

**Proposed Solar PV Development**

# Preliminary Environmental Information Report Chapter 8 Cultural Heritage and Archaeology

Byers Gill Solar

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# 8 Cultural Heritage and Archaeology

## 8.1 Introduction

- 8.1.1 This chapter presents the findings of the preliminary assessment of the likely significant effects arising from the construction, operation and decommissioning of the Proposed Development on cultural heritage and archaeology.
- 8.1.2 This chapter details the methodology followed for the assessment, summarises the regulatory and policy framework, and describes the existing environment in the area surrounding the Proposed Development. Following this, the design, mitigation and residual effects of the Proposed Development are discussed, along with the limitations of the assessment.
- 8.1.3 Cultural heritage and archaeology aspects considered within the chapter for the Proposed Development include:
- Direct impacts to known archaeological remains;
  - Direct impacts to anomalies identified within the geophysical survey as possible and/or probable archaeological remains;
  - Direct impacts to as yet unknown archaeological remains;
  - Indirect impacts through a change in setting where that setting contributes to the significance of a designated heritage asset; and
  - Indirect impacts through a change in setting where that setting contributes to the significance of a non-designated heritage asset.
- 8.1.4 This chapter is supported by the following Technical Appendices:
- Technical Appendix 8.1 Policy Tests
  - Technical Appendix 8.2 Historic Environment Desk-Based Assessment (HEDBA)
  - Technical Appendix 8.3 A Historic Environment Settings Assessment
  - Technical Appendix 8.4 A Geophysical Survey Report (up to date reporting to PEIR production)
  - Technical Appendix 8.5 Outline Archaeological Strategy Written Scheme of Investigation (WSI).
- 8.1.5 Some of the content discussed in this chapter will cross-refer with discussions in other chapters. It may be useful to refer to other chapters, most notably Chapter 7 Landscape and Visual and Chapter 10 Hydrology and Flood Risk.
- 8.1.6 The approach to cumulative assessment of both in-combination effects across disciplines, e.g., with Landscape and Visual, and with other projects is outlined in Chapter 13 Cumulative Effects. Further information is required to allow for a

proportionate assessment to be made including the agreement of a list of cumulative developments to be considered.

8.1.7 Where in-combination effects are identified cross topic, these will be considered during the assessment process and reported within the appropriate chapter where the effect has been identified.

## **8.2 Competent expert advice**

8.2.1 The Cultural Heritage and Archaeology chapter has been prepared by Andrew Reid BSc (Hons) MA who has twelve years' experience in the cultural heritage sector including in EIA for large scale renewables.

8.2.2 Support has been provided by Isobel Phillips BSc (Hons) MSc PCIfA who has eight years' experience in the cultural heritage sector and has been contributing to EIA inputs for the past two years.

8.2.3 Technical overview and quality control has been provided by Mark Turner BA MCIfA who has over 25 years' experience in the cultural heritage sector and is an expert in EIA with particular expertise in renewables including at public inquiry and issue specific hearings.

## **8.3 Legislative and policy framework**

8.3.1 The relevant legislation, planning policy and guidelines which underpin the assessment methodology for the Cultural Heritage and Archaeology and inform the scope of the assessment are outlined in this section.

### **Legislation**

8.3.2 The legislation of relevance includes:

- The Ancient Monuments and Archaeological Areas Act 1979;
- National Heritage Act 1983;
- The Planning (Listed Buildings and Conservation Areas) Act 1990;
- The Hedgerows Regulations 1997 (as amended 2002);
- The Burial Act 1997; and
- Treasure Act 1996.

### **Policy**

8.3.3 The following national and local policies of relevance have been considered:

## **National**

8.3.4 The national policies of relevance include:

- Overarching National Policy Statement for Energy (EN-1) [1]: Section 5.8 (Historic Environment) which will be used as the primary policy statement;
- A Draft National Policy Statement for Renewable Energy Infrastructure (EN-3) [2]: Sections 2.47-2.54 (Solar Photovoltaic Generation). Although this policy is in draft, it includes relevant statements to our assessment and will be used as the current EN-3 Policy does not refer to solar photovoltaic generation;
- At the time of writing, consultation on Revised Draft National Policy Statements for Energy Infrastructure has begun. While at the outset, this is unlikely to result in any material change to the requirements of the any assessment for the Historic Environment, this report will be updated following the outcome of the consultation should this be the case; and
- National Planning Policy Framework (NPPF), 2021 [3]: Section 16 (Conserving and enhancing the historic environment).

8.3.5 National policy provides a framework which:

- recognises that heritage assets are an irreplaceable resource;
- requires applicants to provide proportionate information on the significance of heritage assets affected by the proposals and an impact assessment of the proposed development on that significance;
- takes into account the desirability of sustaining and enhancing the significance of heritage assets and their setting;
- places weight on the conservation of designated heritage assets, in line with their significance; and
- requires developers to record and advance understanding of the significance of any heritage assets to be lost (wholly or in part) in a manner proportionate to their importance and impact, and to make this evidence (and any archive generated) publicly accessible.

## **Local**

8.3.6 The Proposed Development lies within the administrative boundaries of Darlington Borough Council, Stockton-on-Tees Borough Council and Durham County Council. Planning policy of relevance to the assessment which would be considered includes:

- County Durham Plan (adopted 2020): Policy 44 [4];
- Darlington Borough Local Plan 2016 – 2036 (adopted February 2022): Policy ENV1 [5]; and
- Stockton-on-Tees Borough Council Local Plan (adopted January 2019): Policy HE1, Policy HE2 and Policy HE3 [6].

## Guidance

8.3.7 The following guidance informs the assessment:

- Chartered Institute for Archaeologists. Standard and guidance for historic environment desk-based assessment [7];
- Historic England, 2015. GPA 2 - Managing Significance in Decision-Taking in the Historic Environment [8];
- Historic England, 2017. GPA 3 – The Setting of Heritage Assets [9];
- Historic England, 2019. Statements of Heritage Significance: Historic England Advice Note 12 [10];
- Historic England, 2020. GPA 4 – Enabling Development and Heritage Assets [11];
- IEMA, 2021, Principles of Cultural Heritage Impact Assessment in the UK [12]; and
- Department for Levelling Up, Housing and Communities 2019, Planning Practice Guidance: Historic Environment [13].

## 8.4 Assessment Methodology

8.4.1 For the purposes of determining the DCO application, the Infrastructure Planning (Decisions) Regulations 2010 require that decision makers have regard for the desirability of preserving;

- Listed buildings and any features which contribute to their special interest and settings;
- The character and appearance of conservation areas, as well as enhancing such areas; and
- Scheduled monuments and their settings

8.4.2 If the assessment determines that in instances where setting makes a contribution to the significance of a heritage asset, and that contribution is not changed by the Proposed Development, both the setting and the asset are considered to be preserved (at least in respect of their heritage interests).

8.4.3 The assessment proceeds from the basis that it is the significance of an asset that is of concern (following both NPSs and NPPF), and follows the Historic England guidance in considering that setting is important in respect of what it contributes to an asset's significance, and the way in which that significance is able to be understood and appreciated. Significance is the sum of an asset's heritage interests.

### Criteria for determining sensitivity of receptor

8.4.4 Significance in relation to the value of a heritage asset will be referred to throughout the Cultural Heritage and Archaeology assessment as 'heritage significance'.

8.4.5 The value of a heritage asset is determined through the sum of its interests (archaeological, architectural, artistic or historic), as defined in the NPS EN1 (which

incorporates principles set out in PPS5 or its successors, i.e. NPPF) and expanded on in Historic Environment Good Practice Advice in Planning 2 [13].

- 8.4.6 For the purposes of the Cultural Heritage and Archaeology assessment, designation status is used as a proxy for heritage significance as these hold an inherent heritage significance which justified its designation.
- 8.4.7 This determination is further justified through the legal protection afforded to the designations and their meaning in terms of the application of planning policy.
- 8.4.8 Using this proxy criteria in addition to national planning policy and guidance and through professional judgment, Table 8-1 below encompasses both designated heritage and non-designated heritage assets.
- 8.4.9 For heritage assets there is an explicit distinction between their heritage significance and their ‘sensitivity to change’. Some assets of the highest designation will not be sensitive to the types of changes proposed, whilst others will be more so. This will be assessed on a case-by-case basis in the assessment text for each asset, as appropriate.

**Table 8-1 Levels of Heritage Significance**

Heritage significance	Description
<b>High</b>	<ul style="list-style-type: none"> <li>▪ World Heritage Sites</li> <li>▪ Scheduled Monuments</li> <li>▪ Grade I and II* listed buildings</li> <li>▪ Grade II listed buildings which can be shown to have exceptional qualities in their fabric or historical association</li> <li>▪ Registered Battlefields</li> <li>▪ Grade I and II* Registered Parks and Gardens</li> <li>▪ Non-designated assets of equivalent heritage significance which are potentially nationally important.</li> </ul>
<b>Medium</b>	<ul style="list-style-type: none"> <li>▪ Grade II listed buildings</li> <li>▪ Regionally important archaeologically features and areas (as defined in the HER)</li> <li>▪ Conservation Areas, which are considered regionally important.</li> </ul>
<b>Low</b>	<ul style="list-style-type: none"> <li>▪ Sites and features noted as locally important in the HER, other non-designated features of heritage significance.</li> </ul>
<b>Negligible</b>	<ul style="list-style-type: none"> <li>▪ Assets compromised by poor preservation and/or poor contextual association, or very common archaeological features/buildings of little or no value at local or other scale</li> </ul>

- 8.4.10 While the categorisation of listed buildings by Historic England implies different levels of heritage significance, as reflected in Table 8-1 all listed buildings are given the highest level of heritage significance.
- 8.4.11 Professional judgement will be used in determining heritage significance using the nominal levels set out in Table 8-1 and where assets are placed in a different category to those set out above, a rationale and justification will be made explicit in the assessment text, where relevant.

## Criteria for assessing magnitude of change

- 8.4.12 Magnitude of change will be assessed through the nature of a predicted impact, which is set out in Table 8-2.
- 8.4.13 Direct impacts are permanent, as the loss of archaeological assets or historic buildings cannot be replaced or recreated while damage to archaeological assets cannot be repaired.
- 8.4.14 Indirect impacts can occur through changes in setting (arising from visual intrusion, alteration of non-visual relationships etc.) which may cause a reduction in the contribution that setting makes to an asset's heritage significance, so as to diminish that asset's overall heritage significance, and/or affect the ability to experience and/or appreciate that heritage significance.

**Table 8-2 Magnitude of change**

Level of Impact	Description
<b>High</b>	Total loss of or major physical damage to or significant alteration to a site, building or other feature.  Extensive change (e.g., loss of dominance, intrusion on key view or sightline) to the setting of a scheduled monument, listed building or other feature registered as nationally important, which may lead to a major reduction in the contribution of that setting to the heritage significance of the asset so that the asset loses heritage significance, and a major reduction in the ability to experience and/or appreciate that heritage significance.
<b>Medium</b>	Damage or alteration to a site, building or other feature. Encroachment on an area considered to have a high archaeological potential.  Change in setting (e.g., intrusion on designed sight-lines and vistas) to monuments / buildings and other features, which may lead to a moderate reduction in the contribution of that setting to the heritage significance of the asset. Change/reduction in the ability to experience/appreciate that heritage significance.
<b>Low</b>	Minor damage or alteration to a site, building or other feature. Encroachment on an area where it is considered that low archaeological potential exists.  Minor change in setting (e.g., above historic skylines or in designed vistas) of Monuments, Listed Buildings, sites and other features, which may lead to a small reduction in the contribution the setting makes to the heritage significance of the heritage asset, and limited loss of heritage significance. Limited change in or reduction of the ability to experience or appreciate the heritage significance of an asset.
<b>Negligible</b>	No physical effect.  No change in setting with no change in the contribution that setting makes to the heritage significance of the asset. No change in the ability to experience or appreciate the heritage significance of the asset.



## Criteria for assessing significance of effect

- 8.4.15 The predicted significance of effect will be determined through a standard method of assessment based on professional judgement, considering both the heritage significance of the asset and the magnitude of change as detailed in Table 8.3.
- 8.4.16 Major and moderate effects are considered significant in the context of the EIA Regulations while minor and negligible effects are considered not significant.
- 8.4.17 Effects can be beneficial or adverse, and permanent or temporary, where temporary makes reference to effects limited to the construction phase of the Proposed Development.
- 8.4.18 All effects derived from direct impacts are permanent while those derived from indirect impacts are long term, but fully reversible upon decommissioning (See paragraph 8.9.11)

**Table 8-3 Significance of effect**

Receptor sensitivity	Magnitude of change			
	High	Moderate	Low	Negligible
High	Major	Major	Moderate	Negligible
Medium	Major	Moderate	Minor	Negligible
Low	Moderate	Minor	Minor	Negligible
Negligible	Negligible	Negligible	Negligible	Negligible

## 8.5 Scoping and Consultation

### Scoping

- 8.5.1 A scoping report was submitted to PINS on the 27 October 2022, with a Scoping Opinion received on the 6 December 2022. Table 8-4 includes a summary of how this chapter of the PEIR has responded to each scoping opinion comment.

**Table 8-4 Response to the Scoping Opinion - PINS**

Reference	Stakeholder	Comments	Response
Table 8.5 (ID 3.4.1)	<b>Applicants proposed matters to scope out:</b> direct impacts to known and unknown archaeological remains during operation.	Potential indirect impacts to archaeology remaining in situ during the operation include impacts from alteration of drainage patterns as a result of the existence of the Proposed Development. This could cause increase decomposition of archaeological remains therefore the Inspectorate does not agree to scope this matter out.	This has been taken account of within the assessment with information provided from the Hydrology and Flood Risk team at paragraph 8.9.4.
Table 8.5 (ID 3.4.2)	<b>Applicants proposed matters to scope out:</b> Direct impacts to known and unknown archaeological remains during decommissioning	The Applicant proposes to scope out the direct impact of decommissioning the Proposed Development on known and unknown archaeological remains as impacts are only likely to occur during construction. Given there is potential for ground disturbance during decommissioning and effects are likely to be similar to those experienced during construction the Inspectorate is of the opinion that this matter cannot be scoped out at this stage.	Following the provision of updated designs and the confirmation that no additional land take or excavation will be required for the decommissioning of the Proposed Development, there is no potential for any additional ground disturbance as set out in Paragraph 8.9.11
Table 8.5 (ID 3.4.3)	<b>Applicants proposed matters to scope out:</b> Direct impacts to designated heritage assets.	The Inspectorate agrees that direct physical effects on designated heritage assets can be scoped out as there are no designated heritage assets within the site boundary.	As this matter has been agreed to be scoped out, this has not been included within the assessment
Table 8.5 (ID 3.4.4)	<b>Applicants proposed matters to scope out:</b> Direct impacts to any heritage assets beyond the development footprint.	The Inspectorate agrees that the Proposed Development is unlikely to directly impact heritage assets beyond the development footprint and is content for this matter to be scoped out.	As this matter has been agreed to be scoped out, this has not been included within the assessment
Table 8.5 (ID 3.4.5)	<b>Applicants proposed matters to scope out:</b> Indirect impacts to designated and non-designated heritage assets within the Site Area during construction and decommissioning.	The Scoping Report states that indirect impacts to designated and non-designated heritage assets within the Site Area are considered operational and occur due to a change of setting as a result of the finished built form of the Proposed Development. The Inspectorate notes that the use of temporary construction compounds within the Site Area has the potential to indirectly impact the setting of designated and non-designated heritage assets during construction and decommissioning of the Proposed Development. However, given the anticipated short duration of the construction and	As this matter has been agreed to be scoped out, this has not been included within the assessment

Reference	Stakeholder	Comments	Response
		decommissioning stages, significant effects are considered unlikely and the Inspectorate is content to scope this matter out.	
<b>Table 8.5 (ID 3.4.6)</b>	<b>Applicants proposed matters to scope out:</b> Indirect impacts on designated and non-designated heritage assets within the 2km study area during construction and decommissioning.	The Inspectorate considers that due to anticipated short duration of the construction and decommissioning stages, significant indirect effects to designated and non-designated heritage assets within the 2km study area are unlikely and the Inspectorate is content to scope this matter out	As this matter has been agreed to be scoped out, this has not been included within the assessment
<b>Table 8.5 (ID 3.4.7)</b>	<b>Applicants proposed matters to scope out:</b> Indirect impacts on highly designated heritage assets within the 5km study area during construction and decommissioning.	The Inspectorate agrees that due to the anticipated short duration of the construction and decommissioning stages, significant indirect effects to highly designated heritage assets within the 5km study area are unlikely and the Inspectorate is content to scope this matter out.	As this matter has been agreed to be scoped out, this has not been included within the assessment
<b>Table 8.5 (ID 3.4.8)</b>	<b>Applicants proposed matters to scope out:</b> Impacts on the Grade II* listed Wynyard Hall, the Grade II* registered Wynyard Park, the Grade II* listed Lion Bridge to East of Wynyard Hall, the Grade II* listed Wellington Obelisk to South East of Wynyard Hall.	The Scoping Report states that impacts on these designated assets have been scoped out on the basis that they are all contained within the Grade II* registered Wynyard Park which is not considered to be within the setting of the Site Area. The Inspectorate agrees that the Proposed Development is unlikely to result in significant effects on these assets and is content to scope these assets out.	As this matter has been agreed to be scoped out, this has not been included within the assessment

Reference	Stakeholder	Comments	Response
<b>Table 8.5 (ID 3.4.9)</b>	<p><b>Applicants proposed matters to scope out:</b> Impacts on the Grade II listed Hodgson Chest Tomb, 5m South of South Porch of Church of St Andrew, the Grade II listed 3, The Green, the Grade II listed Oakles Farmhouse, the Grade II listed 14, High Street, Lamp Post 7 Metres East of Number 7, The Green, the Grade II listed Church of St Andrew, the Grade II listed Headstone to John Gibson, 7 Metres South of South of South Port of Church of St Andrew and the Grade II listed Aycliffe War Memorial.</p>	<p>The Scoping Report states that these assets are located within the built-up environment of Aycliffe and are in close proximity to the A1(M) and have been scoped out of the assessment as the Proposed Development would cause no further alteration to the setting of the assets. On this basis, the Inspectorate considers that significant effects are unlikely and agrees to scope these assets out.</p>	<p>As this matter has been agreed to be scoped out, this has not been included within the assessment</p>
<b>Table 8.5 (ID 3.4.10)</b>	<p><b>Applicants proposed matters to scope out:</b> Impacts on the Grade II* listed Heighington Hall and the Grade I listed Church of St Michael.</p>	<p>The Inspectorate considers that as these designated assets are visually separated from the Site by a large number of buildings and vegetation and are not considered to share a relationship to the Site Area, significant effects are unlikely and the Inspectorate is content to scope this matter out.</p>	<p>As this matter has been agreed to be scoped out, this has not been included within the assessment</p>
<b>Table 8.5 (ID 3.4.11)</b>	<p><b>Applicants proposed matters to scope out:</b> Impacts on the Grade II* listed Goods Shed East South East of North Road Station, the Grade I listed Butler House and the Rectory, the Grade I listed Church of St Andrew, the North Road Railway Station (Now Railway Museum) and the Grade I listed Skerne Bridge.</p>	<p>The Scoping Report proposes to scope out these assets on the basis that the significance to their setting is derived from their relationship with other assets within the urban environment and not from the Site Area. The Inspectorate is content that significant effects on these designated assets are unlikely and agrees to scope out this matter.</p>	<p>As this matter has been agreed to be scoped out, this has not been included within the assessment</p>

Reference	Stakeholder	Comments	Response
<p><b>Table 8.5 (ID 3.4.12)</b></p>	<p>Applicants proposed matters to scope out: Impacts on the Grade II* listed Church of St Mary and the Grade II* listed Manor House.</p>	<p>The Applicant considers that these assets are defined by the immediate rural setting and have no relationship to the Site Area, which is located in the distant landscape. Therefore, the Applicant intends to scope this matter out. Based on the information provided, the Inspectorate is content that significant effects are not likely to occur and agrees to scope these assets out.</p>	<p>As this matter has been agreed to be scoped out, this has not been included within the assessment</p>

Reference	Stakeholder	Comments	Response
<p><b>Table 8.5 (ID 3.4.13)</b></p>	<p><b>Applicants proposed matters to scope out:</b>  Impacts on the Grade II* listed Gloucester House, the Grade II* listed 108, High Street , the Grade I listed Church of St Cuthbert, the Grade II* listed St Cuthbert's Vicarage, the Grade II* listed Church of St Peter, the Grade II* listed 48, Bridge Road, the Grade II* listed 74 and 76, Church Road, the Grade II* listed Town Hall, the Grade II* listed Market Cross, the Grade I listed Stockton Parish Church, the Grade II* listed War Memorial, the Grade I listed Parish Church of St Mary the Virgin, the Grade II* listed The Manor House, the Grade II* listed Columbia House, the Grade II* listed 32, Dovecot Street, the Grade II* listed Church of St Michael and All Angels, the Grade II* listed Church of the Holy Trinity, the Grade II* listed 80, Church Road, the Grade II* listed 9, Finkle Street, the Grade II* listed Friends Meeting House and the Grade II* Registered Ropner Park.</p>	<p>The Applicant proposes to scope out these assets on the basis that they are located within the urban and sub-urban environment of Stockton-on-Tees and share no relationship to the Site. The Inspectorate agrees that the Proposed Development is unlikely to result in significant effects on these assets and is content to scope these assets out.</p>	<p>As this matter has been agreed to be scoped out, this has not been included within the assessment</p>

Reference	Stakeholder	Comments	Response
Table 8.5 (ID 3.4.14)	<b>Matter for consideration:</b> Archaeological fieldwork	The Applicant should ensure that the information used to inform the assessment is robust and allows for suitable characterisation of the archaeological baseline. The Applicant should make effort to agree the methodology for any intrusive investigations required with relevant consultation bodies.	The information used to inform the archaeological baseline is outlined and evidenced in the the Archaeological Desk Based Assessment and Historic Environment Setting Assessments which are provided as Technical Appendices 8.2 and 8.3.
Table 8.5 (ID 3.4.15)	<b>Matter for consideration:</b> Cable plough	Paragraph 2.3.23 of the Scoping Report states that on-site cabling would be installed using a cable plough where possible. However, the potential effects of using the cable plough on buried archaeological remains is not considered in the Scoping Report. The ES should assess the potential effects of using a cable plough on buried archaeology and describe how below ground archaeology will be recorded and preserved.	Noted, the potential for direct impacts from a cable ploughing on potential buried archaeological remains has been included as part of the assessment as set out within Section 3.3.2 of this report.

**Table 8-5 Response to the Scoping Opinion – Darlington Borough Council**

Stakeholder	Comments	Response
<b>Darlington Borough Council</b>	The proposed development could impact upon designated heritage assets and their settings in the area around the site both directly and indirectly. In line with the advice in the National Planning Policy Framework (NPPF), the Environmental Statement (ES) should contain a thorough assessment of the likely effects which the proposed development might have upon those elements which contribute to the significance of these assets.	The assessment of potential likely significant effects on the significance of designated heritage assets through a change in their setting has been included with the appropriate methodology set out within Section 2.4 of this report.
<b>Darlington Borough Council</b>	It is noted that the extent of the study area allows for all heritage assets to be set within their wider context so that they can be properly assessed. It is important however that the assessment is designed to ensure that	Collaboration with the LVIA team has been ongoing throughout the assessment process including with reference to viewpoints, wirelines and photomontages. These discussions have identified that the agreed LVIA

Stakeholder	Comments	Response
	all impacts are properly understood. Section drawings and techniques such as photomontages and LVIA will be a useful part of demonstrating this. It is noted that viewpoints and wider landscape characterisation and impacts are to be considered which will also assist in considering the wider implications on landscape setting of assets and is welcomed.	viewpoints provide sufficient representative coverage to determine any potential likely significant effects across the wider landscape. No specific Cultural Heritage viewpoints are therefore proposed.
<b>Darlington Borough Council</b>	Assessment of setting should not however be restricted to visual impact. The potential impact which associated activities (such as construction, servicing and maintenance, and associated traffic) might have upon perceptions, understanding and appreciation of the heritage assets in the study area should also be assessed.	This is assessed in the Historic Environment Settings Assessment (Technical Appendix 8.3) and in 8.9 of this report.
<b>Darlington Borough Council</b>	The impacts on land management and restoration as a result of decommissioning and any associated works at the end of the scheme life and those impacts on heritage assets should also be considered.	This is assessed in Section 8.9.11 of this report.
<b>Darlington Borough Council</b>	The assessment should also consider, where appropriate, the likelihood of alterations to drainage patterns that might lead to in situ decomposition or destruction of below ground archaeological remains and deposits and can also lead to subsidence of buildings and monuments.	Collaboration with the Hydrology team during the design process and through assessment has identified there will be no alteration in the drainage patterns from the proposed development. A specific technical summary from a Hydrological expert is set out in Paragraph 8.9.4.
<b>Darlington Borough Council</b>	It is also noted that the assessment states that the proposal will look for better understanding of the historic landscape and the proposals should look for opportunities to positively respond to and enhance heritage assets. Paragraph 206 of the NPPF states that new development within conservation areas and world heritage sites and within the setting of heritage assets should enhance or better reveal their significance and the proposal should therefore look for these opportunities.	This is included within Section 8.10 identifying opportunities for enhancement
<b>Darlington Borough Council</b>	The scoping report mentioned at 8.4.2 makes reference that there have been no discussions regarding the WSI for the Geophysical Survey since surveying within the	Mitigation measures for unavoidable effects to archaeological remains will be defined through an overarching WSI which will be agreed with statutory



Stakeholder	Comments	Response
	area has not taken place. Discussions with Wessex Archaeology and Durham County Council Archaeology Department took place in September. There would be a general requirement for geophysics to be tested and confirmed by trial trenching which is not referred to in the scoping report and is considered to be a significant omission, given that this would be a requirement to help determine the significance of the most obvious archaeological sites.	consultees prior to the submission of the ES. An outline of this is provided in the Outline Archaeological Strategy WSI, provided in Technical Appendix 8.5.

**Table 8-6 Response to the Scoping Opinion – Historic England**

Stakeholder	Comment	Response
<b>Historic England</b>	More credence should be placed on long distance views of and across the sites. We appreciate that the red line area is purely notional at the moment, there will be changes and not the entirety of the area will be given over to solar panels. Information on how views change as the viewer moves through the landscape, taking a more dynamic approach rather than an approach to views based on fixed points.	How views change as the viewer moves through the landscape in relation to the impact on the setting of designated heritage assets is assessed in the Historic Environment Setting Assessment, provided in Technical Appendix 8.3.
<b>Historic England</b>	There is obviously going to be a lot of archaeology being done, and it would be useful if the consultant and the Principal Archaeologists at Durham County Council could agree a suite of overarching research questions for the project: What do we need to know about the development of this area, what are the big archaeological / heritage questions?	Information on the consultations with Durham County Council have been provided in Section 2.8.2.
<b>Historic England</b>	We advise that the approach to setting assessment should follow the structured approach set out in out GPA3 Setting of Heritage Assets, the distance of search should be adaptive to the significance and sensitivity of the assets which the scheme interacts and the	The Historic Environment Setting Assessment has followed the approach set out in GPA3 and is provided in Technical Appendix 8.3.

Stakeholder	Comment	Response
	materiality of the works proposed, in particular in the case of designed landscapes.	
<b>Historic England</b>	Views across landscape zones such as those where multiple assets such as church spires articulate with a common topographic space may require particular consideration both in terms of fixed point and kinetic views. Where pipelines bisect features such as parish boundaries banks, important field systems or areas of well preserved ridge and furrow etc reinstatement should include the earthwork form rather than introducing a flattened strip.	Where 'pipelines' are mentioned in this comment, it is assumed that this is in reference to cable routes. This has been considered within Technical Appendix 8.3 in determining those assets which have the potential to experience a likely significant effect and reported in this document in Section 8.11.
<b>Historic England</b>	Given the landscape scale of this and associated projects the schemes should seek to address the impact of structures in this landscape to ensure that localised archaeological interventions contribute to a whole (in terms of public value) which is more than the sum of their parts.	This approach is noted and has been considered within the preparation of both an evaluative strategy and will form a key consideration of any future archaeological excavations. Technical Appendix 8.5 has been included in an early form which will be updated for the ES will set out the forward strategy which will be archaeologically driven with a view to answering key identified questions and ensuring the Proposed Development adds appropriately to the wider suite of understanding and knowledge of this area.

**Table 8-7 Response to the Scoping opinion - Durham County Council**

Reference	Stakeholder	Comments
<b>Durham County Council</b>	Within the 2km radius search area is located Aycliffe Conservation Area which is not identified within the desk based assessment within the document.	Noted, this has now been included within the scope of the assessment within the Historic Environment Settings Assessment Technical Appendix 8.3
<b>Durham County Council</b>	From an archaeological point of view, as there is no footprint in County Durham there will be few issues. The only one that potentially springs to mind is setting of any designated heritage assets in County Durham.	Assets have been considered in line with the methodology set out in paragraph 8.1.42 and 8.1.43 of this report, i.e. within 2 km and or 5 km depending on heritage significance

## Consultation

8.5.2 The results of consultation carried out as part of the assessment are summarised in Table 8-8.

**Table 8-8 Response to Consultation**

Stakeholder	Comment	Response
Historic England	Consultation meeting arranged to discuss assessment	Meeting not completed at time of writing
Durham County Council Archaeology Team representing Darlington Borough Council	Consultation meeting on the 13th March to discuss evolving information from desk-based work and geophysics and future steps	During this meeting, the consultees noted the work undertaken to date including emerging geophysical survey results and indicated the requirement for some intrusive evaluation to accompany the application. This evaluation is to be focused on anomalies identified from the geophysical survey to understand their extent and significance with work on 'blank' area able to be undertaken at a later stage. Also, noted was that the HER is now open and has a range of aerial photographs which may be useful and that an in person visit could be undertaken which is planned following PEIR submission.
Tees Archaeology Team	Consultation meeting on the 13th March to discuss evolving information from desk-based work and geophysics and future steps	Consultees agreed with the archaeological strategy above as most works within the team's remit are located along existing roads, however, the principle of determining the significance of anomalies visible on the geophysical survey was acceptable. Also, it was noted that the HER contains a range of aerial photographs which may be useful and that an in person visit could be undertaken which is planned following PEIR submission.

## 8.6 Assessment Assumptions and Limitations

- 8.6.1 This PEIR provides preliminary information based on the development of the proposed scheme to date and the data gathered at this point in time. Some of the information gathered will be supplemented and provided in full and final form within the ES.
- 8.6.2 The PEIR is intended to inform consultation responses and a more detailed assessment of the identified direct effects and potential indirect amenity effects on identified sensitive receptors will be undertaken at the ES stage, drawing on the further assessment work of other disciplines.
- 8.6.3 Information gaps at the PEIR stage, for example the remaining geophysical survey data and results from any trial trenching, will be addressed as part of the ES. More specific mitigation measures will also be considered at the ES stage.

- 8.6.4 Data used to compile this assessment consists of information derived from a variety of sources, only some of which have been directly examined for the purposes of this study. The assumption is made that this data, as well as that derived from other secondary sources, is reasonably accurate.
- 8.6.5 The Historic Environment Record is not a record of all surviving heritage assets, but a record of the discovery of a wide range of archaeological and historic components of the historic environment. The information held within it is not complete and does not preclude the subsequent discovery of further elements of the historic environment that are, at present, unknown.

## **8.7 Study Area**

- 8.7.1 A distance-based approach was undertaken to define the study areas for use within this assessment. For the assessment of effects to below ground archaeological remains and designated and non-designated heritage assets where there is a potential likely significant effect (upon their heritage significance) a 2km study area has been used from the Site Area (Figure 8.1). This study area allowed for archaeological information on heritage assets within close proximity to the Proposed Development location to be collected to fully understand the potential for as yet unrecorded heritage assets to be present within the area potentially affected by the construction of the solar farm.
- 8.7.2 Any additional information gathered through surveys for this assessment has been undertaken within the Site Area, including walkover surveys and geophysics, as these provide specific evidence for potential direct impacts to known and unknown archaeological remains. Any identified remains can then be assessed within the broader archaeological context defined in paragraph 8.7.1.
- 8.7.3 For the assessment of indirect effects, a 5km study area around the Site Area has been used to capture any highly designated heritage assets which have the potential to receive a likely significant effect (upon their heritage significance). For this assessment, taking into consideration the nature of the Proposed Development, these asset categories have been deemed to comprise Grade I and Grade II\* listed buildings and Grade I and Grade II\* registered parks and gardens.

## **8.8 Baseline Conditions**

- 8.8.1 The purpose of this section is to describe the existing heritage and archaeological conditions of the Site Area and associated context defined in paragraph 8.7.1 in respect of which the assessment is undertaken.
- 8.8.2 Specific methodologies, including sources and any specific additional guidance are set out within Technical Appendices 8.1, 8.2 and 8.3.

## **Prehistoric to Romano-British (970,000 BC to AD 410)**

- 8.8.3 There is an overall lack of evidence for early Prehistoric activity within the 2 km study area and in the wider North East Region which can be explained as being the result of the harsh environmental conditions during the Palaeolithic and Mesolithic periods, compounded by a lack of consistent research.
- 8.8.4 Beyond the physical archaeological remains, however, geological and geoarchaeological information has indicated the presence of a former glacial large, approximately 3 km north-east of the Site Area and a hippopotamus bone, located approximately 0.8 km east of Panel Area F. This indicates that there are conditions where the preservation of archaeological remains from these earlier periods is possible within the wider landscape, although these areas are likely to be limited in geographical spread with relevant deposits at great depths below the current ground surface.
- 8.8.5 The earliest evidence for human activity in the 2 km study area dates to the Neolithic period and comprises the recovery of a single flint scraper approximately 0.2 km to the north of the Site. The Neolithic period is characterised as the beginning stages of the transformation from the mobile lifestyle of Palaeolithic and Mesolithic populations towards a more settled pattern of living.
- 8.8.6 This transformation was classically referred to as the ‘Neolithic Revolution’, although research in the past 20 to 30 years has provided substantive evidence to indicate the process of adopting farming practices over those used by the hunter-gatherer populations was long and drawn out. Resource exploitation remained broadly similar with rivers and areas of lower lying land proving to be an attractive location for activity, further demonstrated by widespread clearance of forests to provide areas suitable for more pastoral activities.
- 8.8.7 As settlement patterns became more sedentary into the Bronze Age, the use of the landscape begins to change more noticeably. In the broader landscape, this is most obvious through the move from individual to communal burial practices which manifests in the establishment of round barrows, replacing the long barrows of the earlier prehistoric periods. These monuments are often found on the free draining soils of the Cadeby Formation (formerly the Magnesian Limestone) which runs through the Site Area down to Nottinghamshire.
- 8.8.8 Definitive evidence for occupation and activity, however, remains sparse into the Bronze Age both within the study area and the wider north-eastern region with only a small number of flint finds recorded by either the Durham Historic Environment Record (DHER) or the Tees Sites and Monuments Record (TSMR).
- 8.8.9 The most substantial, and visible, change in evidence for occupation and indeed settlement comes during the Iron Age and into the Romano-British period. The Tees Valley has the greatest density of known Iron Age sites in the north-east which are dominated by rectilinear enclosures, eight of which are recorded within the study area

with the closest located approximately 1 km to the west of the Site Area. All eight enclosures were identified from cropmarks visible on aerial photographs, a technique which is particularly effective across the Cadeby Formation.

- 8.8.10 Confirmation of the provenance of these features has been provided in the form of evidence gathered from intrusive archaeological investigations undertaken at Faverdale, while lies beyond the 2 km study area approximately 3.7 km to the south-west of the Site Area.
- 8.8.11 Cropmark features, including further rectilinear and circular enclosures, have been identified across the study area which, while not definitively attributed to the Iron Age and/Romano-British period, share similar characteristics to those noted in paragraph 8.8.9 above. This includes a concentration of enclosures immediately to the south of the Site Area.
- 8.8.12 Until the prevalence of developer-funded excavations from the 1990s onwards, the scale and nature of the Romano-British occupation of the region was not fully understood as evidence was generally restricted to isolated findspots.
- 8.8.13 Since the 1990s, a much richer and deeper understanding of activity has been established which indicates that settlement patterns did not radically change after the invasion in AD 43, rather, that there was a continuity of culture and agricultural practices beyond the invasion.

#### **Saxon to Medieval (AD 411 to AD 1539)**

- 8.8.14 Evidence of activity and occupation during the Saxon period in the North-East is generally focused on the large settlement centres like Hartlepool, Newcastle, Durham and Darlington which were all established prior to the Norman invasion in AD 1066. These settlement centres were closely associated with ecclesiastic establishments that formed the cornerstone of many aspects of life at this time, and beyond into the medieval period.
- 8.8.15 This close association is notable in the study area through the presence of a number of examples of churches within the settlements of Sadberge, Great Stainton and Aycliffe which contain masonry dating to the Saxon period within later structures.
- 8.8.16 Beyond these physical elements, there is little other evidence for activity in the Saxon period which is replicated across the region where definitive remains of Saxon occupation are limited. This does not necessarily indicate a lack of activity, but rather than the relatively ephemeral nature of the remains generally associated with Saxon sites coupled with the effects of later development. Most Saxon settlements remained occupied following the Norman Conquest with physical evidence for this period often either obscured or removed by alternations made even as early as the medieval period.

- 8.8.17 The pattern of village settlements began to be established over much of the midlands and north of England in the form of regular, planned, settlement centres during the 9<sup>th</sup> and 10<sup>th</sup> centuries. These were often focused on, or developed around, the fertile lowlands or the strongholds of nobles and religious sites due to areas being given permission to hold fairs or markets, encouraged by local lords to make money from taxation.
- 8.8.18 The power of local lords in the earlier centuries of the medieval period was administered through several means, one of which was the establishment of substantial fortified residences in the local landscape. The power these residences held were two fold, the size and scale of the defensive structures were designed to deter any infiltration from outside while this prominence also served to reinforce the prominence and status of the resident lord over the surrounding landscape. The exploitation of the landscape and the revenue that generated, was the primary source of prestige and power.
- 8.8.19 One such residence is located within the study area and is now protected as a scheduled monument. A motte and bailey was constructed in the 12th century by Roger de Conyers as a result of a dispute with William Cumin and the need to fortify and lay claim to the settlement at Bishopton. The siting of the castle in a strategic and dominant location to the south of Bishopton village was a deliberate choice as a clear demonstration of secular power within the landscape.
- 8.8.20 Analysis of LIDAR data and aerial photography have revealed evidence for approximately 28 deserted medieval settlements (DMV) throughout the study area, and immediately beyond. These comprise the earthwork remains of two parallel lines of houses which face onto a broad, rectangular green with crofts to the rear and are thought to have been deserted (due to several factors including; the Black Death, declining economic viability, emparkment and enclosure) between the 13th and 15th centuries. The outskirts of these medieval settlements, and the rural areas surrounding them, are characterised by ridge and furrow earthworks and field systems, suggesting a dominant agricultural presence in this area during the medieval period.

### **Post-medieval to Modern (AD 1540 to Present)**

- 8.8.21 During the 17th to 19th centuries both the continuing use of the surrounding landscape for agricultural purposes and the rise of industrial production led to the expansion of the already established settlement centres at Aycliffe, Coatham Mundeville, Brafferton, Great Stainton and Sadberge and the establishment of development at Redmarshall, Carlton and Thorpe Thewles.
- 8.8.22 The industrialisation of the area was predominantly in the form of extractive industries with evidence of this within the study area in the form of limestone quarries to the south of Aycliffe and the Carlton Ironworks. The growth of this industrialisation was facilitated by the construction of railways and routeways across the region, including

the Castle Eden Branch Railway and the West Hartlepool Railway which cross the eastern part of the study area.

- 8.8.23 Aside from the evidence for industrial activity, the study area is characterised by clear evidence for the continued use of the landscape for agricultural purposes throughout the post-medieval period, predominantly in the form of ridge and furrow earthworks and post-medieval field systems.
- 8.8.24 Modern activity within the study area is dominated by examples of both World War One and World War Two infrastructure, including war memorials and pillboxes. A record of a First World War airfield is located in fields to the south of Bishopton and is located within Panel Area E. This location was formerly home to Bishopton Landing Ground and opened as a World War One 3rd Class Night Landing Ground for use by 36(HD) Sqn in October 1916. The area covered 60 acres and was in use until the 13th August 1919.
- 8.8.25 As a Night Landing Ground, the airfield was likely sparse, comprising a basic level of timber huts or billets. Due to the small size and weight of the aircraft, the landing strip would not have been paved and would have comprised a grassy strip of land.
- 8.8.26 Despite the modern development of Stockton-on-Tees and Darlington, the study area largely retains its agricultural character with small villages and hamlets, many of which still demonstrate their historical character.

### Geophysical Survey

- 8.8.27 The geophysical survey report of the Site Area, which contains the most up to date data and interpretation at the time of writing, is included as Technical Appendix 8.4. The rest of the Site Area will be surveyed, and the results will be reported within the ES.
- 8.8.28 The survey results have confirmed that the survey technique employed is suitable for the underlying geological conditions within the Site Area. The survey has returned data with easily definable contrast between anomalies and the ambient magnetic signature of the Site Area. Therefore, the confidence level in the accuracy of these results is good.
- 8.8.29 Due to the size of the Site Area, it has been split into five evaluation areas for the purpose of the geophysical survey. These are as follows:
- Area 1 comprising of Panel Area A;
  - Area 2 comprising of Panel Areas B and C;
  - Area 3 comprising of Panel Areas D and E;
  - Area 4, which has since been removed from the Site Area; and
  - Area 5 comprised of Panel Area F.



- 8.8.30 Anomalies which have been interpreted as representing possible or probable archaeological remains have been assigned a unique identifier (G1, G2 etc) and these are presented in Figure 8.3. The anomalies described in this PEIR assessment, and their corresponding evaluation area, are as follows:
- Area 1 containing anomalies G1, G2, G3 and G4;
  - Area 2 containing anomalies G5 and G6; and
  - Area 3 containing anomalies G7 and G8.
- 8.8.31 Within Area 1, the survey has identified a number of anomalies interpreted as field boundaries which are of uncertain origin, but likely to be medieval or earlier, potentially relating to activity during the Romano-British period. Elsewhere in this area, the remaining anomalies relate to medieval and/or post-medieval ridge and furrow, post- medieval field boundaries and post-medieval extraction activity.
- 8.8.32 Within Area 2, the survey has identified a number of enclosure ditches and evidence for settlement which are likely to be prehistoric, potentially as early as Bronze Age, and/or Romano-British in origin. Beyond this cluster of multi-phase occupation, further fragmented linear anomalies have been identified which could be of similar provenance to the possible settlement, although could equally be modern agricultural activity. Further evidence of medieval/post-medieval agricultural practices have also been encountered.
- 8.8.33 Within Area 3, the survey has identified a number of anomalies interpreted as field boundaries which are of uncertain origin, but likely to be medieval or earlier, potentially relating to activity during the Romano-British period. The survey has also identified anomalies consistent with medieval and post-medieval agricultural activity including ridge and furrow along with some limited evidence for extraction activity.
- 8.8.34 Within Area 5, the survey has identified evidence of medieval/post-medieval agricultural activity including areas of ridge and furrow.

## **8.9 Potential effects**

- 8.9.1 Potential effects on heritage assets can occur during the construction, operation and decommissioning of the Proposed Development and through direct and indirect impacts which are outlined below.

### **Construction**

- 8.9.2 Effects during construction are typically derived from direct impacts caused by physical disturbance associated with the Proposed Development through activities including, but not limited to:
- installation of the driven module mounting structures;
  - excavation associated with the foundations for transformers;

- works associated with the installation of cabling which may include open cut trenching, Horizontal Directional Drilling (HDD) or through the use of a cable plough;
- excavation / foundations associated with the installation of fencing and security measures;
- excavation for access tracks;
- excavation for foundations for Battery Energy Storage Systems (BESS) and an on-site substation;
- hard and soft landscaping including new tree planting; and
- any additional construction works which require excavation.

8.9.3 There will be no direct impacts outside of the footprint of these construction activities while there are no expected impacts on any standing structural remains.

8.9.4 The Proposed Development is not likely to alter the groundwater levels within the site. The nature of solar farms is such that only small piles are driven into the ground and large expanses of impermeable structures do not form part of the design. All access tracks have been designed so they are permeable and will not interrupt the natural flow of water within the site. The drainage strategy (Technical Appendix 10.1) states that the mitigation measures proposed will ensure greenfield runoff rates are maintained and there would be limited change in the distribution of surface and groundwater throughout the Site Area.

8.9.5 The order and scale of effects will be determined by the type of intrusive work undertaken for which the details are currently not fixed. As a result, in assessing the effects upon archaeological remains, a worst-case scenario has been applied whereby all remains will be entirely removed within the Site Area.

8.9.6 There is the potential for effects upon the heritage significance through direct impacts during construction activities on the following heritage assets:

- possible remains of the purported route of the Roman road to Chester-Le-Street (DHER H3245), an asset of Medium heritage significance which could be of regional importance;
- remains associated with possible rectangular cropmark of unknown date (H69180), an asset of Low heritage significance which is of local importance;
- areas of medieval field systems near to Redmarshall and Carlton (THER 6867), an asset of Low heritage significance which is of local importance;
- large areas of post-medieval ridge and furrow throughout the Site Area, an asset of Low heritage significance which is of local importance;
- the Castle Eden Branch of the North East Railway near to Kenilworth (THER 4216), an asset of Low heritage significance which is of local importance;
- Bishopton Landing Ground, a World War One airfield (H44096), an asset of Medium heritage significance which is of regional importance;
- a possible rectangular cropmark to the north east of Great Stainton, an asset of Low heritage significance which is of local importance;

- anomalies identified from the geophysical survey relating to possible or probable archaeology. At present, as none of the identified anomalies have been tested through intrusive excavation, it is not possible to definitely ascribe a level of heritage significance as this could range from Negligible to High ranging from limited to national importance. Anomalies include:
  - A concentration of curved, curvilinear and linear anomalies located approximately 500 m to the west of Great Stainton (see G4 on Figure 8.3);
  - A cluster of anomalies located approximately 290 m to the north-east of Brafferton which includes a rectangular anomaly consistent with a possible rectangular enclosure and a number of anomalies which may represent internal features (Figure 8.3: G1);
  - Linear anomalies and a number of discrete, pit-like features located approximately 320 m south of High House (Figure 8.3:G2);
  - An L-shaped anomaly located approximately 600 m east of High House (Figure 8.3: G2);
  - Two pit-like anomalies and a number of irregular-shaped linear features (Figure 8.3: G5);
  - A range of discrete anomalies between Coatham Mundeville and Newton Ketton (Figure 8.3: G3) which includes:
    - A circular anomaly located approximately 230 m south of Brafferton;
    - An elliptical shaped anomaly located approximately 550m south of Lovesome Hill Farm;
    - A series of linear anomalies approximately 220 m west of Newton Ketton; and
    - A long linear anomaly located approximately 200 m south-west of Lovesome Hill Farm.
- As yet unknown archaeological remains. As their presence, extent and heritage significance remain unknown, it is not possible to definitely ascribe a level of heritage significance as this could range from Negligible to High ranging from limited to national importance.

## Operation

- 8.9.7 The identification and refinement of designated heritage assets which had the potential for a likely significance effect through a change in their setting that may affect their heritage significance is set out in detail within Technical Appendix 8.3 (Figure 8.2).
- 8.9.8 In summary, a long list of designated heritage assets which had the potential to be impacted upon by the Proposed Development through a change in their setting was collated on the basis of the process set out during scoping and in line with industry standards and guidance. Following this exercise, this long list was reduced to a short list of nine designated heritage assets which were then considered in further detail.

- 8.9.9 Of those nine assets, only two were determined to be susceptible to a potential likely significant effect and therefore carried into the PEIR. The remainder of the assets were scoped out and not included within this assessment.
- 8.9.10 Effects on the heritage significance of the following designated heritage assets through a change in their setting where that setting makes a contribution to their significance have been identified:
- Asset Group Three: Bishopton;
  - Bishopton Conservation Area; and
  - Motte and Bailey castle 400m south-east of Bishopton

## **Decommissioning**

- 8.9.11 At the end of the licencing period for the Proposed Development, the solar PV modules and associated infrastructure will be removed to decommission the Proposed Development. While the methodology for this is not currently set out in detail, the process for removing the built form of the Proposed Development is not expected to require any additional land take, nor is it expected to require any new intrusive excavation.
- 8.9.12 There would therefore be no additional impacts on any buried archaeological remains, either known or unknown, other than those already reported as occurring during the construction phase (paragraph 8.9.6).
- 8.9.13 The removal of the built form of the Proposed Development will return the land within the Site Area to its original form, i.e. its current character. Where landowners wish, enhancements made as part of the Proposed Development can be kept.
- 8.9.14 Where the Proposed Development is reported to have an effect on a heritage asset through a change in setting, that effect will be removed as the effect was derived from the introduction of the built form into that setting.
- 8.9.15 These effects are reported during operation as permanent as the period of time they span can be many years and therefore cannot constitute a 'temporary effect'. However, as the effect can be removed at decommissioning, these effects are therefore fully reversible.

## **8.10 Design, mitigation and enhancements**

### **Embedded design measures**

- 8.10.1 The primary design consideration for physical impacts to any known or potential archaeological remains is avoidance.

- 8.10.2 This principle has been applied across the Site Area which included the alteration of the redline boundary to the south of the Scheduled Motte and Bailey castle 400m south-east of Bishopton to avoid any direct impacts to the scheduled area.
- 8.10.3 In response to the nature of archaeological remains and the possibility for either known or unknown remains to be of sufficient heritage significance to warrant preservation in situ, a flexible design process can be applied where required.
- 8.10.4 This process can involve micro-siting of piles for panels to avoid specific archaeological features and/or the application of above ground foundations to reduce substantially any below ground intrusion from the construction works.
- 8.10.5 The application of these methods will be considered, and potentially applied, through a balanced decision based on the sum of environmental factors and from a development viability perspective, and agreed in consultation with the relevant statutory consultees.
- 8.10.6 Where such methods are to be applied, these can be included within the Outline Archaeological Strategy Written Scheme of Investigation if the parameters are known for the production of the final Environmental Statement, or as part of a later detailed WSI guided by an appropriately worded requirement in the DCO.
- 8.10.7 In relation to potential indirect impacts to designated heritage assets through a change in setting, the design process has been collaborative across the environmental disciplines to ensure a joined up and holistic approach to minimising, and removing entirely where possible, any adverse environmental effects.
- 8.10.8 For Cultural Heritage, this has been concentrated on the enhancement of field boundaries which provide screening between the Proposed Development and the surrounding landscape. In collaboration with the landscape and visual impact assessment team, where existing boundaries are less than complete these have been noted for enhancement while where large gaps have been identified, these are proposed to be filled with new planting.
- 8.10.9 Tree and hedgerow planting will be used across the Site Area which will significantly reduce ground level visibility of any panels, although this cannot provide full screening of the Proposed Development across the entire landscape and some visibility will remain.

### **Construction mitigation**

- 8.10.10 The Proposed Development has the potential to affect subsurface archaeological remains through intrusive construction activities.
- 8.10.11 It is proposed to mitigate any potential effects through the implementation of an appropriate programme of archaeological works which will permit any remains to be

investigated and recorded (leading to preservation by record) which can be set out as a Requirement of a DCO.

- 8.10.12 As direct impacts are limited to the footprint of the Proposed Development, no further disturbance of any potentially buried archaeological remains is anticipated.
- 8.10.13 The mitigation measures will be set out within an Outline Archaeological Strategy Written Scheme of Investigation submitted with the Environmental Statement following consultation and approval by (as necessary) the County Archaeologist for Durham County Council acting as archaeological advisor to Darlington Borough Council and the Planning Archaeologist for Hartlepool Borough Council acting as archaeological advisor to Stockton-on-Tees Borough Council.
- 8.10.14 At this stage of the assessment process, the full suite of archaeological information is not available, however, it is expected that the following measures will be applied where impacts cannot be removed through design mitigation:
- implementation of the flexible design measures noted in paragraph 8.10.4,
  - additional trenching in areas beyond those undertaken to support the ES to identify any further areas of archaeological interest; and
  - set piece excavations in areas where significant archaeological remains are present and avoidance measures cannot be implemented.

### **Operation mitigation**

- 8.10.15 Indirect effects on assets within and beyond the Site Area are difficult to mitigate. The scale and size of the Proposed Development will mean that views will be afforded towards them from a number of areas in the surrounding landscape.
- 8.10.16 Beyond the embedded design measures set out in paragraph 8.10.1 there are no mitigation measures which would be likely to prove effective to reduce the reported effect.

### **Enhancement**

- 8.10.17 The Proposed Development offers the opportunity for heritage benefits to the local community of Bishopton through the enhancement of knowledge, understanding and engagement with the former First World War airfield which is located within the Site Area.
- 8.10.18 There is at present limited information relating to the operation of the airfield and no physical remains are likely to be encountered given the airfield was only ever a grass landing area. However, with the conflict just beyond living memory, the airfield presents an opportunity to enhance the connection of the airfield to the settlement at Bishopton and to the community beyond.

- 8.10.19 Links could be made with the contemporary airfield outside Sadberge and to the wider network of airfields used by the 36th Squadron while interpretation boards, public art and providing better access to the airfield location are all potential measures which could be employed.
- 8.10.20 The specific measures should be formulated in consultation with the local community and interested local stakeholders along with representatives from the LPA(s).

## 8.11 Assessment of likely significant effects

### Construction

#### Direct Effects

- 8.11.1 Following the implementation of the agreed mitigation measures within the approved Outline Archaeological Strategy Written Scheme of Investigation (WSI) measures, broadly set out in Paragraph 8.10.11, the following effects have been identified.
- 8.11.2 The removal of possible archaeological remains associated with the purported route of the Roman road to Chester-Le-Street (DHER H3245).
- This is recorded as a single point location by the HER although is thought to be a north to south aligned road. The Proposed Development would remove any archaeological remains within the Site Area, however, this would represent only a limited section of the full extent of the asset leaving the majority untouched and a Low magnitude of change.
  - The application of the approved mitigation measures will reduce the magnitude of change to Negligible as any physical impact would be reduced through preservation by record.
  - This would constitute a Negligible magnitude of change on an asset of Medium heritage significance resulting in a **Negligible Effect**, which is not significant for the purposes of EIA.
- 8.11.3 The removal of remains associated with possible rectangular cropmark of unknown date (H69180).
- The Proposed Development would remove all archaeological remains associated with the cropmark which constitutes a High magnitude of change.
  - The application of the approved mitigation measures will reduce the magnitude of change to Low as any physical impact would be reduced through preservation by record
  - This would constitute a Low magnitude of change on an asset of Low heritage significance resulting in a **Minor Adverse Effect**, which is not significant for the purposes of EIA.
- 8.11.4 Areas of medieval field systems near to Redmarshall and Carlton (THER 6867).
- The Proposed Development would remove any archaeological remains within the Site Area, however, this would represent only a limited section of the full extent of the asset leaving the majority untouched and a Low magnitude of change;

- The application of the approved mitigation measures will reduce the magnitude of change to Negligible as any physical impact would be reduced through preservation by record.
- This would constitute a Negligible magnitude of change on an asset of Low heritage significance resulting in a **Negligible Effect**, which is not significant for the purposes of EIA.

#### 8.11.5 Large areas of post-medieval ridge and furrow throughout the Site Area.

- The Proposed Development would remove any archaeological remains within the Site Area, however, this would represent only a limited section of the full extent of the asset leaving the majority untouched and a Low magnitude of change;
- The application of the approved mitigation measures will reduce the magnitude of change to Negligible as any physical impact would be reduced through preservation by record.
- This would constitute a Negligible magnitude of change on an asset of Low heritage significance resulting in a **Negligible Effect**, which is not significant for the purposes of EIA.

#### 8.11.6 The Castle Eden Branch of the North East Railway near to Kenilworth (THER 4216).

- This is recorded as a single point location by the HER although is thought to be a north to south aligned railway. The Proposed Development would remove any archaeological remains within the Site Area, however, this would represent only a limited section of the full extent of the asset leaving the majority untouched and a Low magnitude of change.
- The application of the approved mitigation measures will reduce the magnitude of change to Negligible as any physical impact would be reduced through preservation by record.
- This would constitute a Negligible magnitude of change on an asset of Low heritage significance resulting in a **Negligible Effect**, which is not significant for the purposes of EIA.

#### 8.11.7 Bishopton Landing Ground, a World War One airfield (H44096).

- The Proposed Development would remove all archaeological remains associated with the landing ground which constitutes a High magnitude of change, however, due to the nature of the asset there is unlikely to be any substantial archaeological remains to be impacted. The magnitude of change, therefore, is likely to be Low.
- The application of the approved mitigation measures will reduce the magnitude of change to Negligible as any physical impact would be reduced through preservation by record.
- This would constitute a Negligible magnitude of change on an asset of Medium heritage significance resulting in a **Negligible Effect**, which is not significant for the purposes of EIA.

#### 8.11.8 A possible rectangular cropmark to the north-east of Great Stainton.

- The Proposed Development would remove all archaeological remains associated with the cropmark which constitutes a High magnitude of change.
- The application of the approved mitigation measures will reduce the magnitude of change to Low as any physical impact would be reduced through preservation by record



- This would constitute a Low magnitude of change on an asset of Low heritage significance resulting in a **Minor Adverse Effect**, which is not significant for the purposes of EIA.

8.11.9 The removal of anomalies identified from the geophysical survey relating to possible or probable archaeology.

- At present, as none of the identified anomalies have been tested through intrusive excavation, it is not possible to definitively ascribe a level of heritage significance as this could range from Negligible to High.
- The Proposed Development would remove all archaeological remains associated with the anomalies which constitutes a High magnitude of change.
- The application of the approved mitigation measures will reduce the magnitude of change to Low as any physical impact would be reduced through preservation by record.
- This would constitute a Low magnitude of change on assets within a range of Negligible to High heritage significance resulting in a **Negligible to Moderate Adverse Effect**, which could be significant for the purposes of EIA.

8.11.10 As yet unknown archaeological remains.

- As these remain unknown in presence, nature and extent it is not possible to definitively ascribe a level of heritage significance as this could range from Negligible to High
- The Proposed Development would remove all archaeological remains associated with the anomalies which constitutes a High magnitude of change.
- The application of the approved mitigation measures will reduce the magnitude of change to Low as any physical impact would be reduced through preservation by record.
- This would constitute a Low magnitude of change on assets within a range of Negligible to High heritage significance resulting in a **Negligible to Moderate Adverse Effect**, which could be significant for the purposes of EIA.

### **Indirect Effects**

8.11.11 Whilst there would necessarily be an increase in noise and visibility of the construction works arising from the presence of cranes, vehicles, flashing lights etc. within the Site Area and accessing the Site Area, these effects are temporary and short term, limited to working hours and for the duration of the construction programme.

8.11.12 None of the assets within the study area were identified within the settings assessment (Technical Appendix 8.3) as being sensitive to these types of intrusions and while there may be some change in experience, the limited range and application would not result in a marked alteration in setting and thus will not lead to an effect to their heritage significance.

8.11.13 Specific indirect effects on heritage assets within the study area through a change in setting are considered below in relation to the final built form of the Proposed Development.

## Operation

- 8.11.14 Indirect impacts to heritage assets occur as a result of development within their setting. The Proposed Development has the potential to change (diminish or otherwise harm) that setting and the contribution it makes to the heritage significance of the heritage asset.
- 8.11.15 Where the setting of a heritage asset does not contribute to its heritage significance, or if the area of development proposed does not lie within the setting of the heritage asset, no impact can occur,
- 8.11.16 Following the process set out within paragraph 8.9.7, the following assets have been taken forward for detailed assessment within this section (Figure 8.2):
- Asset Group Three: Bishopton;
  - Bishopton Conservation Area; and
  - The Scheduled Monument Motte and Bailey castle 400m south-east of Bishopton.

### Asset Group Three: Bishopton

- 8.11.17 The assets covered by this grouping comprises seven Grade II listed buildings located within the village of Bishopton. These assets have been grouped together for assessment due to their proximity and through their shared historic and spatial relationship which makes up the primary setting of the individual buildings.
- 8.11.18 This group does not include the Scheduled Monument Motte and Bailey Castle 400m south-east of Bishopton or the Bishopton Conservation Area which derive their significance from different interests and are assessed separately.
- 8.11.19 A list of the constituent elements of this asset group is set out within Table 1 of Technical Appendix 8.3.

### *Description of asset*

- 8.11.20 The village of Bishopton follows a generally typical layout for a settlement with medieval origins arranged around The Green, High Street and Church View with the Grade II listed Church of St Peter located at the eastern end of the village forming a natural focal point.
- 8.11.21 The church dates to the 13th century and underwent significant rebuilding and restoration in the mid-19th century, although little original fabric remains from the earliest structures. Two listed buildings lie in close proximity to the church, the medieval stone cross and a headstone dedicated to Jane Musgrave.

- 8.11.22 The remaining listed buildings are located within the centre of the settlement with three relating to 18th and 19th century buildings and the First and Second World War memorial.

#### *Description of setting*

- 8.11.23 The setting of the constituent listed buildings within the village is defined by their historic, spatial and visual relationship with each other. This relationship allows for the development of the village to be appreciated and understood while also affording the close proximity to appreciate their architectural detailing.
- 8.11.24 Beyond the limits of the village, the wider setting of this asset group comprises the surrounding landscape which has retained a rural character since the medieval period at least, although was significantly altered in the late 18th and early 19th centuries through enclosure.

#### *Significance*

- 8.11.25 The significance of these assets is vested primarily in the historic and architectural interest of the constituent listed buildings which range from medieval to 20th century in origin and attest to the longevity of settlement at Bishopton.

#### *Contribution of setting to significance*

- 8.11.26 The immediate setting of this group of assets makes a positive contribution to their significance through the relationship between the constituent buildings which allows for an appreciation and understanding of their historic interest. This immediate setting also allows for an understanding of their architectural interest which is best appreciated in close proximity.
- 8.11.27 The wider setting of the listed building provides some general context for rural character surrounding the settlement but makes no contribution to the appreciation or understanding of the key elements of their significance.

#### *Effects of the Proposed Development*

- 8.11.28 The Proposed Development will be constructed to the north, east and west of the village but will not impact on the key elements of the significance of the assets within Bishopton village. This significance is primarily defined through an appreciation of their historic and architectural interest which is best experienced in close proximity. The village centre provides this proximity whilst also adding the significance of the constituent elements through the historic relationship between the listed buildings and the sympathetic architectural style of the more modern additions.
- 8.11.29 The Proposed Development may be visible from the asset group, however, that visibility will not result in a material alteration of the key elements of significance, nor

of how those elements are appreciated. It will not intrude on any key views and it will not interrupt any understanding of the relationship between the listed buildings.

- 8.11.30 The Proposed Development will lead to a Negligible magnitude of change on the asset which is of Medium heritage significance resulting in a **Negligible Effect**, which is not significant for the purposes of EIA.

### **Bishopton Conservation Area**

#### *Description of asset*

- 8.11.31 The historic character of the conservation area is immediately appreciable when entering the settlement along one of the three primary roads. Along The Green, coming from the west, the tree-lined roads give way to red-brick structures beginning with a head-height boundary wall on the southern side of the road which draws the eye along its course to the first historic building, a non-designated two storey house named 'Bishopton House'.
- 8.11.32 From this point, the linear character of the settlement becomes apparent, although only the western end as the rising topography and slight curve in the road retains a degree of screening from here to the rest of the village. The Green is lined with historic buildings on both sides which are separated from the road by small areas of grass, interspersed with mature trees.
- 8.11.33 Moving to the east through the settlement centre, a small number of more modern buildings are present although are not overly noticeable as the general architectural design and material choices are similar to the older structures as is the green space and interspersed mature vegetation between the road and buildings.
- 8.11.34 The character of the village remains essentially unaltered throughout with the continuity of materials and treatment of open space allowing the more modern additions to blend into the more historic character. The most significant, visible change is at the junction between Church View and High Street where the road forks at the western edge of the Church of St Peter.
- 8.11.35 Church View continues in a north-easterly direction where the character is distinct from the main settlement centre as the grass verges bounding each side of the road are no longer present with a greater proportion of modern buildings which do not follow the general character and appearance of the rest of the settlement.
- 8.11.36 Beyond the settlement edge, and the limits of the conservation area, Church View continues to the west in the form of a narrow lane lined on either side by well-established hedgerows.

- 8.11.37 At the fork to the west of the Church of St Peter, High Street continues along a south-easterly course and continues to exhibit the primary character and appearance visible in the centre of the settlement almost to the edge of the settlement.
- 8.11.38 Beyond the limits of the modern village, the conservation area continues to encompass the scheduled motte and bailey which sits adjacent to Bishopton Beck running in a broadly north to south alignment parallel to High Street and the junction with Redmarshall Lane. Views looking north-west from that junction allow the monument to be appreciated in its historic context as the principal element of administration for the medieval landscape at the same time as understanding the longevity of occupation within Bishopton.

### *Setting*

- 8.11.39 The setting of the conservation area is defined by the identified key views of the conservation area including those noted within the appraisal document and through the assessment made within Technical Appendix 8.3.
- 8.11.40 These comprise:
- views looking east along The Green;
  - the view of St Peter's Church from the south along High Street;
  - the view of the Scheduled Motte and Bailey Castle 400m south east of Bishopton from the southern limit of the settlement along High Street;
  - the view towards the settlement from the south while moving along High Street from Redmarshall Lane; and
  - the view across the rural landscape towards the Scheduled Motte and Bailey Castle 400m south east of Bishopton from Church View/Mill Lane
- 8.11.41 The wider setting of conservation area, beyond these identified views, comprises the generally rural landscape present across the Site Area and 2 km Study Area as a whole. This landscape has retained that rural character since the medieval period at least, although was significantly altered in the late 18th and early 19th centuries through enclosure.

### *Significance*

- 8.11.42 The significance of the asset is derived from the conformity of architectural style and construction materials of the constituent elements which makes a positive contribution to the character and appearance of the conservation area.
- 8.11.43 This character and appearance is appreciable immediately upon entering the conservation area, particularly from the south along High Street and the west along The Green where historic buildings and the grass verges lining the road are present and continue almost entirely throughout the settlement.

8.11.44 The exception being when entering the settlement along Church View where the principal character and appearance does not extend to the limits of the village, rather a more modern character is present until the junction with High Street. This section of the conservation area does not make as great a contribution to its significance as the rest of the settlement which generally retains a high quality of historic character and uniform appearance.

#### *Contribution of setting to significance*

8.11.45 The setting of the conservation area makes a positive contribution to its significance through the key view from Church View/Mill Lane looking to the south-west towards the motte and bailey where the appreciation of the longevity of the settlement is best understood. Here, both the modern and historic elements of the settlement are visible in the same view with the rural landscape in between.

8.11.46 A similar appreciation of that longevity is manifest through another identified key view when moving along High Street from Redmarshall Lane with the motte and bailey present on the western side and the limits of the modern settlement within the same view when looking to the north-west.

8.11.47 The remainder of the surrounding landscape while rural, does not make any great contribution to the character and appearance of the conservation area.

#### *Effects of the Proposed Development*

8.11.48 The Proposed Development will be constructed to the north, east and south-west of the conservation area but will not be visible within any of the key views identified by the conservation area appraisal or during the Historic Environment Settings Assessment undertaken in support of this PEIR (Appendix 8.3).

8.11.49 The integrity of the conservation area and its character and appearance will be unaffected by the Proposed Development. This integrity and relationship is best appreciated within the limits of the settlement where the afforded proximity allows the architectural interest of the constituent buildings to be viewed and experienced in conjunction with the defined grass verges and mature vegetation.

8.11.50 Where the Proposed Development will be noticeable is when moving along Church View/Mill Lane to the west, entering the limits of the settlement, as the PV panels will be constructed immediately behind the existing hedgerows to the north. This visibility will be very limited as the Proposed Development will reinforce and enhance any gaps in the hedgerows, although some glimpses of the panels are likely.

8.11.51 This section of the conservation area does not contribute as much to the significance of the asset group as it is much less uniform in its character and appearance to the rest of the settlement and is primarily defined by more modern structures. In this respect, while noticeable, the change in landscape format within this view will lead to a limited

alteration to the overall significance of the asset group. The primary constituent elements of its significance will remain unaffected which includes the important view from this road towards the scheduled motte and bailey as the panel areas will be behind, and this not visible, when experiencing this view.

- 8.11.52 The Proposed Development will lead to a Negligible magnitude of change on the asset which is of Medium heritage significance resulting in a **Negligible Effect**, which is not significant for the purposes of EIA.

### **Scheduled monument motte and bailey castle 400 m south east of Bishopton**

#### *Description of asset*

- 8.11.53 The asset comprises a conical shaped motte approximately 11.5 m in height and 55 m wide at its base and is surrounded by a 10 m to 15 m wide and up to 3.5 m deep moat. The bailey is located immediate to the north-west for the motte and measures approximately 80 m by 40 m and is bounded by a large ditch along its north-west side, a low bank on its north-east side and a large trivallate earthwork on its south-west side. The western boundary is formed by a double directed system which runs parallel to Bishopton Beck. The motte and bailey, as a whole, has a substantial moat on its eastern side measuring approximately 75 m wide and 1.5 m deep.
- 8.11.54 There is little known information about the castle with only a single reference in AD 1143 to the fortification of a castle by Roger de Conyers that may relate to the asset, however, it is not known whether there was an earlier castle located on the site. A series of remains within the eastern part of the bailey have been attributed to a large rectangular building and a smaller building abutting the bailey's northern wall.

#### *Description of setting*

- 8.11.55 The setting of the asset is defined by its location in a position of key strategic importance at the south-eastern edge of the settlement at Bishopton, adjacent to Bishopton Beck which affords it clear views across the surrounding landscape in almost all directions.
- 8.11.56 The landscape around the asset has remained generally rural in character since the medieval period, albeit with some identifiable alterations mainly located within the settlement centres and from the construction of some new, modern infrastructure.

#### *Significance*

- 8.11.57 The significance of the asset is primarily derived from its archaeological interest through the information excavation could yield in relation to its construction, occupation and abandonment. This archaeological interest is elevated as there is little other evidence from documentary sources. This information gained from any

excavations would contribute to regional, and national, research into the administration of the north-east of England during the medieval period.

- 8.11.58 The asset draws significance from its historic interest as a visible, and prominent, remaining element of the medieval landscape. In particular, the asset attests to the power and prowess of its former inhabitants and to the associated village of Bishopton. While remaining form of the asset the most obvious element of this historic interest, this link between the asset and the adjacent village is key in the appreciation of its administrative role.

#### *Contribution of setting to significance*

- 8.11.59 The asset draws significance from its setting primarily through its strategic location adjacent to Bishopton Beck and from its historic and spatial relationship with the settlement at Bishopton. This relationship is key in understanding and appreciating the asset and its historic interest as it puts into context the decisions made to situate the asset in that location, and also informs our understanding of why the settlement at Bishopton developed throughout the medieval period and into the post-medieval period.
- 8.11.60 This relationship with the village and the strategic prominence the motte offers is of particular importance in understanding the historic interest of the motte and thus its significance. Power and influence were exerted over the surrounding landscape through the presence of the motte with those living in Bishopton likely to have felt that influence most keenly, with either positive or negative associations.
- 8.11.61 The surrounding landscape does make a contribution to the significance of the asset through an ability to appreciate and understand further the power and influence asserted by the motte and its inhabitants over the wider area. The rural and agricultural land and the revenue driven from it were a primary source of wealth for any lord and that relationship is still appreciable, despite the great landscape changes undertaken in the late 18th and early 19th centuries through enclosure.

#### *Effect of the proposed development*

- 8.11.62 The Proposed Development will introduce solar PV modules into the landscape round the asset in views to the west of the asset. The remaining panel areas will be either screened by existing vegetation and/or buildings, not visible due to topography or located at a distance whereby they would not be considered to lie within the setting of the asset. The panels, in views to the west, are located at a similar elevation to the monument and will be a noticeable introduction into the vicinity of the asset and its immediate surroundings, within this view.
- 8.11.63 The solar PV modules will not obstruct the any visual or spatial aspect of the strategic location of the asset or to its historic relationship with Bishopton Village, nor will they



compete with the motte's prominence or alter the pattern of the surrounding landscape.

- 8.11.64 The Proposed Development will, however, change the way the relationship between the asset and the surrounding landscape is experienced in this western view. This change is through the introduction of modern, industrial components and how that alters the understanding of the rural setting of the asset in relation to its historic interests as a symbol of power and administration. This change is tempered by the significant landscape change that has occurred since the establishment of the motte and bailey, particularly through enclosure, however, the relationship to the landscape and how that transferred to the lords is diminished, albeit in a limited way.
- 8.11.65 The primary significance of the asset is defined by its archaeological interest which will be entirely unaffected by the Proposed Development as will the understanding and appreciation of the vast majority of its historic interest. The change and subsequent alteration of this specific element of the experience and appreciation of the asset's significance therefore constitutes a Low level of impact as set out in Table 8.2.
- 8.11.66 The Proposed Development will lead to a Low magnitude of change on the asset which is of High heritage significance resulting in a **Moderate Adverse Effect**, which is Significant for the purposes of EIA.

## Decommissioning

- 8.11.67 As set out within paragraph 8.9.12, as no additional intrusive works beyond the construction footprint will be required to decommission the Proposed Development, there can be no further impacts to any buried archaeological remains.
- 8.11.68 The decommissioning process will remove Proposed Development from the landscape which will result in the removal any reported effects, either significant or not significant, on any heritage assets through which through a change in setting has had an indirect impact on their heritage significance (see paragraph 8.9.13).
- 8.11.69 There will be no effects on any heritage assets through activities undertaken during decommissioning.

## 8.12 Monitoring

- 8.12.1 Monitoring of archaeological work undertaken prior to and during construction to mitigate the impacts of the Proposed Development upon buried archaeological remains will be undertaken by the County Archaeologist for Durham County Council acting as archaeological advisor to Darlington Borough Council and the Planning Archaeologist for Hartlepool Borough Council acting as archaeological advisor to Stockton-on-Tees Borough Council.

8.12.2 Monitoring will begin with the review and approval of the WSI secured as part of a DCO requirement setting out the approach to mitigation within which provision will be made for future monitoring, to include onsite visits if necessary. Following the successful implementation of the mitigation measures set out within the WSI, final monitoring in the form of review of the requisite deliverables will be undertaken.

## **8.13 Summary**

8.13.1 This chapter has considered:

- the potential for the Proposed Development to lead to likely significant effects through direct impacts on known and unknown archaeological remains using the information gathered within the DBA and Geophysical Survey (Technical Appendices 8.2 and 8.4); and
- the potential for the Proposed Development to lead to likely significant effects through indirect impacts on designated heritage assets through a change in their setting informed by Technical Appendix 8.3 the Historic Environment Desk-based Assessment.

### **Preliminary Construction Assessment**

8.13.2 Construction of the Proposed Development would not have any significant effects on any known heritage assets during the construction phase. All reported effects are Minor or Negligible following the implementation of the embedded and construction mitigation measures.

8.13.3 In the case of anomalies identified from geophysical survey and as yet unknown archaeological remains, a determination of heritage significance cannot be made beyond a range of Negligible to High as remains could be of limited to national importance dependent on their presence, nature and extent.

8.13.4 Using a worst-case scenario approach of total loss of heritage significance of those heritage assets, which constitutes a High magnitude of change, reduced to Low through the application of the approved mitigation measures, the resultant effects could be in the range of Negligible to Moderate Adverse which could be significant for the purposes of EIA.

8.13.5 No other likely significant effects have been identified as occurring during the construction phase.

### **Preliminary Operational Assessment**

8.13.6 Operation of the Proposed Development would have a significant effect on the Scheduled Monument Motte and Bailey 400 m south-east of Bishopton through a change in setting and the experience and appreciation of that significance. This effect has been reported as a Moderate Adverse Effect following the implementation of the embedded design measures set out in paragraph 8.10.1.

8.13.7 No other likely significant effects have been identified as occurring during the operational phase.

### **Preliminary Decommissioning Assessment**

8.13.8 No likely significant effects have been identified during the decommissioning phase.

**Table 8-9 Summary of potential effects**

<b>Receptor</b>	<b>Description of potential impact</b>	<b>Embedded design, mitigation, and enhancement measures</b>	<b>Importance of receptor</b>	<b>Duration and reversibility</b>	<b>Magnitude of impact</b>	<b>Significance of potential effect</b>
<b>Construction</b>						
<b>Remains associated with the purported route of the Roman road to Chester-Le-Street</b>	<ul style="list-style-type: none"> <li>Loss of archaeological interest leading to impact on heritage significance</li> </ul>	<ul style="list-style-type: none"> <li>Avoidance through design measures and/or application of approved archaeological mitigation measures</li> </ul>	<ul style="list-style-type: none"> <li>Medium</li> </ul>	<ul style="list-style-type: none"> <li>Permanent and non-reversible</li> </ul>	<ul style="list-style-type: none"> <li>Negligible (following mitigation)</li> </ul>	<ul style="list-style-type: none"> <li>Negligible</li> </ul>
<b>Remains associated with possible rectangular cropmark of unknown date</b>	<ul style="list-style-type: none"> <li>Loss of archaeological interest leading to impact on heritage significance</li> </ul>	<ul style="list-style-type: none"> <li>Avoidance through design measures and/or application of approved archaeological mitigation measures</li> </ul>	<ul style="list-style-type: none"> <li>Low</li> </ul>	<ul style="list-style-type: none"> <li>Permanent and non-reversible</li> </ul>	<ul style="list-style-type: none"> <li>Low (following mitigation)</li> </ul>	<ul style="list-style-type: none"> <li>Minor Adverse</li> </ul>
<b>Areas of medieval field systems near to Redmarshall and Carlton</b>	<ul style="list-style-type: none"> <li>Loss of archaeological interest leading to impact on heritage significance</li> </ul>	<ul style="list-style-type: none"> <li>Avoidance through design measures and/or application of approved archaeological mitigation measures</li> </ul>	<ul style="list-style-type: none"> <li>Low</li> </ul>	<ul style="list-style-type: none"> <li>Permanent and non-reversible</li> </ul>	<ul style="list-style-type: none"> <li>Negligible (following mitigation)</li> </ul>	<ul style="list-style-type: none"> <li>Negligible</li> </ul>
<b>Large areas of post-medieval ridge and furrow throughout the Site Area</b>	<ul style="list-style-type: none"> <li>Loss of archaeological interest leading to impact on heritage significance</li> </ul>	<ul style="list-style-type: none"> <li>Avoidance through design measures and/or application of approved archaeological mitigation measures</li> </ul>	<ul style="list-style-type: none"> <li>Low</li> </ul>	<ul style="list-style-type: none"> <li>Permanent and non-reversible</li> </ul>	<ul style="list-style-type: none"> <li>Negligible (following mitigation)</li> </ul>	<ul style="list-style-type: none"> <li>Negligible</li> </ul>

Receptor	Description of potential impact	Embedded design, mitigation, and enhancement measures	Importance of receptor	Duration and reversibility	Magnitude of impact	Significance of potential effect
<b>The Castle Eden Branch of the North East Railway near to Kenilworth</b>	<ul style="list-style-type: none"> <li>Loss of archaeological interest leading to impact on heritage significance</li> </ul>	<ul style="list-style-type: none"> <li>Avoidance through design measures and/or application of approved archaeological mitigation measures</li> </ul>	<ul style="list-style-type: none"> <li>Low</li> </ul>	<ul style="list-style-type: none"> <li>Permanent and non-reversible</li> </ul>	<ul style="list-style-type: none"> <li>Negligible (following mitigation)</li> </ul>	<ul style="list-style-type: none"> <li>Negligible</li> </ul>
<b>Bishopton Landing Ground, a World War One airfield</b>	<ul style="list-style-type: none"> <li>Loss of archaeological interest leading to impact on heritage significance</li> </ul>	<ul style="list-style-type: none"> <li>Avoidance through design measures and/or application of approved archaeological mitigation measures</li> </ul>	<ul style="list-style-type: none"> <li>Medium</li> </ul>	<ul style="list-style-type: none"> <li>Permanent and non-reversible</li> </ul>	<ul style="list-style-type: none"> <li>Negligible (following mitigation)</li> </ul>	<ul style="list-style-type: none"> <li>Negligible</li> </ul>
<b>Possible rectangular cropmark to the north-east of Great Stainton</b>	<ul style="list-style-type: none"> <li>Loss of archaeological interest leading to impact on heritage significance</li> </ul>	<ul style="list-style-type: none"> <li>Avoidance through design measures and/or application of approved archaeological mitigation measures</li> </ul>	<ul style="list-style-type: none"> <li>Low</li> </ul>	<ul style="list-style-type: none"> <li>Permanent and non-reversible</li> </ul>	<ul style="list-style-type: none"> <li>Low (following mitigation)</li> </ul>	<ul style="list-style-type: none"> <li>Minor Adverse</li> </ul>
<b>Anomalies identified from the geophysical survey relating to possible or probable archaeology</b>	<ul style="list-style-type: none"> <li>Loss of archaeological interest leading to impact on heritage significance</li> </ul>	<ul style="list-style-type: none"> <li>Avoidance through design measures and/or application of approved archaeological mitigation measures</li> </ul>	<ul style="list-style-type: none"> <li>Negligible to High</li> </ul>	<ul style="list-style-type: none"> <li>Permanent and non-reversible</li> </ul>	<ul style="list-style-type: none"> <li>Low (following mitigation)</li> </ul>	<ul style="list-style-type: none"> <li>Negligible to Moderate Adverse</li> </ul>
<b>As yet unknown archaeological remains</b>	<ul style="list-style-type: none"> <li>Loss of archaeological interest leading to impact on heritage significance</li> </ul>	<ul style="list-style-type: none"> <li>Avoidance through design measures and/or application of approved archaeological mitigation measures</li> </ul>	<ul style="list-style-type: none"> <li>Negligible to High</li> </ul>	<ul style="list-style-type: none"> <li>Permanent and non-reversible</li> </ul>	<ul style="list-style-type: none"> <li>Low (following mitigation)</li> </ul>	<ul style="list-style-type: none"> <li>Negligible to Moderate Adverse</li> </ul>

Receptor	Description of potential impact	Embedded design, mitigation, and enhancement measures	Importance of receptor	Duration and reversibility	Magnitude of impact	Significance of potential effect
<b>Operation</b>						
<b>Asset Group Three: Bishopton</b>	<ul style="list-style-type: none"> <li>Limited alteration in an identified view from outside the conservation area</li> </ul>	<ul style="list-style-type: none"> <li>None applicable</li> </ul>	<ul style="list-style-type: none"> <li>Medium</li> </ul>	<ul style="list-style-type: none"> <li>Permanent but fully reversible upon decommissioning</li> </ul>	<ul style="list-style-type: none"> <li>Negligible</li> </ul>	<ul style="list-style-type: none"> <li>Negligible</li> </ul>
<b>Scheduled monument motte and bailey castle 400 m south east of Bishopton</b>	<ul style="list-style-type: none"> <li>Change in appreciation and understanding of assets heritage significance through alteration of specific element of setting</li> </ul>	<ul style="list-style-type: none"> <li>None applicable</li> </ul>	<ul style="list-style-type: none"> <li>High</li> </ul>	<ul style="list-style-type: none"> <li>Permanent but fully reversible upon decommissioning</li> </ul>	<ul style="list-style-type: none"> <li>Low</li> </ul>	<ul style="list-style-type: none"> <li>Moderate Adverse</li> </ul>

## Further work

8.13.9 Further assessment and development of mitigation measures will be undertaken as part of the ES and through the completion of the following surveys, assessments and management plans:

- in person visit to the DHER and TSMR to review aerial photographs;
- additional walkover survey to be undertaken before submission of ES to ensure accuracy of assessment and address any emerging issues following submission of PEIR against the finalised design;
- review of LVIA wireframes and photomontages to confirm built form of Proposed Development in relation to the setting of designated heritage assets;
- consideration of cumulative developments within 5 km of the Site Area;
- completion of the geophysical survey, in so far as is possible;
- evaluative trenching focussing on determining the nature, extent and significance of possible and probable archaeological features identified in the geophysical survey; and
- production of an archaeological strategy document to codify the requirements of future investigations following determination.

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