

8 Cultural Heritage

8.1 Introduction

8.1.1 This chapter provides details of the cultural heritage baseline and considers the potential impacts from the construction and operation of the proposed project on known and potential heritage assets, including archaeological remains, built heritage and historic landscapes.

8.1.2 The purpose of this assessment is to:

- Describe the cultural heritage baseline, including the presence of known and potential archaeological remains, built heritage and historic landscapes, both designated and undesignated;
- Assess the significance of heritage assets potentially affected by the proposed scheme;
- Identify the potential impacts of the proposed scheme on the cultural heritage baseline, including both physical impacts and those resulting from changes to the setting of heritage assets;
- Identify any appropriate mitigation measures;
- Assess the magnitude of the mitigated impacts of the proposed project with the mitigation measures in place; and
- Assess the significance of the effects of the proposed scheme.

8.1.3 This chapter is supported by a historic environment desk-based baseline assessment, which forms Appendix 8A.

8.1.4 A Scheduled Monument Consent application has been submitted separately in support of the Nant Helen Complementary Restoration Earthworks application.

8.2 Review of proposed development

8.2.1 The proposed development comprises the construction of two rail testing tracks, one high speed of 6.9km and one low speed at 4.5km, alongside buildings for storage and maintenance of rolling stock, sidings, a carriage wash facility and a multi-storey control building and research and development centre. This accompanied by a network of internal access roads, utilities, land reformation, car parking, drainage and landscaping.

8.2.2 The proposed development would use the earthworks which form part of the Nant Helen Complementary Restoration Earthworks scheme which, alongside the wider restoration of the open cast mine means that construction across a large part of the site will have no impacts on archaeological remains. As a result, the elements of the proposed

development which may have an effect on cultural heritage assets would be limited to:

- Site preparation and construction within the area of the former Onllwyn Washery and its immediate surroundings; and
- The alteration of the setting of heritage assets.

8.2.3 As this is an outline application, a ‘worst-case’ assessment has been made of potential impacts arising from them. For this it is assumed that any archaeological remains present would be removed within the footprint of the works and associated landscaping. An archaeological assessment should be made at the reserved matters stage, with consultation with the LPA’s archaeological advisors, to agree any additional investigation or mitigation required.

8.2.4 No specific design mitigation has been incorporated for cultural heritage as the significant impact on the scheduled monument will have occurred as a result of the Nant Helen Complementary Restoration Earthworks project which is mitigated through that scheme.

8.3 Legislation, policy context and guidance

Legislation

8.3.1 *The Historic Environment (Wales) Act (2016)* received Royal Assent and became law on 21st March 2016. It is the first legislation enacted specifically for the Welsh historic environment. The Act makes important changes to the two main UK laws that provide the legislative framework for the protection and management of the historic environment: the *Ancient Monuments and Archaeological Areas Act (1979)* and the *Planning (Listed Buildings and Conservation Areas) Act (1990)*. It also incorporates stand-alone provisions establishing: statutory historic environment records, a list of historic place names and an advisory panel for the historic environment.

8.3.2 *The Historic Environment (Wales) Act (2016)*:

- gives more effective protection to listed buildings and scheduled ancient monuments;
- improves the sustainable management of the historic environment; and
- introduces greater transparency and accountability into decisions taken on the historic environment.

Policy context

- 8.3.3 *The Historic Environment (Wales) Act (2016)* stands at the centre of an integrated suite of legislation, policy, advice and guidance for the historic environment. National policy is included within:
- *Planning Policy Wales* (Edition 11, 2021), Chapter 6: Distinctive and Natural Places (section 6.1; Historic Environment);
 - *Technical Advice Note 24: The Historic Environment* (May 2017 — replacing the previous Welsh Office circulars on the historic environment).
- 8.3.4 The site straddles the administrative boundary between Powys County Council and Neath Port Talbot County Borough Council and local planning policy from both areas is relevant to this assessment.
- 8.3.5 The Powys *Local Development Plan* (2011-2026, adopted April 2018) includes the objective “to protect, preserve and/or enhance the distinctive historic environment, heritage and cultural assets of Powys, in particular local assets that are not statutorily protected or designated under national legislation, and to ensure that development respects local distinctiveness” (Objective 13.2 Landscape and the Historic Environment).
- 8.3.6 Further relevant policies are DM2: The Natural Environment, part 5: Trees, Woodlands and Hedgerows of Significant Public Amenity, Natural or Cultural Heritage and DM4 – Landscape, which includes consideration of the historic qualities of landscapes.
- 8.3.7 Two new Supplementary Planning Guidance documents are currently being prepared for Powys County Council, relating to Archaeology and the Historic Environment. These are currently in draft form but are likely to be adopted in 2020.
- 8.3.8 The Neath Port Talbot *Local Development Plan* (2011-2026, adopted January 2016) has several policies grouped around the topic of ‘Culture and Heritage’. Relevant to this assessment are:
- Policy SP21 Built Environment and Historic Heritage;
 - Policy BE 1: Design; and
 - Policy BE 2: Buildings of Local Importance.
- 8.3.9 Additionally, heritage issues are covered by Neath Port Talbot’s *The Historic Environment Supplementary Planning Guidance* (adopted April 2019).

Relevant guidance

- 8.3.10 Historic environment desk-based assessment (DBA) is covered by several pieces of best-practice guidance produced by the Chartered Institute for Archaeologists (CIfA) and Cadw, the Welsh

Government's historic environment service. CIfA's¹ overall standard to which all DBAs should comply with states that "desk-based assessment will determine, as far as is reasonably possible from existing records, the nature, extent and significance of the historic environment within a specified area. In a development context desk-based assessment will establish the impact of the proposed scheme on the significance of the historic environment (or will identify the need for further evaluation to do so) and will enable reasoned proposals and decisions to be made whether to mitigate, offset or accept without further intervention of that impact."

8.3.11 In addition to compliance with this overarching standard, and the guidance that accompanies it there are several other codes and guidance documents that will inform the production of the DBA:

- CIfA² *Code of Conduct*.
- Cadw³ *Conservation Principles for the Sustainable Management of the Historic Environment in Wales*. This sets out six principles for conservation, including that historic assets will be managed to sustain their values and that understanding the significance of assets is vital. Heritage values are identified as comprising evidential value, historical value, aesthetic value and communal value.
- Cadw⁴ *Heritage Impact Assessment in Wales*, which outlines the principles for creating a Heritage Impact Statement, in particular that 'sufficient information to enable both the significance of the asset and the impact of change to be understood. It should be proportionate both to the significance of the historic asset and to the degree of change proposed'.
- Cadw⁵ *Setting of Historic Assets in Wales*. This explains what setting is, how it contributes to the significance of a historic asset and why it is important.

¹ CIfA (2017) *Standard and Guidance for Historic Environment Desk-Based Assessment*. Reading: CIfA, p4.

² CIfA (2019) *Code of Conduct*. Reading: CIfA.

³ Cadw (2011) *Conservation Principles for the Sustainable Management of the Historic Environment in Wales*. Cardiff: Cadw.

⁴ Cadw (2017a) *Heritage Impact Assessment in Wales*. Cardiff: Cadw, p5

⁵ Cadw (2017b) *Setting of Historic Assets in Wales*. Cardiff: Cadw.

- 8.3.12 For clarity the baseline elements of the DBA are included in Appendix 8A, with the heritage impact assessment elements presented in this chapter.

8.4 Scoping and consultation

Scoping

- 8.4.1 To inform initial consultation and scoping, an appraisal was made of the cultural heritage baseline of the site which identified that although much of the site's archaeological potential was limited by the large-scale open cast mining which has taken place, there were areas of the site which had not been affected by extraction. In those areas archaeological potential remained, raising the possibility of adverse effects arising from construction. Further, the Scheduled Monument of the Tramroad at Ystradgynalis, the earthwork remains of a 19th century tramway, runs across the southern part of the site. Were there to be physical effects to the tramroad there would likely be significant adverse effects. Beyond the site itself there are also a large number of Scheduled Monuments and other designated heritage assets, some of which have settings sensitive to change. The closest of these, the Bryn Llechwen ring cairn, is located c130m west of the site and there is also the potential for an adverse effect arising from the change to the cairn's setting.
- 8.4.2 The proposed scheme uses the Nant Helen Complementary Earthworks Restoration earthworks scheme as the base case for the assessment of environmental effects. As a result, no physical impacts to the scheduled tramroad are considered in this assessment (as these were considered for the Nant Helen application). However, impacts on the setting of heritage assets and physical impacts on non-designated assets in the south of the site will be included.
- 8.4.3 Details of the consultation are included in Table 8-1.

Table 8.1: Response to scoping opinion

Scoping opinion clause	Response
Glamorgan Gwent Archaeological Trust (NPT) - The supporting information includes a scoping report from Arup dated September 2019 which notes that there are archaeological issues which need to be addressed in order to determine the impact of the proposals on the historic environment. An archaeological desk-based assessment will be undertaken to inform the cultural heritage chapter. Section 12 refers to cultural heritage, and outlines the methodology for assessing the impact of the proposal on the historic environment. It includes stating that the work will be in line with the current best practice for the Chartered Institute for Archaeologists, as well as national, regional and local policies. These include that a methodology for the assessment will need to be agreed with us as your advisors prior to the production of the assessment. The	A WSI was submitted to GGAT for approval. See further discussion in Table 8-2.

<p>approach is appropriate, and we look forward to agreeing the methodology. See Appendix 4.</p>	
<p>We have already responded to the Welsh Government consultation exercise on this scheme and confirmed that a cultural heritage assessment of the development area would be necessary as part of an EIA.</p> <p>There are a number of recorded archaeological sites within the red boundary and a high potential for impacts to both recorded and unrecorded archaeology outside the main former extraction and soil bund stripping areas of the opencast in particular. Impacts are most likely to occur where the new testing tracks are constructed and where other infrastructure is placed outside areas of disturbance caused by prior extraction, soil stripping and quarry buildings.</p> <p>There is one scheduled monument within the red boundary area and the applicants will have to consult Cadw via cadwplanning@gov.wales regarding setting issues and other potential impacts.</p> <p>We have advised Welsh Government that initially a detailed desktop study will be required along with a walkover survey to collate information on known and unrecorded sites, assess the potential impacts and suggest appropriate mitigation. Further pre-determination assessment may then be required in the form of geophysics, measured surveys and investigative trenching. This work should be carried out in accordance with the appropriate CIFA standards and guidance and a specification (written scheme of investigation) should be forwarded to us by the nominated archaeological contractor for approval in advance of the commencement of the assessment. All finished reports and any resulting digital archives must be submitted to the Historic Environment Record and National Monuments Record (RCAHMW) on completion of the assessments. See Appendix 5.</p>	<p>A WSI was submitted to GGAT for approval. See further discussion in Table 8.2. Detailed walkover survey was carried out, although the land proved too boggy to be suitable for geophysics.</p> <p>Noted.</p>
<p>CADW (PCC & NPT) – Having carefully considered the information provided with this request, consider that further information is required.</p> <p>An environmental scoping report has been prepared by Arup outlining the proposed contents of the environmental impact assessment and the methodologies that will be used to assess any likely damage to the environment. Chapter 12 of that document deals with Cultural Heritage and in general we concur with its’ contents: However, in regard to grade II listed buildings we would recommend that given that these are Nationally designated heritage assets, a search area of 3km would be more appropriate than 1km and that impact of the proposed development on the setting of all designated heritage assets inside 3km (listed above) should be carried out 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 of the above designated heritage assets, which will determine the need, if necessary, for stages 2 to 4 to be carried out for specific heritage assets.</p>	<p>The study area has been extended to 3km for all designated heritage assets (with an additional extent to 5km for GII* and above designations, and scheduled monuments). The Cadw guidance on the assessment of setting has been used to inform the methodology. The first stages of the assessment have been carried for all designated assets located within the theoretically visible area of the ZTV, with further assessment made where the setting is deemed to be sensitive to change. The initial stages can be found in Appendix 8A, with the latter stages in this chapter.</p>

<p>Finally, it is noted that paragraph 343 of the scoping document that there is a reference to Planning Policy Wales Chapter 6: The Historic Environment (Edition 9, 2016). This document has been replaced by Planning Policy Wales Chapter 6: The Historic Environment (Edition 11, 2021). See Appendix 7.</p>	<p>Noted and updated.</p>
<p>Built Heritage Conservation Officer - Advises that the methodology for assessing the setting of historic assets is sound. Further detailed comments provided note that 5KM outer study area buffered from the site boundary will be used in the assessment of Grade I and II* listed buildings and Registered Historic Park and Gardens and Scheduled Ancient Monuments, and a smaller buffer of 1Km for Grade II listed buildings and Grade II Registered Historic Parks and Gardens.</p> <p>Given the location of the listed buildings in the landscape compared with the location of the Scheduled Ancient Monuments, it is considered that this approach is acceptable in respect of the setting of listed buildings.</p> <p>There is, however, one scheduled monument that either does not appear to be in the Environmental Scoping Report, or is not readily evident, namely BR201 Lefel Fawr Coal Audit, which is immediately to the south of Listed Buildings 7468 Pont-y-Yard and 17922 Yard House.</p> <p>Reference is also made to the setting of Scheduled Ancient Monuments noting that there is one Scheduled Ancient Monument within the site boundary GM399. It is suggested that early dialogue is entered into with Cadw in respect of any potential physical works to this Scheduled Ancient Monument, in order that should a Scheduled Ancient Monument Consent application be necessary, this can be undertaken concurrently with the planning application to avoid potential delays in the delivery of the scheme.</p> <p>Whilst not a built heritage asset in itself, the proximity of Henrhyd Lech Falls (National Trust) and the Trail along Graig Lech has also been referred to, and as such it is recommended that specific consideration should be given to the assessment of the impact of the proposal on this tourism feature either within the cultural heritage assessment or the landscape assessment.</p> <p>It is advised that the Archaeological Trusts be contacted in respect of the Historic Environment Records on the site.</p>	<p>Noted</p> <p>The Lefel Fawr coal adit is included in this assessment (CH076), although it has been considered as part of a physical and interpretative group with the associated listed buildings Pont-y-Yard and Yard House. Any impacts on these assets would be considered individually but, due to the steep topography of the land to the north of the site, this group of Scheduled Monument and two listed buildings is outside of the area from which the site is visible.</p> <p>Consultation (and scheduled monument consent) have been discussed separately with Cadw.</p> <p>This is addressed in the LVIA chapter (Chapter 9)</p> <p>HER data was obtained from both CPAT and GGAT HERs to inform the baseline.</p>

<p>Cadw guidance on Managing Change “the setting of historic assets” addresses the steps to be considered in assessing the setting of historic assets and should be followed: - https://cadw.gov.wales/advice/support/placemaking/heritage-impact-assessment/setting-historic-assets.</p> <p>Mindful of recent case law in terms of smell affecting the setting of a listed building, it is also recommended that reference is made to reports commissioned in terms of noise/dust for Environmental Health in the setting of historic assets in order that it can be seen in terms of setting of listed buildings it has been addressed.</p> <p>It is also noted that it is not only the visual impact that can be considered in respect of listed buildings, but noise dust etc. can also be considered as affecting the setting in some circumstances. As such it may be worthwhile in the report on the setting of historic assets to briefly reference or direct the reader to any relevant pollutant impact studies or reports that are being undertaken which will be assessed by the relevant body in that regard.</p> <p>All considerations should use and refer to the relevant and current legislation, policy and guidelines and use a suitable assessment methodology, based on these documents. The assessment should be independent and objective and seek to fully define and understand the heritage assets, their setting and the short, medium and long term effects of the proposed development based on desk based and field research and using appropriate illustrations / photos where necessary. It should also seek to assess the effect and success of any mitigation measures.</p> <p>The cultural heritage assessment should also include an assessment upon the settings of a number of scheduled monuments within the Brecon Beacons National Park boundary.</p>	<p>The Cadw guidance on setting has informed the methodology used in this assessment.</p> <p>A review of the assessments made for Noise and Vibration (Chapter 10) and Air Quality (Chapter 14) has been carried out. No significant effects on cultural heritage assets have been identified.</p> <p>Noted</p> <p>An assessment has been made regarding impacts resulting from changes to the settings of all scheduled monuments within 5km buffered from the site boundary.</p>
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Consultation

- 8.4.4** Due to the potential for the proposed development to have adverse impacts on cultural heritage assets, consultation has been carried out with the Cadw Senior Inspector of Ancient Monuments for the area and the archaeological advisors from Clwyd-Powys Archaeological Trust (CPAT) and Glamorgan-Gwent Archaeological Trust (GGAT). CPAT and GGAT are the Archaeological Trusts that provide development control advice to Powys County Council and Neath Port Talbot County Borough Council respectively.
- 8.4.5** A Written Scheme of Investigation, detailing the DBA methodology was submitted to CPAT and GGAT for approval. Consultation with the CPAT and GGAT advisors has informed the development of the mitigation recommendations (see section 8.9).

Table 9-2: Response to representations from stakeholders on scope of cultural heritage assessment

Stakeholder	Comment	Response
GGAT	<p>The archaeological advisor commented (email dated 7.11.2019) on an incorrect planning policy reference within the draft WSI but otherwise made no comments on methodology.</p> <p>An email was sent to GGAT on 10.06.2020 to update their advisor on the progress of the application and detail the approach to mitigation and the outline nature of the application.</p> <p>GGAT stated in an email (dated 28.07.2020) that the updated WSI was fit for purpose and accepted the approach to mitigation proposed – which is that the detailed strategy will be agreed at the reserved matters stage.</p>	<p>Planning Policy Wales reference corrected.</p> <p>It is anticipated that the mitigation proposed in this chapter would be enforced by condition. WSI(s) will be produced by the archaeological contractor(s) engaged to carry out the work and submitted to GGAT prior to the commencement of the mitigation work.</p>
CPAT	<p>The archaeological advisor provided comments on the draft WSI, including correcting the planning policy reference, highlighting new SPGs in preparation for Powys, and commenting on potential sources to include. They discussed the areas of archaeological potential submitted and requested that detailed walkover survey be included for areas not affected by open cast mining. The WSI was approved by email on 7.11.2019.</p> <p>An email was sent to CPAT on 10.06.2020 to update their advisor on the progress of the application and detail the approach to the outline element of the application.</p> <p>An updated WSI was requested and submitted to cover the desk-based elements of the research. As the majority of the area affected comes under the jurisdiction of GGAT, the CPAT Development Control Archaeologist deferred to GGAT.</p>	<p>Changes to the WSI and the subsequent approach to methodology have been followed by this ES. The results of the walkover survey are included in Appendix A.</p> <p>This has been supplied.</p>
Cadw	<p>Cadw have been consulted in relation to the potential adverse effects on the Tramroad at Ystradgynlais Scheduled Monument from the Nant Helen earthworks application. No physical works to the Scheduled Monument are included within this (GCRE) application. A Scheduled Monument Consent application will be submitted separately.</p>	

	During this process, there was a discussion of implications for the setting of the tramroad and the nearby Bryn Llechwen cairn (also a Scheduled Monument).	This has informed the assessment of setting contained in this chapter.
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8.5 Methodology

Overview

8.5.1 The methodology followed for this assessment has followed the CifA and Cadw best practice standards and guidance set out above (see section 8.3). Although there is no formal methodology for the assessment of effects on cultural heritage in Environmental Impact Assessment, the Design Manual for Roads and Bridges (DMRB)⁶ is generally accepted as best practice and has been used as the basis for this assessment.

Methodology for establishing baseline conditions

8.5.2 The CifA guidance on DBAs states that “where the project is carried out within the planning process, the report should contain sufficient objective data to enable ‘an informed and reasonable decision to be made’ including a decision to require further evaluation of the site” To achieve this, data has been collected from a range of sources, including Cadw datasets of designated heritage assets, the Historic Environment Records, historic mapping and walkover survey. Data has been collected for the area of the site and the study area. For the purposes of this assessment, the site is the area within the redline boundary. The study area is defined as:

- 500m buffered from the site for non-designated heritage assets;
- 3km buffered from the site for Grade II Listed Buildings and Registered Parks and Gardens, Conservation Areas and designated Historic Landscapes;
- 5km buffered from the site for all other designated heritage assets which include Scheduled Monuments, Grade I and II* Listed Buildings and Registered Parks and Gardens.

8.5.3 The base case for this assessment is the restored earthworks of the Nant Helen Complementary Restoration Earthworks scheme which received planning consent in July 2020. A Scheduled Monument Consent application relating to the impacts arising from the

⁶ Highways England, Transport Scotland, Welsh Government and the Department for Infrastructure (2019) *Design Manual for Roads and Bridges*, Volume 11, LA 104 Environmental assessment and monitoring.

construction of the Nant Helen Complementary Restoration Earthworks has been submitted separately.

- 8.5.4 The full methodology for establishing the baseline conditions is included in Appendix 8A.

Design mitigation

- 8.5.5 There is no cultural heritage specific design mitigation incorporated into the project design.

Assumed construction practices

- 8.5.6 Details regarding the approach to cultural heritage are included in the outline CEMP submitted alongside this application (Appendix 3A). An archaeological contractor will be appointed and will undertake surveys and recording as required by this ES and in line with Written Schemes of Investigation agreed in consultation with GGAT/CPAT and Cadw, as appropriate.

Assessment methodology

- 8.5.7 Assessment of the significance and impact of the proposed scheme on known and potential heritage assets within the study area has been conducted in line with the three-stage approach outlined in DMRB. Firstly, the value of heritage assets is determined, then the magnitude of effect posed by the proposed scheme and then the significance of the effect.
- 8.5.8 Additionally, complementary guidance has been applied from CIfA and Cadw's best practice guidance. This includes informing the discussion of the value of heritage assets and the contribution made by their setting on the basis of their heritage values, which as described in *Conservation Principles in Wales*, can be evidential, historical, aesthetic or communal in nature.
- 8.5.9 A further element considered is the impact of change or development within the setting of a heritage asset. In order to understand the nature of an effect to the setting, the setting itself and the contribution it makes to the value⁷ of the heritage asset must first be understood. Cadw has outlined a four-stage methodology for doing this, which has been followed in this assessment:
- “Stage 1: Identify the historic assets that might be affected by a proposed change or development;
 - Stage 2: Define and analyse the settings to understand how they contribute to the significance of the historic assets and, in

⁷ The term ‘significance’ is used in relation to heritage value in the Cadw methodology. To avoid confusion with ‘significance of effect’, the term ‘value’ is used throughout this report.

particular, the ways in which the assets are understood, appreciated and experienced;

- Stage 3: Evaluate the potential impact of a proposed change or development on that significance;
- Stage 4: If necessary, consider options to mitigate or improve the potential impact of a proposed change or development on that significance.”

8.5.10 In order to identify heritage assets where there are potential effects arising from the change to their setting (Stage 1) the Zone of Theoretical Visibility (ZTV) developed for the LVIA has been used (see Chapter 9). This is a model which identifies areas which could potentially have views of the development. The analysis of the settings of assets identified as being potentially affected is contained within Section X4 of Appendix 8A (Stage 2). Additionally, further review was carried out to identify if additional heritage assets should be evaluated for potential effects arising from a non-visual change to their setting, acknowledging that the setting of heritage assets encompasses more than just what can be seen or not seen. Stage 3 and 4, the assessment of potential effects and discussion of mitigation, form part of this chapter (section 8.8).

8.5.11 Heritage assets can be designated or non-designated and, while designated assets are statutorily protected, non-designated heritage assets may exhibit equivalent values to those which have been granted statutory protection.

8.5.12 Taking these criteria into account, each identified baseline heritage asset has been assigned a level of significance in accordance with a five-point scale as shown in Table 9-3.

Table 9-3: Value of heritage assets

Value	Typical description
Very High	World Heritage Sites (including nominated sites). Assets of acknowledged international importance. Assets that can contribute significantly to acknowledged international research objectives
High	Nationally important assets (scheduled monuments, listed buildings, registered parks and gardens)
Medium	Designated (conservation areas) or non-designated assets that are of regional importance
Low	Assets of local importance. Assets compromised by poor preservation and/ or poor survival of contextual associations. Assets of limited value, but with potential to contribute to local research objectives.
Negligible	Assets with very little or no surviving value.

8.5.13 The approach to assessing the magnitude of impact on heritage assets shown in Table 9-4 considers the change upon the asset. This has taken into account the severity of the impact of the proposed development, together with the vulnerability of the asset to change.

Table 9-4: Magnitude of Impact

Magnitude of Impact	Description of impact
Major	Complete destruction/demolition of site or feature. Change to the site or feature resulting in a fundamental change in our ability to understand and appreciate the resource and its historical context and setting.
Moderate	Change to the site or feature resulting in an appreciable change in our ability to understand and appreciate the resource and its historical context and setting.
Minor	Change to the site or feature resulting in a small change in our ability to understand and appreciate the resource and its historical context and setting.
Negligible	Negligible change or no material change to the site or feature. No real change in our ability to understand and appreciate the resource and its historical context and setting.
No Change	No change

Significance Criteria

8.5.14 According to the DMRB methodology, significance of effect upon heritage is assessed according to a matrix approach using the criteria in the tables above. Effects may be either adverse or beneficial, permanent or temporary.

8.5.15 It should be noted that the initial assessment is made for the proposed scheme without mitigation; the residual effect as a result of mitigation is determined separately. In all cases, professional judgement has been used in conjunction with the descriptors in Table 9-5, to arrive at a final judgement of the significance of effect.

8.5.16 Moderate or Major effects are considered to be significant.

Table 9-5: Significance of effect

		MAGNITUDE OF IMPACT				
		No Change	Negligible	Minor	Moderate	Major
VALUE	Very High	Neutral	Minor	Moderate or Major	Major	Major
	High	Neutral	Minor	Minor or Moderate	Moderate or Major	Major
	Medium	Neutral	Negligible or Minor	Minor	Moderate	Moderate or Major
	Low	Neutral	Negligible or Minor	Negligible or Minor	Minor	Minor or Moderate
	Negligible	Neutral	Negligible	Negligible or Minor	Negligible or Minor	Minor

8.6 Limitations and assumptions

Limitations

8.6.1 No limitations have been identified in relation to this assessment

Assumptions

8.6.2 Baseline data has been obtained from a range of sources, including the Historic Environment Records (HER) held by CPAT and GGAT and the National Monuments of Wales record held by the Royal Commission on the Ancient and Historical Monuments of Wales (RCAHMW). The assumption is made that this data is accurate but there are inherent limitations in these kinds of data. The HERs and NMRW are records of known archaeological and historic assets. They are not exhaustive records of all surviving historic assets and do not preclude the existence of further assets, which are unknown at present. This means that this assessment represents a professional judgement of what is most likely, rather than a definitive statement of the presence or absence of archaeological remains within the site.

8.6.3 The extent of past open cast mining within the site has informed the assessment of archaeological potential. This data was obtained from Celtic Energy (the owner of the mine) and confirmed, where possible,

with historic aerial photography. It is assumed that no archaeological remains survive in areas subjected to open cast mining.

- 8.6.4 The Nant Helen Complementary Restoration Earthworks scheme, which forms the base case for this assessment, involves the construction of cuttings and embankments. It is assumed that there is no archaeological survival within the footprint of these earthworks.

8.7 Baseline Environment

- 8.7.1 The details of the cultural heritage baseline assessment, including sources used and a full archaeological and historic background can be found in Appendix 8A. All heritage assets identified have been given the prefix 'CH' and full details are included in the gazetteer (see section X8 Appendix). They are shown on Figures 8.1 and 8.2. Historic landscape areas are shown on Figure 8.3 and archaeological potential is shown on Figure 8.4.
- 8.7.2 In summary, 124 heritage assets were identified and assessed within the site and study area (see Section 8.5 for details of the study area). This included one Scheduled Monument located within the site; 35 non-designated heritage assets within the site; 40 designated heritage assets and 48 non-designated heritage assets located within the study area beyond the site. Additionally, 11 historic landscape areas were identified within or in proximity to the site.
- 8.7.3 Out of these heritage assets, only 12 of those within the site were potentially affected by the proposed scheme. This is because many of the recorded sites of archaeological remains or features identified from historic maps have been removed by open cast mining or as part of the base case.
- 8.7.4 In addition to the known heritage assets within the site there is the potential for previously unrecorded archaeological remains to be removed during construction. While the archaeological potential for much of the site is negligible, due to past open cast mining and the construction of the base case, there remains some areas of higher archaeological potential. Figure 8.4 shows four areas of archaeological potential. The first, Area A, is the known extent of restored opencast mining and archaeological potential is negligible in this area. Area B is the land affected by the construction of the base case. In this area, where topsoil stripping or other ground works have occurred, there is assumed to be negligible archaeological potential. However, there remains a high potential for 19th century and modern features relating to historic mining and extraction, including the scheduled Tramroad at Ystradgynlais (CH001). Area C, in the north of the site, is a small area outside of the opencast mine and the earthworks which form the base case. The baseline research (Appendix X) indicates that this is an area of high potential for 19th and 20th century features relating to mining and land management. Additionally, Area C is notably marshy and, although peat deposits have not been identified here, it is possible that

these are present. This means that there is a moderate potential for paleoenvironmental remains within Area C. Area D, which in the south of the site, is mostly covered by the Onllwyn Washery (CH061), a modern operation which is likely to have removed any evidence of earlier industry or other activity. Within the footprint of the washery there is negligible archaeological potential. Beyond it, there is a moderate potential for surviving below ground features associated with the railway and Onllwyn Colliery.

- 8.7.5 Additionally, 6 heritage assets were identified which are within the ZTV and have the potential to be affected by changes to their setting arising from the Project (see section X4 of Appendix 8A).

8.8 Assessment of effects

- 8.8.1 Effects have been identified arising from the construction of the proposed development. Outside of the areas of the earthworks which form the base case, construction activities may result in physical effects to archaeological features, in addition to effects arising from changes to the setting of heritage assets located beyond the site.
- 8.8.2 All physical effects on heritage assets are permanent, adverse and will occur during construction. Effects arising from changes to the setting of heritage assets are assessed as construction effects as, although they will continue throughout operation, they are a continuation of an effect which would begin during construction rather than a new effect.
- 8.8.3 Full details of the identified asset's value and the contribution made to their value by their setting is included in Appendix 8A.

Assessment of effects from construction

- 8.8.4 The proposed scheme would involve the construction of two rail testing tracks – one large rolling stock test track and one high tonnage infrastructure test track. These test tracks would be built along the earthworks constructed as part of the Nant Helen Complementary Restoration Earthworks project, which forms the base case for this assessment. As such, there would be no physical impacts on heritage assets within the area of the already constructed earthworks (archaeological potential Area B). While there are further heritage assets located within the site (Area C), these are not impacted by the proposed scheme. There would, however, be impacts arising from the setting of heritage assets, which are discussed further below.
- 8.8.5 As this is an outline application, with all matters reserved. At the reserved matters application stage, an assessment should be made to validate the conclusions and, if necessary, undertake additional heritage assessment and mitigation.
- 8.8.6 The proposed scheme would include the construction of new sidings alongside the existing branch railway in the southern part of the site

and the establishment of a number of facilities on the site on the Onllwyn Washery. This would include a storage facility, research and development building, maintenance facility, carriage wash facility and multi-storey staff and signal control buildings. The existing Onllwyn Washery buildings would be demolished, although the existing sidings would be retained for cold storage.

- 8.8.7 Onllwyn Washery (CH061) is a 20th century complex considered to be of negligible heritage value. Its removal would constitute a major magnitude of change, resulting in a **minor adverse** significance of effect. This is not significant.
- 8.8.8 The Dulais Valley Mineral Railway (CH055) runs through the southern part of the site and would have new sidings built immediately adjacent to it. This would not alter its heritage value, which is considered to be negligible. There would be **no impact**.
- 8.8.9 There are several former railway bridge bases or underbridge structures which have been reported in archaeological potential Area D (CH10, CH011 and CH059). While it is understood that there are no extant remains of some of these features, it is likely that the surviving pier bases beneath the road bridge over the railway immediately west of the Onllwyn Washery are still extant. They are assets of low value. The current proposals, in their outline form, would not necessitate their removal, but this should be assessed further at the reserved matters stage. It is assumed for the purposes of this assessment that there would be **no impact**. However, as a worst possible case, their complete removal would be a major magnitude of impact, resulting in a minor adverse significance of effect, which is not significant.
- 8.8.10 The proposed scheme would be visible and, in the case of the Tramroad at Ystradgynlais and the Bryn Llechwen cairn, audible from a number of assets which have settings which are sensitive to change. The most immediate of these changes would be to the setting of the Tramroad at Ystradgynlais (CH001). A 450m section of the asset will have been buried by the construction of the base case embankments, which while leaving the physical fabric of the monument largely intact would sever the final eastern stretch of the tramway with its western extent. This was considered to be a major adverse effect for the base case. The addition of the large railroad testing track on top of the monument would not further impact on the value of the monument as, although there would be additional structures visible in views along the monument, the adverse impact to the setting would not be increased. This is because the impact to the setting arises from the visual separation of the east and western parts of the monument rather than from the appearance of the proposed scheme. Indeed, the evolution of railway technology could be said to be a part of the story of this monument, which derives its value as an important moment in the evolution of railway technology, so the use of the earthworks for a rail testing loop would not, as an addition to the base case, be an

adverse impact. As a change from the base case, there would be **no impact** on the value of the scheduled tramroad (CH001).

8.8.11 There would be effects arising from changes to the setting of six scheduled monuments located within the study area. Bryn Llechwen ring cairn (CH002) is located c130m west of the site boundary and would have clear views across the entire site. It is a Scheduled Monument and has high value. While the setting of the cairn is an important aspect of how the cairn is understood, views to the east towards the site do not contribute to this due to the extent of 20th century open cast mining. In addition to dramatically altering the natural hillside, the mine also removed three cairns which formerly were part of a chain which included Bryn Llechwen. The construction of the base case was considered to have a temporary minor adverse effect, resulting from the increased noise, lighting and appearance of construction activities happening only a short distance from the cairn. Views to the east, while not specifically contributing to the cairn's value would not have, prior to the construction of the base case, have overly detracted from its value. The impact of the earthwork construction would only have been temporary, extending through the construction period and into the first year post-construction as grass seeding took hold and reduced the visibility of the earthworks. However, the construction of the large railroad testing track close to the cairn would introduce a permanent change to its setting, with increased noise, light and industrial activity. This would result in a permanent depreciation of the way in which the cairn is understood within its upland environment. This would be a minor magnitude of impact, resulting in a **minor adverse** significance of effect. This is not significant.

8.8.12 Craig-y-Rhiwarth Hillfort (CH088), is an Iron Age hillfort located 3.9km north-east of the site. It is a Scheduled Monument and is of high value. It is located on a high limestone cliff and has panoramic views across the Tawe valley to the north and south. The site is located within this landscape and, although the landscape of Mynydd y Drum makes a negligible contribution to the hillfort's value, the hillfort would have been deliberately sited to command views over this area. During the construction, and first year post-construction, of the base case, there would have been a temporary minor adverse effect resulting from the increased activity on the hillside, especially in the restored areas east of the former opencast workings. The construction of the two rail testing tracks, with their associated lighting and the movement of trains along them, would make this temporary adverse effect a permanent one. Due to the distance and the breadth of the views from the hillfort this would be a minor magnitude of impact resulting in a permanent **minor adverse** significance of effect. This is not significant.

8.8.13 There are four Bronze Age ritual or burial monuments located on the surrounding hillsides: Dorwen Standing Stone (CH090) and Lorfa

Stone Circle (CH091), which are located on the southern slopes of the Black Mountain, and Coed Ddu (CH096) and Carn Cornel (CH097) cairns, on the Hirfynydd ridgeline. All of these monuments are understood to derive value from their settings, which include panoramic views across the whole of the Tawe and Dulais valleys. They are Scheduled Monuments and are high value. The site is visible from all four monuments and the base case would be visible during construction and the first-year post-construction, resulting in a temporary minor adverse effect. As with the assets above, the construction of the proposed scheme would mean that the intrusion into the landscape of the new rail testing loops and associated infrastructure would alter the temporary effect of the earthwork construction to a permanent effect. The distance from these monuments to the site and the breadth of their views minimises the impact on them by the proposed scheme. As a result, it is considered that there would be a negligible magnitude of impact, as there would be no real change to the legibility of the monuments or a change to how they are appreciated. This would be a permanent **minor adverse** significance of effect, which is not significant.

8.8.14 There are 11 historic landscape areas within the site or its immediate vicinity (Appendix 8A, Figure 8.3). Of these, Coelbren, Dyffryn Tawe, Dulais Valley NW, Dulais Valley NE, Banwaen Tor-y-Betal and Ystradgynlais/Abercraf are either unaffected by the proposed development or such a small part is affected as to have no effect on a landscape level. Of the remaining five historic landscape areas, the following effects have been identified during construction:

8.8.15 The site occupies a large area within the Onllwyn historic landscape area, which is an area of modern coal mining of negligible value. The construction of the base case would have altered the form and appearance of this landscape area, but its characteristics would still be broadly legible. construction of the earthworks would alter the physical appearance and form of the historic landscape area, but its characteristics would still be broadly legible. The addition of the rail testing tracks would be a more substantive change, as the base case earthworks would be much more visible as a new installation in the landscape with a track. This would be an appreciable change to its legibility, which equates to a moderate magnitude of impact. The Onllwyn landscape is of negligible value, meaning that the result of this impact would be a **negligible adverse** significance of effect. This is not significant.

8.8.16 Nant Pen-rhos is an area of 20th century conifer woodland which extends into the north-western part of the site. This part is an area of restored mining land. It is of negligible value. The proposed scheme would involve the construction of the outer rail testing track through the eastern portion of the landscape area. This would have a minor

adverse magnitude of impact, resulting in a permanent **negligible adverse** significance of effect. This is not significant.

- 8.8.17 The north and south areas of Twyn Eithinog are an expanse of marginal upland stretching across Mynydd y Drum to the west of the site. They are of low value. The proposed scheme would extend into the easternmost parts of the two areas with the construction of the outer rail testing loop along the eastern boundary of the areas but not otherwise affecting their legibility. This is a minor magnitude of impact and would result in a permanent **minor adverse** significance of effect. This is not significant.
- 8.8.18 The Crynant & Seven Sisters Urban Corridor is a historic landscape area comprising the built-up strip of land to the south of the site. The site extends into a portion of it along the Dulais Valley railway line and the Onllwyn Washery site. It is a historic landscape of low value, containing a reasonably well preserved industrial communications and settlement corridor. The proposed scheme would redevelop the area of the Onllwyn Washery and add new sidings alongside the extant branch railway. This would not alter the historic industrial nature of the landscape or alter its form. There would be a negligible magnitude of impact resulting in a **negligible adverse** significance of effect. This is not significant.
- 8.8.19 An assessment has been made of potential in combination effects with climate change but no effects have been identified and are, therefore, it is not discussed further in this chapter. This is discussed in Chapter 15.

Assessment of effects from operation

- 8.8.20 No effects have been identified from the operation of the proposed scheme, although it is anticipated that the change to the setting of heritage assets identified as construction effects would continue throughout the lifetime of the GCRE. These effects were identified on the Bryn Llechwen ring cairn (CH002), Craig-y-Rhiwarth Hillfort (CH088), Dorwen Standing Stone (CH090), Lorfa Stone Circle (CH091), Coed Ddu Ring Cairn(CH096) and Carn Cornel Round Cairn (CH097).
- 8.8.21 Although noise and dust can have an effect on heritage assets through the change to their setting, no significant effects have been identified on any of the heritage assets identified in this chapter (see chapters 14 and 10, respectively).

8.9 Mitigation and enhancement

Mitigation of effects from construction

- 8.9.1 No significant adverse effects have been identified resulting from effects to non-designated archaeological remains. However, national and local planning policy (see section 8.3) require that any adverse effects should be mitigated.
- 8.9.2 The Onllwyn Washery, while identified within the NMRW datasets, is a modern complex of negligible heritage value. While a minor adverse effect has been assessed, resulting from its removal, archaeological mitigation, such as building recording, is not proportionate as it is already recorded within the NMRW. No mitigation is proposed.
- 8.9.3 No further physical impacts on heritage assets have been identified at this outline application stage. Further assessment and consultation may be required should the reserved matters application vary from the proposed scheme as it is currently understood. Mitigation may be required should construction works extend into areas beyond that of the base case, the site of the Onllwyn Washery and existing railway line, where archaeological potential is negligible. Strip, map and sample is likely to be required should construction be required outside of these areas and would need to be confirmed with the LPA Archaeological Advisors (CPAT and GGAT). Archaeological recording would be required if any of the historic bridge bases (CH010, CH011 and CH059) were to be removed.
- 8.9.4 The full details of any archaeological mitigation should be agreed with the archaeological advisors of GGAT and CPAT and be undertaken under an agreed Written Scheme of Investigation approved by CPAT and GGAT and carried out by an appropriately qualified archaeological contractor.
- 8.9.5 No significant adverse effects have been identified arising from changes to the setting of heritage assets or from physical alterations to historic landscapes. No mitigation is proposed.

Mitigation of effects from operation

- 8.9.6 As no operational effects have been identified, no mitigation is proposed.

8.10 Residual effects

Residual effects from construction

- 8.10.1 No mitigation is currently proposed for the minor and negligible adverse effects identified on the Onllwyn Washery and to the scheduled monuments with views of the site. As such there is no

reduction in the residual effects from construction. These are not significant.

Residual effects from operation

8.10.2 As no operational effects have been identified, there are no residual effects arising at this stage.

8.11 Assessment summary matrix

Potential Effect	Receptor (s)	Sensitivity of Receptor	Magnitude (prior to mitigation)	Significance (prior to mitigation)	Mitigation	Magnitude (following mitigation)	Significance (following mitigation)
Removal of the Onllwyn Washery	Onllwyn Washery (CH061)	Negligible	Major	Minor adverse (permanent)	None proposed	Major	Minor adverse (permanent)
Change to the setting of Bronze Age cairn	Bryn Llechwen Ring Cairn (CH002)	High	Minor	Minor adverse (permanent)	NA	Minor	Minor adverse (permanent)
Change to setting of Scheduled Monument	Craif-y-Rhiwarth, Hillfort (CH088)	High	Minor	Minor adverse (permanent)	NA	Minor	Minor adverse (permanent)
Change to setting of Scheduled Monument	Dorwen Standing Stone (CH090)	High	Negligible	Minor adverse (permanent)	NA	Negligible	Minor adverse (permanent)
Change to setting of Scheduled Monument	Lorfa Stone Circle (CH091)	High	Negligible	Minor adverse (permanent)	NA	Negligible	Minor adverse (permanent)
Change to setting of Scheduled Monument	Coed Ddu ring cairn (CH096)	High	Negligible	Minor adverse (permanent)	NA	Negligible	Minor adverse (permanent)
Change to setting of Scheduled Monument	Carn Cornel Round Cairn (CH097)	High	Negligible	Minor adverse (permanent)	NA	Negligible	Minor adverse (permanent)
Change to historic landscape	Twyn Eithinog (N and S)	Low	Minor	Minor adverse (permanent)	NA	Minor	Minor adverse (permanent)

Potential Effect	Receptor (s)	Sensitivity of Receptor	Magnitude (prior to mitigation)	Significance (prior to mitigation)	Mitigation	Magnitude (following mitigation)	Significance (following mitigation)
Change to historic landscape	Nant Pen-rhos	Negligible	Minor	Negligible adverse (permanent)	NA	Minor	Negligible adverse (permanent)
Change to historic landscape	Onllwyn	Negligible	Moderate	Negligible adverse (permanent)	NA	Moderate	Negligible adverse (permanent)
Change to historic landscape	Crynant & Seven Sisters Urban Corridor	Low	Negligible	Negligible adverse (permanent)	NA	Negligible	Negligible adverse (permanent)