regarding the future plans for the existing Connah's Quay Power Station set out in **Chapter 2: Assessment Methodology (EN010166/APP/6.2.2)** have been used to inform the representative worst-case scenario that has been assessed in this chapter, in order to provide a robust assessment of the impacts and likely significance of environmental effects of the Proposed Development at its current stage of design.
- 17.3.10 The following design parameters have been considered with regard to the Proposed Development as applicable to this assessment:
- preliminary works would comprise the demolition and clearance of existing structures within the Main Development Area, to subgrade<sup>2</sup> level (of the existing Connah's Quay Power Station site). Piling will be required across the Main Development Area, with maximum dimensions of up to 28 m below ground level, and up to 900 mm in diameter per pile;
  - land raising will be required across the Main Development Area to reach 7.4 m AOD;

<sup>2</sup> 'subgrade' refers to the lowest depth of the existing development

- the principal structures within the Main Development Area will include stacks up to 150 m in height;
- construction laydown areas will be required within the Main Development Area and the C&IEA. The laydown areas would be cleared and levelled to provide a level working area;
- the Proposed CO<sub>2</sub> Connection Corridor would comprise open trench excavation within a 32 m wide working corridor that would be fenced off and excavated to a minimum depth of 1.2 m below ground level (bgl). A compound and construction laydown area will also be required within the Proposed CO<sub>2</sub> Connection Corridor;
- the Proposed CO<sub>2</sub> Connection Corridor would connect into the Repurposed CO<sub>2</sub> Connection Corridor. No intrusive works are proposed within the Repurposed CO<sub>2</sub> Connection Corridor;
- works within the Electrical Connection Corridor a 400 kV single circuit cable route and control system cables would be installed primarily below ground at a depth of at least 1.1 m. Replacement of the existing 400 kV cables or other supporting above-ground assets within the Electrical Connection Corridor will be undertaken using existing access points (and below-ground cable conduits, if required). It is envisaged that installation would be through the use of an open-cut method, whereby a trench would be excavated, and the cables laid below ground. Where the cable cross under existing 400 kV overhead lines alternative construction methods such as thrust-bore or pipe-jacking could be used; and
- works within the Accommodation Works Areas comprises use of the existing road networks to facilitate transport/passage of the Abnormal Indivisible Loads (AIL) from existing port locations. Accommodation works to the existing road networks would include tree pruning; minor widening within the existing limits of the road network and associated infrastructure; and temporary removal and reinstatement of existing street furniture. All accommodation works would be within the existing road network and/or port locations. Further information is included with **Appendix 5-A: Environmental Screening of Accommodation Works (EN010166/APP/6.4)**.

## Assessment Assumptions and Limitations

- 17.3.11 Baseline conditions have been established through a combination of site visits, archaeological evaluation surveys, historical research, cartographic sources and data and records provided by third parties. Data provided by third parties is assumed to be accurate and up to date at the time of reporting.
- 17.3.12 The assessment has been undertaken using the available design for the Proposed Development and the maximum likely extents of land required for its construction, operation and maintenance.
- 17.3.13 It is assumed that the majority of the Main Development Area and C&IEA would be cleared (including breaking up of existing hardstanding and concrete) and subject to below ground disturbance during construction, no matter what the final sizing and layout of the buildings and structures is.

- 17.3.14 It is assumed that site clearance works within the Main Development Area and C&IEA would not reach depths below the subgrade level, except for piling which would reach depths of up to 28 m below ground level, and a diameter of 900 mm per pile.
- 17.3.15 No intrusive works are proposed within the Repurposed CO<sub>2</sub> Connection Corridor, therefore there would be no impacts to terrestrial heritage assets. This component of the Proposed Development is not discussed further in this assessment.
- 17.3.16 Works within the Electrical Connection Corridor would be limited to within existing cable conduits. It is assumed that any below ground archaeological remains would have already been truncated or removed during the installation of the existing infrastructure and the proposed works would not result in below ground impacts that extend beyond the already disturbed ground. No impacts to terrestrial heritage assets are anticipated as a result of these works, and this component of the Proposed Development is not discussed further in this assessment.
- 17.3.17 It is assumed that all accommodation works within the Accommodation Work Areas would be within the existing road network and/or port locations. It is assumed that any below ground archaeological remains would have already been truncated or removed during the installation of the existing infrastructure and the proposed works would not result in below ground impacts that extend beyond the already disturbed ground. No impacts to below ground terrestrial heritage assets are anticipated as a result of these works. The potential impact of these works on above ground heritage assets, has been considered in **Appendix 17-A: Terrestrial Heritage DBA (EN010166/APP/6.4)**. No potential for resulting significant effects was identified, and this was scoped out of further assessment. Therefore, this component of the Proposed Development is not discussed further in this assessment.
- 17.3.18 A review of non-designated assets within the 50 m study area (for Accommodation Work Areas) has been undertaken and no non-designated assets have been identified that have the potential to be affected by the proposed works within the Accommodation Work Areas, therefore the Accommodation Work Areas are not discussed further in this assessment in relation to non-designated assets.

## 17.4 Baseline Conditions and Study Area

### Study Area

#### *Designated Assets*

##### 3 km Study Area

- 17.4.1 A study area of 3 km from the Construction and Operation Area has been defined to provide historical and archaeological context and to identify designated assets with the potential to be affected by the Proposed Development (refer to **Figure 17-1: Terrestrial Designated Heritage Assets (EN010166/APP/6.3)**).

##### Wider Study Area (up to 5 km)

- 17.4.2 The settings of designated assets of the highest value (i.e., World Heritage Sites, scheduled monuments, Grade I and II\* listed buildings, Registered Parks and Gardens and Conservation Areas containing a number of assets of the highest value) outside of the 3 km study area have been considered, up to 5 km from the Construction and Operation Area (refer to **Figures 17-2: ZTV Terrestrial Designated Heritage Assets (EN010166/APP/6.3)**). These assets have been considered as the Proposed Development has the potential to result in change to the settings of designated assets, some of which may be located at distance from the Site.
- 17.4.3 Designated assets beyond 5 km have also been considered and informed by the ZTV (prepared as part of **Chapter 15: Landscape and Visual Amenity (EN010166/APP/6.2.15)**) but also considers physical and historical connectivity and relationships with other assets and the wider landscape.

##### 50 m Study Area (for Accommodation Work Areas)

- 17.4.4 A 50 m study area has been defined around the Accommodation Work Areas in order to identify designated assets with the potential to be affected by the Proposed Development. These assets have been considered as the proposed works within the Accommodation Work Areas has the potential to result in temporary change to the settings of designated assets.

#### *Non-designated Historic Assets*

##### 1 km Study Area

- 17.4.5 A study area of 1 km from the Construction and Operation Area has been defined to provide historical and archaeological context and to identify non-designated assets with the potential to be affected by the Proposed Development (refer to **Figure 17-3: Terrestrial Non-designated Heritage Assets (EN010166/APP/6.3)**). This study area allows for non-designated assets to be set within their wider context and allow for the assessment of archaeological potential within the Site.

### Existing Baseline

- 17.4.6 A detailed baseline is set out in **Appendix 17-A: Terrestrial Heritage DBA (EN010166/APP/6.4)**, with all heritage assets and their descriptions set out in **Appendix 17-B: Gazetteer of Terrestrial Heritage Assets (EN010166/APP/6.4)**. The DBA sets out a chronological narrative of known

assets and assesses the potential for unknown assets to be present within the Site.

- 17.4.7 A number of assets were scoped out of further assessment in the baseline study (**Appendix 17-A: Cultural Heritage DBA (EN010166/APP/6.4)**) due to the lack of potential for impacts resulting from the Proposed Development. Only those assets that have the potential to be impacted by the Proposed Development are discussed in this chapter and are set out in **Table 17-10** below.
- 17.4.8 All of the assets listed in the table below are located outside of the Order limits but within the defined study areas, except for Little Leadbrook Farm marl pits (HER 85035; 85036) which are located within the Proposed CO<sub>2</sub> Connection Corridor, and potential below ground archaeological remains dating to the Roman period, which could be located within the Proposed CO<sub>2</sub> Connection Corridor.

**Table 17-10: Assets scoped in to assessment in this chapter**

<b>Sensitive Receptor</b>	<b>Value</b>	<b>Location</b>
<b>Designated Assets</b>		
Pentre Bridge Roman Site (FL 131) Scheduled Monument	High	600 m west of the Construction and Operation Area
Croes Atti Roman Site (FL213) Scheduled Monument	High	140 m west of the Construction and Operation Area
Castell y Fflint (FL003) Scheduled Monument	High	2.2 km north-west of the Construction and Operation Area
Promontory Fort on Burton Point 550 m south-west of Burton Point Farm (NHLE 1013298) Scheduled Monument	High	3 km north-east of the Construction and Operation Area
Moel y Gaer (FL011) Scheduled Monument	High	4.3 km south-east of the Construction and Operation Area
St Andrews Medieval hospital and limekiln, Denhall (NHLE 1007635) Scheduled Monument	High	4 km north-east of the Construction and Operation Area
Oakenholt Hall Conservation Area (223) and Grade II listed buildings (355; 521)	Medium	250 m south-west of the Construction and Operation Area
Halkyn Castle, Grade II* listed building, Grade II RPG (Cadw 17792; PGW(C)68(FLT))	High	4.1 km west of the Construction and Operation Area

<b>Non-designated Assets</b>		
Little Leadbrook Farm marl pits (HER) 85035; 85036)	Low	Within Proposed CO <sub>2</sub> Connection Corridor
Waen Isa Farm (HER 177987, 179133, 179134)	Low	300 m west of the Proposed CO <sub>2</sub> Connection Corridor
Little Leadbrook Farm (HER 179114 - 179120)	Low	150 m east of the Proposed CO <sub>2</sub> Connection Corridor
Coed-onn Farm (87993, 17921 – 179129)	Low	130 m west of the Proposed CO <sub>2</sub> Connection Corridor
Potential below ground archaeological remains dating to the Roman period	Medium	Within Proposed CO <sub>2</sub> Connection Corridor

## Future Baseline

- 17.4.9 The future baseline scenarios are set out in **Chapter 2: Assessment Methodology (EN010166/APP/6.2.2)**. For the purposes of this assessment the future baseline is considered to be the period between 2026 and 2031 in the absence of the Proposed Development.
- 17.4.10 This assessment of future baseline conditions recognises that below ground archaeological remains reach an equilibrium with their environment and tend to not experience noticeable change, unless their environment changes as a result of human or natural intervention. Similarly, it is recognised that for above ground heritage assets, there may be some decay over time in the absence of the Proposed Development as they near the natural end of their design lifespan. In addition, it is not considered likely that large numbers of new designated or non-designated heritage assets, beyond those identified in the existing baseline, would be present in the future baseline scenario. The future baseline is therefore unlikely to undergo substantial changes in comparison to the existing baseline.

## 17.5 Development Design and Embedded Mitigation

- 17.5.1 The Proposed Development has been designed, as far as possible, to avoid or minimise impacts and effects on terrestrial heritage through the process of design development, and by embedding measures into the design of the Proposed Development. Embedded measures that would be used during the construction and operational phases that may be used as mitigation to reduce the effects upon heritage assets are set out in **Chapter 9: Noise and Vibration (EN010166/APP/6.2.9)** and **Chapter 11: Terrestrial and Aquatic Ecology (EN010155/APP/6.2.11)** and are considered in this assessment for each asset where relevant.
- 17.5.2 All identified embedded mitigation measures are set out and secured within the **Framework CEMP (EN010166/APP/6.5)**.
- 17.5.3 The Proposed Development is largely located within and adjacent to the existing Connah's Quay Power Station site, on reclaimed land already established as part of the former and existing power station site. This reduces the impact of the Proposed Development on below ground archaeological remains as much of the land has already been disturbed through previous construction activity and land reclamation, thereby reducing the potential for new impacts on potential archaeological remains.
- 17.5.4 Visually, whilst locating the Proposed Development within and adjacent to existing development (such as the existing Connah's Quay Power Station) results in a concentration of this type of development in one place, it also focuses impacts in that one place. This limits the potential for new impacts through change to the setting of heritage assets in the local area that may be currently unaffected by the existing development.

## 17.6 Assessment of Likely Impacts and Effects

17.6.1 Taking into account the embedded mitigation measures as detailed in Section 17.5 above, the potential impacts and effects of the Proposed Development have been assessed using the methodology as detailed in Section 17.3 of this chapter and **Chapter 2: Assessment Methodology (EN010166/APP/6.2.2)**.

### Construction Phase

17.6.2 Impacts on assets during construction of the Proposed Development are likely to include:

- temporary impacts to assets as a result of change to their setting derived from construction-related activities such as noise, lighting and vehicle movements;
- permanent impacts to assets as a result of change to their setting derived from the physical presence of the Proposed Development; and
- permanent physical impacts to below ground archaeological remains.

### *Designated Assets within the 3 km study area*

#### Scheduled Monuments

#### **Pentre Bridge Roman Site (FL131)**

17.6.3 Pentre Bridge Roman Site (**FL131**) is an extensive buried Roman settlement centered around Pentre Bridge, approximately 600 m west of the Construction and Operation Area. The Roman Site encompasses an area of approximately 400 m<sup>2</sup>.

17.6.4 The Roman Site has undergone extensive archaeological investigations throughout the 20<sup>th</sup> century, with excavations identifying extensive furnaces, and clay pits, with several inhumations also recorded. Several large stone-built structures, approximately 40 m by 20 m, were also identified during these investigations with a villa complex and bath house identified in this area. It is likely that further buried remains survive in this area. All Roman archaeological features are buried, with no extant surviving remains.

17.6.5 The asset is part of a much larger Roman settlement that extends further east, its limits have not been fully identified, however it also encompasses the scheduled monument Croes Atti Roman Site (**FL213**) approximately 410 m east of the asset.

17.6.6 Combined with Croes Atti Roman Site (**FL213**), the asset is a rare example of a well-preserved Roman roadside settlement, which includes civil structures, such as a villa and bathhouse, industrial structures, inhumations, and a road. Therefore, based upon its ability to inform on Roman settlement patterns in Wales, its group value with another well-preserved Roman settlement and its high level of archaeological survivability. It is an asset of national importance with significant archaeological potential and considered to be of high value.

17.6.7 The setting of the asset is the buried Roman landscape, and the Site is partially located within the setting of the asset. Whilst there would be

additional modern industrial infrastructure associated with the Proposed Development within the setting of this asset, these new additions would be located adjacent to the existing Connah's Quay Power Station. The existing Connah's Quay Power Station has already contributed to the erosion of the local landscape in which the asset is situated, and the physical presence of the Proposed Development would have minimal further impact to the erosion of this setting. The Site makes little contribution to the identified heritage interests of the asset, and there would be no real change in the ability to understand and appreciate the heritage interests of the asset. This permanent change to the setting of the asset as a result of the physical presence of the Proposed Development is assessed as a very low magnitude of impact, which on an asset of high value, results in a **minor adverse** effect which is considered to be **not significant**.

- 17.6.8 Construction-related activities such as noise, lighting and vehicle movements associated with the Proposed Development would result in minimal change in the ability to appreciate the archaeological value of the asset which is derived from its archaeological interest and is buried below ground. This temporary change to the setting of the asset during the construction phase of the Proposed Development is assessed as a very low magnitude of impact, which on an asset of high value results in a **minor adverse** effect which is considered to be **not significant**.

#### **Croes Atti Roman Site (FL213)**

- 17.6.9 Croes Atti Roman Site (**FL213**) is located approximately 140 m west of the Construction and Operation Area covering an area of approximately 1 hectare (ha) and centered in the fields east of Pentre. Previous archaeological investigations within this area have identified substantial Roman archaeological remains that are predominantly industrial in nature, along with a cremation cemetery. Previous archaeological geophysical survey and trial trenching identified a number of stone and wooden structures with industrial features within them, furnaces and several inhumations. These features were located in close proximity to the St Asaph to Chester Roman road. The asset is part of a larger Roman roadside settlement that includes the scheduled monument Pentre Bridge Roman Site (**FL131**).
- 17.6.10 Archaeological investigations have identified that the remains associated with the asset are well-preserved and there are likely further surviving remains associated with the asset. No above ground archaeological remains have been recorded associated with the scheduled monument.
- 17.6.11 The asset is of national importance as a well-preserved rare example of a surviving Roman roadside industrial settlement and cemetery in Wales, with its significance derived from its archaeological value. The asset forms part of a wider settlement with scheduled monument Pentre Bridge Roman Site (**FL131**) approximately 410 m west of the asset of which it shares a group value and a connection too. The asset is of high value.
- 17.6.12 The setting of the asset comprises the buried Roman landscape and the Site is partially located within it. Whilst there would be additional modern industrial infrastructure associated with the Proposed Development within the setting of this asset, these new additions would be located adjacent to

the existing Connah's Quay Power Station. The existing Connah's Quay Power Station has already contributed to the erosion of the local landscape in which the asset is situated, and the physical presence of the Proposed Development would have minimal further impact to the erosion of this setting. The Site makes little contribution to the identified heritage interests of the asset, and there would be no real change in the ability to understand and appreciate the heritage interests of the asset. This permanent change to the setting of the asset as a result of the physical presence of the Proposed Development is assessed as a very low magnitude of impact, which on an asset of high value, results in a **minor adverse** effect which is considered to be **not significant**.

- 17.6.13 Construction-related activities such as noise, lighting and vehicle movements associated with the Proposed Development would result in minimal change in the ability to appreciate the archaeological value of the asset which is derived from its archaeological interest and is buried below ground. These temporary changes to the setting of the asset during the construction phase of the Proposed Development is assessed as a very low magnitude of impact, which on an asset of high value results in a **minor adverse** effect which is considered to be **not significant**.

#### Castelly Fflint (FL003)

- 17.6.14 Castell y Fflint is located 2.2 km north-west of the Construction and Operation Area on the foreshore of the Dee estuary. The castle was built in 1277 by King Edward I and comprises a square ward with round turrets at each corner. The north-eastern tower is the most well-preserved of the four towers, with much of the internal structures such as the floors, and fireplace surviving. Located towards the south is the outer ward of which only the southern section of the defensive walls survive. Archaeological excavation has identified a deep defensive moat and a tunnelling bridge which would have allowed access to the castle. The castle was an important and strategic part of the Civil War, with it being captured and changing hands several times, before being destroyed by Parliamentary forces in 1646.
- 17.6.15 The asset holds archaeological interest as a nationally important castle, that provides a well-preserved and rare example of a 13<sup>th</sup> century defensive castle with further undisturbed archaeological remains situated within the castle walls. The castle also holds architectural interest as a defensive castle that forms part of an important wider group of Flintshire defensive sites, that also includes Bryn y Cwm Mound and Bailey Castle (**FL064**). The value of the asset is therefore considered to be high. The setting of the asset is the Dee estuary, foreshore and local coastal landscape and any area in which it is viewable from. The medieval town of Flint forms part of its setting, however, much of this medieval town has been eroded through modern 20<sup>th</sup> century development. Due to its location on the foreshore, the Site forms part of the asset's wider setting, with inter-visibility between the Site and the asset.
- 17.6.16 Whilst there would be additional modern industrial infrastructure associated with the Proposed Development, these new additions would be located adjacent to the existing Connah's Quay Power Station. The existing Connah's Quay Power Station has already contributed to the erosion of the local landscape in which the asset is situated within, and the physical

presence of the Proposed Development would have minimal further impact to the erosion of this setting. The Site makes little contribution to the identified heritage interests of the asset, and there would be no real change in the ability to understand and appreciate the heritage interests of the asset. This permanent change to the setting of the asset as a result of the physical presence of the Proposed Development is assessed as a very low magnitude of impact, which on an asset of high value, results in a **minor adverse** effect which is considered to be **not significant**.

17.6.17 Construction-related activities such as noise, lighting and vehicle movements associated with the Proposed Development would also temporarily alter the character of the surroundings in which the asset is experienced. These changes would not result in any real change in the ability to appreciate the heritage value of the asset which is derived from its archaeological interest.

17.6.18 These temporary changes to the setting of the asset during the construction phase of the Proposed Development is assessed as a very low magnitude of impact, which on an asset of high value results in a **minor adverse** effect which is considered to be **not significant**.

#### **Promontory fort on Burton Point 550 m south-west of Burton Point Farm (NHLE 1013298)**

17.6.19 The asset is located approximately 3 km north-east of the Construction and Operation Area. The fort is located on a high promontory overlooking the River Dee to the south-western side. The fort is comprised of a single 5 m high and 12 m wide tower that was encircled by a 2 m deep defensive ditch. A trackway leads to the fort from the bottom of the promontory, along its south-eastern side. No internal structures have been recorded within the fort, however, other examples dating to this period have identified internal palisades, ramparts and internal structures. The internal area of the tower was approximately 0.9 ha and based on this internal area would have been able to contain a single farmstead. The asset is considered to be of high value.

17.6.20 The fort therefore holds archaeological interest as a nationally important and well-preserved example of an Iron Age fort, with group value as part of Iron Age hillforts within the region, in particular the Moel y Gaer hillfort (**FL011**) of which shares views to and from and is likely contemporary with this asset. The setting of the Iron Age fort is considered to be the foreshore of the River Dee and its immediate setting. Views between the two forts form part of the setting of this asset. There is some inter-visibility between the asset and the Site.

17.6.21 Whilst there would be additional modern industrial infrastructure associated with the Proposed Development, these new additions would be located adjacent to the existing Connah's Quay Power Station. The existing Connah's Quay Power Station has already contributed to the erosion of the local landscape in which the asset is situated, and the physical presence of the Proposed Development would have minimal further impact to the erosion of this setting. The Site makes little contribution to the identified heritage interests of the asset, and there would be no real change in the ability to understand and appreciate the heritage interests of the asset. This permanent change to the setting of the asset as a result of the physical

presence of the Proposed Development is assessed as a very low magnitude of impact, which on an asset of high value, results in a **minor adverse** effect which is considered to be **not significant**.

- 17.6.22 Construction-related activities such as noise, lighting and vehicle movements associated with the Proposed Development would also temporarily alter the character of the surroundings in which the asset is experienced. These changes would not result in any real change in the ability to appreciate the heritage value of the asset which is derived from its archaeological interest.
- 17.6.23 These temporary changes to the setting of the asset during the construction phase of the Proposed Development is assessed as a very low magnitude of impact, which on an asset of high value, results in a **minor adverse** effect which is considered to be **not significant**.

### *Oakenholt Hall Conservation Area (223)*

- 17.6.24 Oakenholt Hall Conservation Area is located approximately 250 m south-west of the Construction and Operation Area. The conservation area includes within its boundary the Grade II listed Oakenholt Hall and Oakenholt Farmhouse, situated on a hillside of agricultural fields with views towards the estuary and the Proposed Development to the north and east, all of which are of medium value. The buildings are located on the western side of the farm complex, with the main fenestration to the north-east and south-west. There is also a band of mature trees to the north-east of the farm. The setting of the assets includes the surrounding agricultural land, but the focus is on the group setting and their relationship to each other, which contributes to their character and value.
- 17.6.25 The setting of the conservation area and listed buildings would be minimally altered by the introduction of additional modern industrial infrastructure associated with the Proposed Development, as the presence of the existing Connah's Quay Power Station to the north-east has already partially eroded the wider agricultural setting, and the physical presence of the Proposed Development would have minimal further impact to the erosion of this setting. The Site makes little contribution to the identified heritage interests of the asset, and there would be no real change in the ability to understand and appreciate the heritage interests of the asset. This permanent change to the setting of the asset as a result of the physical presence of the Proposed Development is assessed as a very low magnitude of impact, which on an asset of medium value, results in a **negligible** effect which is considered to be **not significant**.
- 17.6.26 The setting of the assets would temporarily be changed as a result of construction-related activities such as noise, lighting and vehicle movements associated with the Proposed Development.
- 17.6.27 This temporary change to the setting of the assets during the construction phase of the Proposed Development is assessed as a low magnitude of impact, which on assets of medium value results in a **minor adverse** significance of effect which is considered to be **not significant**.

### *Wider study area (up to 5 km)*

#### **Halkyn Castle (Cadw 17792) (PGW(C)68(FLT))**

- 17.6.28 Halkyn Castle is a Grade II\* listed building of high value, and a Grade II registered historic park and garden of medium value located approximately 4.1 and 3.1 km west of the Construction and Operation Area, respectively. The setting of Halkyn Castle comprises its position on the north-east-facing slopes of Halkyn Mountain, which has designed views to the east towards the Site. The view has been partially diminished by the presence of the existing Connah's Quay Power Station.
- 17.6.29 The setting of the registered park would not be changed as a result of the physical presence of the Proposed Development, or construction-related activities, as its significance is derived from its relationship with the castle. However, the setting of the castle would be subject to permanent change as a result of the physical presence of the Proposed Development and temporary change as a result of construction-related activities within the building's view across to the Dee Estuary. These changes, however, would be limited by the distance between the castle and the Site and the erosion of the setting by existing modern infrastructure. The Proposed Development would have minimal further impact to the erosion of this setting.
- 17.6.30 This is assessed as a very low magnitude of impact through permanent and temporary changes to the setting of the asset, which on an asset of high value, results in a **minor adverse** effect. This effect is considered to be **not significant**.

#### **Moel y Gaer (FL011)**

- 17.6.31 Moel y Gaer is a late Bronze Age or Early Iron Age hillfort, located approximately 4.3 km south-west of the Construction and Operation Area. The hillfort comprises an oval shaped hilltop enclosure measuring approximately 190 m by 170 m. The hillfort was surrounded by a defensive bank and ditch, and archaeological excavations undertaken in 1972-3 identified a number of occupation features such as pits and hearths, as well as a tumulus.
- 17.6.32 The asset holds archaeological value as a nationally important, surviving Late Bronze Age or Early Iron Age hillfort with surviving archaeological remains that may provide further information on prehistoric settlement patterns and lifestyle. The asset is considered to be of high value.
- 17.6.33 The setting of the asset is considered to be its immediate environs and any area it can be viewed from. The asset has a relationship with several nearby Bronze Age funerary monuments including Hen-y-Fail Roundbarrow (FL168) and Round Barrow 180 m E of Mwccwd (FL040). The hillfort has wide views towards the Dee foreshore and the Site is located within part of its setting. The asset holds a relationship with The Promontory Fort at Burton Wood (NHLE 1013298) located across the Dee estuary in England was likely contemporary with this asset.
- 17.6.34 Whilst there would be additional modern industrial infrastructure associated with the Proposed Development, these new additions would be located adjacent to the existing Connah's Quay Power Station. The existing Connah's Quay Power Station has already contributed to the erosion of the

local landscape in which the asset is situated, and the Proposed Development would have minimal further impact to the erosion of this setting. The Site makes little contribution to the identified heritage interests of the asset, and there would be no real change in the ability to understand and appreciate the heritage interests of the asset. This permanent change to the setting of the asset as a result of the physical presence of the Proposed Development is assessed as a very low magnitude of impact, which on an asset of high value, results in a **minor adverse** effect which is considered to be **not significant**.

17.6.35 Construction-related activities such as noise, lighting and vehicle movements associated with the Proposed Development would temporarily alter the character of the surroundings in which the asset is experienced. These changes would not result in any real change in the ability to appreciate the heritage value of the asset which is derived from its archaeological interest.

17.6.36 These temporary changes to the setting of the asset during the construction phase of the Proposed Development are assessed as having a very low magnitude of impact, which, on an asset of high value, results in a **minor adverse** effect. which is considered to be **not significant**.

#### **St Andrews medieval hospital and limekiln, Denhall (NHLE 1007635)**

17.6.37 St Andrew's medieval hospital and limekiln is a scheduled monument located approximately 4 km north-east of the Construction and Operation Area, in Cheshire. The asset was founded in 1231-4 to support and help the shipwrecked, poor and travelers to and from Ireland. The asset is comprised of extant earthworks related to the hospital structure a precinct wall, and earthworks of the limekiln. A pond containing waterlogged silts and deposits relating to the medicinal plants used by the hospital is also part of this asset. Further archaeological remains relating to the medieval hospital and limekiln are still buried and survive undisturbed.

17.6.38 The asset holds historic and archaeological value as a nationally important, partially surviving example of a medieval hospital, with well-preserved archaeological remains still located within the asset. These archaeological remains have the potential to further the study of medieval hospitals in England. The asset is considered to be of high value.

17.6.39 The setting of the asset is the local medieval area; there are wide views from the asset to the foreshore of the River Dee and there is inter-visibility between the Site and the asset.

17.6.40 Whilst there would be additional modern industrial infrastructure associated with the Proposed Development, these would be located adjacent to the existing Connah's Quay Power Station. The existing Connah's Quay Power Station has already contributed to the erosion of the local landscape in which the asset is situated within, and the physical presence of the Proposed Development would have minimal further impact to the erosion of this setting. The Site makes little contribution to the identified heritage interests of the asset, and there would be no real change in the ability to understand and appreciate the heritage interests of the asset. This permanent change to the setting of the asset as a result of the physical presence of the Proposed Development is assessed as a very low magnitude of impact, which on an

asset of high value, results in a **minor adverse** effect which is considered to be **not significant**.

17.6.41 Construction-related activities such as noise, lighting and vehicle movements associated with the Proposed Development would temporarily alter the character of the surroundings in which the asset is experienced. These changes would not result in any real change in the ability to appreciate the heritage value of the asset which is derived from its historic and archaeological interest.

17.6.42 These temporary changes to the setting of the asset during the construction phase of the Proposed Development are assessed as a very low magnitude of impact, which, on an asset of high value, results in a **minor adverse** effect which is considered to be **not significant**.

#### *Non-designated Assets Within the Order limits*

##### **Little Leadbrook Farm Marl Pits (HER 85035; 85036)**

17.6.43 Two marl pits are recorded on the HER as located within the Proposed CO<sub>2</sub> Connection Corridor. The geophysical survey undertaken for the Proposed Development identified amorphous pond-like features at the known locations of these assets. The assets hold archaeological interest as they may help to inform on local Flintshire quarrying and extraction processes and are assessed as being of low value.

17.6.44 Construction of the Proposed CO<sub>2</sub> Connection Corridor would result in permanent physical impacts to these potential archaeological remains. However, given the limited width of the proposed works in this area of the Proposed Development, it is unlikely that total loss of these assets would occur. Therefore, this is assessed as being a medium magnitude of impact, which, on assets of low value, would result in a **minor adverse** effect, which is considered to be **not significant**.

#### **Potential below ground archaeological remains dating to the Roman period**

17.6.45 The assessment of archaeological potential has identified there to be a medium potential for archaeological remains dating to the Roman period to be encountered within the Proposed CO<sub>2</sub> Connection Corridor. Any remains dating to the Roman period are considered to be of medium value.

17.6.46 Construction of the Proposed CO<sub>2</sub> Connection Corridor has the potential to result in permanent physical impacts to potential archaeological remains dating to the Roman period. However, given the limited width (32 m) of the proposed works in this area of the Proposed Development, it is unlikely that total loss of these assets would occur. Therefore, this is assessed as being a medium magnitude of impact, which, on assets of medium value, would result in a **moderate adverse** effect, which is considered to be **significant**.

#### **Organic / peaty deposits of palaeoenvironmental potential**

17.6.47 The assessment of archaeological potential has identified there to be a medium potential for organic / peaty deposits of palaeoenvironmental potential to be encountered within the Main Development Area. Any such remains are considered to be of medium value as they would contribute to

the understanding of the landscape and environmental conditions of the area which may contribute to a number of regional research agendas.

- 17.6.48 Site clearance works within the Main Development Area would reach subgrade level of the existing Connah's Quay Power Station site, and as such would not reach the recorded depths of these deposits. Piling will be required across the Main Development Area which would reach depths of up to 28 m below ground level, which could extend through these deposits and result in permanent physical impacts. However, given the limited width of the proposed works in this area of the Proposed Development and the wider extent of these deposits, it is unlikely that total loss of these deposits would occur, and the impact is likely to result in the removal of a small proportion of the deposits. Therefore, this is assessed as a low magnitude of impact, which, on assets of medium value, would result in a **minor adverse** effect, which is **not significant**.

#### *Non-designated Assets Within 1 km study area*

##### **Waen Isa Farm (177987, 179133, 179134)**

- 17.6.49 Waen Isa Farm comprises three non-designated buildings located approximately 300 m west of the Proposed CO<sub>2</sub> Connection Corridor. The setting of the farm comprises the surrounding agricultural land and it has views to the east towards the Proposed CO<sub>2</sub> Connection Corridor. These assets are considered to be of low value.
- 17.6.50 There would be intervisibility between the farm and the Proposed CO<sub>2</sub> Connection Corridor. The farm would experience a temporary change to its setting as a result of construction-related activities such as noise, lighting and vehicle movements associated with the Proposed Development. This is assessed as being a low magnitude of impact, which on assets of low value would result in a **negligible** effect, which is considered to be **not significant**.

##### **Little Leadbrook Farm (179114 - 179120)**

- 17.6.51 Little Leadbrook Farm comprises a collection of non-designated, post-medieval farm buildings located approximately 150 m east of the Proposed CO<sub>2</sub> Connection Corridor. These assets are considered to be of low value.
- 17.6.52 The setting of the farm comprises the surrounding agricultural land and it has views to the west towards the Proposed CO<sub>2</sub> Connection Corridor. There would be intervisibility between the farm and works associated with the Proposed CO<sub>2</sub> Connection Corridor. The farm would experience a temporary change to its setting as a result of construction-related activities such as noise, lighting and vehicle movements associated with the Proposed Development. This is assessed as being a low magnitude of impact, which on assets of low value would result in a **negligible** effect, which is considered to be **not significant**.

##### **Coed-onn Farm (87993, 179121 - 179129)**

- 17.6.53 Coed-onn Farm comprises a collection of non-designated post-medieval farm buildings located approximately 130 m west of the Proposed CO<sub>2</sub> Connection Corridor. These assets are considered to be of low value.
- 17.6.54 The setting of the farm comprises the surrounding agricultural land and it has views to the east towards the Proposed CO<sub>2</sub> Connection Corridor. There

would be intervisibility between the farm and works associated with the Proposed CO<sub>2</sub> Connection Corridor. The farm would experience a temporary change to its setting as a result of construction-related activities such as noise, lighting and vehicle movements associated with the Proposed Development. This is assessed as being a low magnitude of impact, which on assets of low value would result in a **negligible** effect, which is considered to be **not significant**.

## Operation Phase

17.6.55 The earliest year of operation for the Proposed Development is anticipated to be 2030, under a simultaneous construction approach beginning in 2026 for a period of five years. If construction was to be undertaken in a phased approach, the earliest year of full operation is anticipated to be 2035. If a simultaneous construction approach was undertaken at the latest possible time, five years after DCO Consent, operation would be anticipated to occur in late 2036.

17.6.56 There would be no additional physical impacts to below ground archaeological remains that could result in effects beyond those that have been assessed for construction impacts, during operation of the Proposed Development.

17.6.57 Impacts identified as a result of the physical presence of the Proposed Development within the setting of assets that are considered permanent construction phase effects, would continue through the operation phase. All continued effects during the operational phase are assessed as **not significant**. The following assets would experience a continued effect on their setting through the operation phase as a result of the physical presence of the Proposed Development:

- Pentre Bridge Roman Site (FL131);
- Croes Atti Roman Site (FL213);
- Castelly Fflint (FL003);
- Promontory fort on Burton Point 550 m south-west of Burton Point Farm (NHLE 1013298);
- Moel y Gaer (FL011);
- St Andrews medieval hospital and limekiln, Denhall (NHLE 1007635);
- Oakenholt Hall Conservation Area (223); and
- Halkyn Castle (Cadw 17792) (PGW(C)68(FLT)).

17.6.58 Impacts related to operational-activities such as noise and vehicle movements for staff access, are not considered to result in any change to the assessed levels of impact resulting from the physical presence of the Proposed Development within the setting of heritage assets. Therefore, no additional impacts to assets through changes to their setting are predicted as a result of operational-related activities associated with the Proposed Development.

## Decommissioning Phase

- 17.6.59 It is assumed for the purpose of this assessment that there would be no additional impacts on below ground archaeological remains during decommissioning activities. Decommissioning would be undertaken within the same footprint used during construction and therefore any impact to below ground archaeological remains would have occurred, and where relevant, the impacts would have been mitigated, at the construction phase.
- 17.6.60 There would be temporary impacts through change to the setting of designated assets in the wider study area during decommissioning, resulting from the use of machinery to dismantle the plant. Decommissioning is likely to affect the setting of those heritage assets described for the construction phase above. Impacts arising from decommissioning activities would be temporary and the duration would be shorter than the impacts during the construction phase. The impacts would not be greater than those reported during construction. Impacts caused through the physical presence of the Proposed Development within an asset's setting would also be reversed upon decommissioning.

## 17.7 Additional Mitigation and Enhancement Measures

- 17.7.1 A significant effect has been identified on potential below ground archaeological remains dating to the Roman period located within the Proposed CO<sub>2</sub> Connection Corridor.
- 17.7.2 Potential impacts to below ground archaeological remains that cannot be avoided by design can be mitigated through a proportionate programme of archaeological investigation, recording and reporting, in advance of construction, which would form additional mitigation measures. This would not result in a reduction in the physical impacts to archaeological remains but would mitigate the impact by providing a greater understanding and appreciation of the archaeological interest of the remains.
- 17.7.3 Additional mitigation measures comprise archaeological monitoring and recording during construction within the Proposed CO<sub>2</sub> Connection Corridor. In addition, a protocol for unexpected archaeological discoveries has also been agreed. The scope of these mitigation measures is set out within the **Overarching WSI for Terrestrial and Marine Heritage Mitigation (EN010166/APP/6.8)** which has been agreed with CPAT (Heneb) and the RCAHMMW and is secured by a requirement of the **Draft DCO (EN010166/APP/3.1)**.

## 17.8 Summary of Residual Effects

- 17.8.1 A moderate (significant) effect has been identified on potential below ground archaeological remains dating to the Roman period which may be of medium value. The additional mitigation measures described in Section 17.7 comprising a programme of archaeological monitoring and recording would not minimise the physical impact, as the archaeological evidence would still be removed, but would compensate for their loss by preserving them by record. This would reduce the overall magnitude of impact to low, resulting in a **minor adverse** residual effect, which is **not significant**.
- 17.8.2 A summary of residual effects during the construction and operation of the Proposed Development are presented in **Table 17-11** and **Table 17-12** respectively. Effects arising from change to the setting during decommissioning activities would be temporary and the duration would be shorter than the effects during the construction phase. The effects would not be greater than those reported during construction. Accordingly, a table for decommissioning effects has not been included below but the summary of effects as presented in **Table 17-11** would be representative of the reasonable worst-case decommissioning effects.
- 17.8.3 An assessment of cumulative effects with other proposed schemes that could interact with the effects of this Proposed Development is provided within **Chapter 24: Cumulative and Combined Effects (EN010166/APP/6.2.24)**.

**Table 17-11: Summary of Residual Effects (Construction)**

Receptor	Sensitivity (value)	Magnitude of Impact	Classification of Effect (prior to Additional Mitigation)	Additional Mitigation / Enhancement Measure	Magnitude of Impact after Additional Mitigation	Residual Effect after Additional Mitigation
Pentre Bridge Roman Site (FL131)	High	Very low	Minor adverse (not significant)	N/A	Very low	Minor adverse (not significant)
Croes Atti Roman Site (FL213)	High	Very low	Minor adverse (not significant)	N/A	Very low	Minor adverse (not significant)
Castell y Fflint (FL003)	High	Very low	Minor adverse (not significant)	N/A	Very low	Minor adverse (not significant)
Promontory fort on Burton Point 550 m south-west of Burton Point Farm (NHLE 1013298)	High	Very low	Minor adverse (not significant)	N/A	Very low	Minor adverse (not significant)
Moel y Gaer (FL011)	High	Very low	Minor adverse (not significant)	N/A	Very low	Minor adverse (not significant)
St Andrews medieval hospital and limekiln, Denhall (NHLE 1007635)	High	Very low	Minor adverse (not significant)	N/A	Very low	Minor adverse (not significant)
Oakenholt Hall Conservation Area (223)	Medium	Low	Minor adverse (not significant)	N/A	Low	Minor adverse (not significant)

Receptor	Sensitivity (value)	Magnitude of Impact	Classification of Effect (prior to Additional Mitigation)	Additional Mitigation / Enhancement Measure	Magnitude of Impact after Additional Mitigation	Residual Effect after Additional Mitigation
Halkyn Castle (Cadw 17792) (PGW(C)68(FLT))	High	Very low	Minor adverse (not significant)	N/A	Very low	Minor adverse (not significant)
Little Leadbrook Farm Marl Pits (HER 85035; 85036)	Low	Medium	Minor adverse (not significant)	N/A	Medium	Minor adverse (not significant)
Potential below ground archaeological remains dating to the Roman period	Medium	Medium (as a result of below ground works within the Proposed CO <sub>2</sub> Connection Corridor)	Moderate adverse (significant)	Programme of archaeological monitoring and recording	Low	Minor adverse (not significant)
Organic / peaty deposits of palaeoenvironmental potential	Medium	Low	Minor adverse (not significant)	N/A	Low	Minor adverse (not significant)
Waen Isa Farm (177987, 179133, 179134)	Low	Low	Negligible (not significant)	N/A	Low	Negligible (not significant)
Little Leadbrook Farm (179114 - 179120)	Low	Low	Negligible (not significant)	N/A	Low	Negligible (not significant)
Coed-onn Farm (87993, 179121 – 179129)	Low	Low	Negligible (not significant)	N/A	Low	Negligible (not significant)

**Table 17-12: Summary of Residual Effects (Operation)**

Receptor	Sensitivity (value)	Magnitude of Impact	Classification of Effect (prior to Additional Mitigation)	Additional Mitigation / Enhancement Measure	Magnitude of Impact after Additional Mitigation	Residual Effect after Additional Mitigation
Pentre Bridge Roman Site (FL131)	High	Very low	Minor adverse (not significant)	N/A	Very low	Minor adverse (not significant)
Croes Atti Roman Site (FL213)	High	Very low	Minor adverse (not significant)	N/A	Very low	Minor adverse (not significant)
Castell y Fflint (FL003)	High	Very low	Minor adverse (not significant)	N/A	Very low	Minor adverse (not significant)
Promontory fort on Burton Point 550 m south-west of Burton Point Farm (NHLE 1013298)	High	Very low	Minor adverse (not significant)	N/A	Very low	Minor adverse (not significant)
Moel y Gaer (FL011)	High	Very low	Minor adverse (not significant)	N/A	Very low	Minor adverse (not significant)
St Andrews medieval hospital and limekiln, Denhall (NHLE 1007635)	High	Very low	Minor adverse (not significant)	N/A	Very low	Minor adverse (not significant)

<b>Receptor</b>	<b>Sensitivity (value)</b>	<b>Magnitude of Impact</b>	<b>Classification of Effect (prior to Additional Mitigation)</b>	<b>Additional Mitigation / Enhancement Measure</b>	<b>Magnitude of Impact after Additional Mitigation</b>	<b>Residual Effect after Additional Mitigation</b>
Oakenholt Hall Conservation Area (223)	Medium	Low	Minor adverse (not significant)	N/A	Low	Minor adverse (not significant)
Halkyn Castle (Cadw 17792) (PGW(C)68(FLT))	High	Very low	Minor adverse (not significant)	N/A	Very low	Minor adverse (not significant)

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