
FENWICK SOLAR FARM

**Fenwick Solar Farm
EN010152**

Environmental Statement

Volume I Chapter 7: Cultural Heritage

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7. Cultural Heritage

7.1 Introduction

- 7.1.1 This chapter of the Environmental Statement (ES) presents the findings of an assessment of the likely significant effects on cultural heritage as a result of Fenwick Solar Farm (hereafter referred to as the 'Scheme').
- 7.1.2 This chapter identifies and proposes measures to address the potential impacts and likely significant effects on cultural heritage, during the construction, operation and maintenance, and decommissioning phases of the Scheme.
- 7.1.3 This chapter should be read in conjunction with the Scheme description provided in **ES Volume I Chapter 2: The Scheme [EN010152/APP/6.1]**. Additionally, cultural heritage interfaces with a number of other topics and, as such, should be considered alongside **ES Volume I Chapter 10: Landscape and Visual Amenity [EN010152/APP/6.1]**, **ES Volume I Chapter 11: Noise and Vibration [EN010152/APP/6.1]**, and **ES Volume I Chapter 13: Transport and Access [EN010152/APP/6.1]**.
- 7.1.4 This chapter is supported by the following appendices and documents (**ES Volume III and VIII**):
- Appendix 7-1: Legislation, Policy and Guidance (Cultural Heritage) [EN010152/APP/6.3];**
 - Appendix 7-2: Cultural Heritage Desk-based Assessment [EN010152/APP/6.3];**
 - Appendix 7-3: Cultural Heritage Gazetteer of Heritage Assets [EN010152/APP/6.3];**
 - Appendix 7-4: Geophysical Survey Report [EN010152/APP/6.3]; and**
 - Trial Trench Evaluation Report [EN010152/APP/8.17].**
- 7.1.5 This chapter is supported by the following figures (**ES Volume II**):
- Figure 7-1: Designated Heritage Assets [EN010152/APP/6.2];**
 - Figure 7-2: Non-Designated Heritage Assets [EN010152/APP/6.2];**
 - Figure 7-3: Previous Events [EN010152/APP/6.2];**
 - Figure 7-4: Historic Landscape Character Areas [EN010152/APP/6.2]; and**
 - Figure 7-5: Additional Non-Designated Assets [EN010152/APP/6.2].**

7.2 Legislation, Policy and Guidance

- 7.2.1 This section includes a list of the legislation, planning policy and guidance relevant to cultural heritage and pertinent to the Scheme. Further information is provided in **ES Volume III: Appendix 7-1: Legislation, Policy and Guidance (Cultural Heritage) [EN010152/APP/6.3]**.

Legislation

- a. Infrastructure Planning (Environmental Impact Assessment) Regulations (2017) (Ref. 7-1);
- b. Infrastructure Planning (Decisions) Regulations 2010 (Ref. 7-2);
- c. Planning (Listed Buildings and Conservation Areas) Act 1990 (Ref. 7-3);
- d. Ancient Monuments and Archaeological Areas Act 1979 (as amended) (Ref. 7-4); and
- e. The Hedgerows Regulations 1997 (Ref. 7-24).

National Policy

- a. National Policy Statement (NPS) EN-1 (Ref. 7-5) (November 2023) with particular reference to Section 5.9 in relation to the significance, impact and recording of the historic environment;
- b. NPS EN-3 (Ref. 7-6) (November 2023) with reference to Section 2.10 Solar PV Generation (including the impacts identified in Paragraphs 2.10.107 to 2.10.119 and 2.10.160 and the mitigation considerations in Paragraphs 2.10.137 to 2.10.138);
- c. NPS EN-5 (Ref. 7-7) (November 2023) with reference to Paragraph 2.2.10 and the desirability of protecting sites, buildings and objects of architectural, historic or archaeological interest, and also Paragraph 2.9.25 which highlights the potential impacts to archaeological sites from underground cables; and
- d. National Planning Policy Framework (NPPF) (Ref. 7-8) (December 2024) with particular reference to Section 16: Conserving and Enhancing the Historic Environment.

Local Policy

7.2.2 The following local policies from the Doncaster Local Plan 2015–2035, Adopted 2021 (Ref. 7-9) are of relevance to the historic environment:

- a. Policy 33 – Landscape;
- b. Policy 34 – Valuing our Historic Environment;
- c. Policy 35 – Understanding and Recording the Historic Environment;
- d. Policy 36 – Listed Buildings;
- e. Policy 37 – Conservation Areas;
- f. Policy 38 – Historic Parks and Gardens;
- g. Policy 39 – Development Affecting Archaeology;
- h. Policy 40 – Buildings or Structures of Local Historic Interest; and
- i. Policy 41 – Character and Local Distinctiveness.

Guidance

7.2.3 The following guidance is of relevance for cultural heritage:

- a. Planning Practice Guidance (PPG), Conserving and enhancing the Historic Environment (Ref. 7-10);

- b. Historic Environment Good Practice Advice in Planning Note 2. Managing Significance in Decision Taking in the Historic Environment. Historic England (Ref. 7-11);
- c. Historic Environment Good Practice Advice in Planning Note 3. The Setting of Heritage Assets. Historic England (2nd edition, 2017) (Ref. 7-12);
- d. Statements of Heritage Significance: Analysing Significance in Heritage Assets. Historic England Advice Note 12. Historic England (2019) (Ref. 7-13);
- e. Commercial Renewable Energy Development and the Historic Environment. Historic England Advice Note 15 (2021) (Ref. 7-14);
- f. Chartered Institute for Archaeologists (CIfA) Standard and Guidance for Historic Environment Desk-Based Assessment (2020) (Ref. 7-15);
- g. CIfA Code of Conduct: professional ethics in archaeology (2022) (Ref. 7-16);
- h. Principles of Cultural Heritage Impact Assessment in the UK, IEMA, Institute of Historic Building Conservation (IHBC) and CIfA (Ref. 7-17); and
- i. South Yorkshire Archaeological Service (SYAS) Standards and Guidance for Archaeological Desk-Based Assessments and Building Appraisals (Ref. 7-18).

7.3 Consultation

Scoping Opinion

- 7.3.1 A scoping exercise was undertaken in Spring 2023 to establish the content of the assessment and the approach and methods to be followed. The scoping exercise outcomes were presented in the Scoping Report (**ES Volume III Appendix 1-1: EIA Scoping Report [EN010152/APP/6.3]**) which was submitted to the Planning Inspectorate on 1 June 2023. The Scoping Report records the findings of the scoping exercise and details the technical guidance, standards, good practice and criteria to be applied in the assessment to identify and evaluate the likely significant effects of the Scheme on cultural heritage.
- 7.3.2 A Scoping Opinion was received from the Planning Inspectorate on 11 July 2023 (**ES Volume III Appendix 1-2: EIA Scoping Opinion [EN010152/APP/6.3]**).
- 7.3.3 A full review of all comments raised in the Scoping Opinion is provided in **ES Volume III Appendix 1-3: EIA Scoping Opinion Responses [EN010152/APP/6.3]**. This also outlines how and where the Scoping Opinion comments have been addressed within this ES.

Statutory Consultation

- 7.3.4 Further consultation in response to formal pre-application engagement was undertaken through the Preliminary Environmental Information Report (PEIR), issued in Spring 2024. Responses to this statutory consultation are presented in the **Consultation Report [EN010152/APP/5.1]**.

- 7.3.5 Statutory consultation responses relating to Cultural Heritage are presented in **Appendix O** of the **Consultation Report [EN010152/APP/5.1]**.

Additional Consultation

- 7.3.6 Additional consultation has been undertaken with the Archaeological Advisor at SYAS and the Inspector of Ancient Monuments at Historic England, to ensure, as far as practicable, that heritage issues are identified and potential impacts to heritage assets are included in the assessment. Consultation has also been undertaken with the Conservation Officer for City of Doncaster Council to identify and assess any potential impacts to built heritage assets.
- 7.3.7 Table 7-1 below provides a summary of engagement with relevant stakeholders undertaken to inform the assessment.

Table 7-1: Consultation Summary Table

Consultee	Date	Summary of Discussion
Inspector of Ancient Monuments for Historic England	31.03.23	The Applicant's cultural heritage advisor met the Inspector of Ancient Monuments for Historic England on the Solar PV Site to jointly consider issues related to the setting of the scheduled monument Fenwick Hall moated site in relation to the Scheme. Subsequent written advice was received on 10.05.2023 from the Inspector following the meeting (Historic England Ref. PA01198438), and the mitigation proposed by the Inspector (in the form of a 20m buffer within the fields adjacent to the Scheduled Monument) in this advice has been implemented, and then further enhanced, within the Scheme design (refer to Section 7.7 in ES Volume I Chapter 3: Alternatives and Design Evolution [EN010152/APP/6.1]).
Archaeological Advisor South Yorkshire Archaeology Service and Inspector of Ancient Monuments for Historic England	March 2023 – October 2023	Ongoing discussion via email, telephone calls and online meetings, between the Applicant's cultural heritage advisor and both consultees regarding the value of, and potential mitigation responses to, the earthwork remains of ridge and furrow within part of the Solar PV Site. Discussion has also sought agreement on the contribution made by the presence of the ridge and furrow earthworks to the significance of the scheduled monument at Fenwick Hall.
Archaeological Advisor South Yorkshire Archaeology Service	15.06.2023	The Applicant's cultural heritage advisor presented (via online meeting) the findings of geophysical survey undertaken to date, highlighted key archaeological sites that require consideration in terms of further evaluation and discussed potential mitigation strategies.
Archaeological Advisor South Yorkshire Archaeology Service	10.07.2023	The Applicant's cultural heritage advisor met the Archaeological Advisor for SYAS on the Solar PV Site to jointly consider issues related to the setting of the scheduled monument at Fenwick Hall in relation to the Scheme, and to consider proposed design mitigations being put in place following initial consultation with Historic England (as referred to above).
Conservation Officer for City of Doncaster Council	11.09.2023	The Applicant's cultural heritage advisor met the Conservation Officer for City of Doncaster Council on the Solar PV Site to jointly consider issues related to the setting of listed buildings in relative proximity to the Scheme and illustrate proposed design mitigations being put in place following initial site visits. At the meeting, the Conservation Officer confirmed that he considered that the only listed buildings with the potential to sustain any setting impacts from the

Consultee	Date	Summary of Discussion
		construction or presence of the Scheme, as presented at the meeting, were those at Fenwick Hall Farm [1314800] and Lily Hall (at Riddings Farm) [1151609].
Archaeological Advisor South Yorkshire Archaeology Service	20.09.2023	The Applicant's cultural heritage advisor presented (via online meeting) the findings of geophysical survey undertaken to date and presented potential mitigation strategies for key areas of archaeological activity.
Archaeological Advisor South Yorkshire Archaeology Service	21.11.2023	The Applicant's cultural heritage advisor issued an email to SYAS containing the interim geophysical survey results.
Archaeological Advisor South Yorkshire Archaeology Service	12.12.2023	The Applicant's cultural heritage advisor presented findings (via online meeting) of interim geophysical survey results and discussed approach to trench design and scope.
Archaeological Advisor South Yorkshire Archaeology Service	December 2023	The Applicant's cultural heritage advisor issued the final geophysical survey report to SYAS via email.
Archaeological Advisor South Yorkshire Archaeology Service	February – May 2024	The Applicant's cultural heritage advisor agreed the trial trench design with SYAS via email and online meetings.
Archaeological Advisor South Yorkshire Archaeology Service	02.05.2024	The Applicant's cultural heritage advisor issued the Archaeological Contractor's WSI for trial trenching to SYAS for acceptance and received confirmation of acceptance via telephone.
Archaeological Advisor South Yorkshire Archaeology Service	13.08.2024	Meeting to discuss the Grid Connection Corridor and requirement for archaeological surveys. SYAS confirmed that a geophysical survey would be required within the Grid Connection Corridor in the first instance. The results of the geophysical survey will inform the requirement for any further archaeological surveys and mitigation requirements, the scope of which would be set out in the Archaeological Mitigation Strategy.

Consultee	Date	Summary of Discussion
Archaeological Advisor South Yorkshire Archaeology Service	20.08.2024	Meeting to discuss the potential for concrete shoes as a mitigation strategy for preservation in-situ of archaeological remains identified from the trial trenching. SYAS agreed in principle to the strategy proposed but confirmed that the results of the trial trenching would need to be reviewed before agreeing any specific mitigation strategies for each area of archaeological activity identified. Meeting planned for 18.09.2024 to review trial trenching results and agree appropriate mitigation strategies.
Conservation Officer for City of Doncaster Council Archaeological Advisor South Yorkshire Archaeology Service Planning Officer for City of Doncaster Council	04.09.2024	<p>Meeting to provide an update on the status of the trial trenching, proposed mitigation strategies discussed at the previous meeting (held on 20.08.2024), and updated impact assessment on built heritage assets.</p> <p>Identified impacts on built heritage assets were confirmed to be the same as those identified at PEIR stage, and that the mitigation proposed at PEIR stage to reduce effects on designated heritage assets at Fenwick Hall and Riddings Farm had been retained in the Scheme design.</p> <p>Three new non-designated built heritage assets had been added to the assessment as a result of desk-based research and site walkovers, and it was confirmed that the assessment of the effects of the Scheme through change to the setting of these assets was considered to be not significant.</p> <p>It was also confirmed that the interaction between the proposed Scheme and the consented demolition of the Grade II listed Lily Hall Farmhouse at Riddings Farm would be considered as a cumulative impact. AECOM confirmed that this was considered to result in a moderate adverse significant cumulative effect and that no mitigation could be proposed as part of the proposed Scheme as the effect of the demolition of the building alone is considered to be significant in isolation, and therefore it cannot be reduced to a non-significant level through changes to the Scheme design.</p>
Archaeological Advisor South Yorkshire Archaeology Service	18.09.2024	Meeting to discuss interim results of trial trench evaluation within Solar PV Site and agree potential mitigation requirements. AECOM confirmed that the assessment set out in Appendix 7-2: Cultural Heritage Desk-based Assessment [EN010152/APP/6.3] in ES Volume III is based on the interim results of the trial trenching and will therefore need to be updated following receipt of the final fieldwork report. SYAS agreed with this. AECOM and SYAS set out the preliminary areas of archaeological activity located within the Solar PV Site that may require

Consultee	Date	Summary of Discussion
		<p>mitigation and SYAS agreed that a Draft Archaeological Mitigation Strategy (AMS) [EN010152/APP/7.19] would be submitted alongside the ES setting out these preliminary areas and potential mitigation strategies, which may include preservation in-situ (via concrete shoes), archaeological excavation, and additional assessment/reporting. Once the final fieldwork report becomes available, the Draft AMS [EN010152/APP/7.19] is to be updated with the final agreed mitigation strategies for each area, and a Final AMS will be submitted post-submission.</p> <p>AECOM confirmed that there were four fields within the Solar PV Site which were not able to be trenched during this phase of work due to ecological constraints (proximity to Great Crested Newts habitats). SYAS confirmed that three of these fields (NW3, NW8, NW10) would need to be taken forward in a further stage of trial trenching, and agreed that this could be undertaken post-consent, the requirement for which has been set out and secured within the Draft AMS [EN010152/APP/7.19]. One further field (SE5) was descope from trial trenching as the baseline information available was sufficient to confirm a low potential for archaeological remains.</p> <p>AECOM confirmed that no evaluation surveys had been undertaken within the Grid Connection Corridor at the time of writing and SYAS agreed that this could be undertaken post-consent, the requirement for which has been set out and secured within the Draft AMS [EN010152/APP/7.19].</p>
Inspector of Ancient Monuments for Historic England	21.11.2024	<p>The Applicant attended a meeting with HE to provide an update on the project including key dates, scheme design changes and key heritage findings. HE confirmed that their previous position outlined in the pre-application advice had remained unchanged and that HE consider that the landscape can accommodate the Scheme. HE noted that there are no areas of disagreement.</p>
Archaeological Advisor South Yorkshire Archaeology Service	January – April 2025	<p>A Draft AMS [EN010152/APP/7.19] was submitted alongside the ES which set out the preliminary archaeological mitigation areas. Following receipt of the Trial Trench Evaluation Report [EN010152/APP/8.17] post-submission, it has been agreed with the Archaeological Advisor at SYAS for the Applicant to submit a Framework Archaeological Mitigation Strategy (AMS) [EN010152/APP/8.16] with the final archaeological mitigation areas defined and the proposed mitigation strategy for each area.</p>

Consultee	Date	Summary of Discussion
		<p>AECOM confirmed to SYAS that the DBA and ES Chapter have been updated to reflect the final trial trench evaluation report findings.</p> <p>SYAS have agreed with the content of the Framework AMS [EN010152/APP/8.16] and this has been submitted into Examination at Deadline 1.</p> <p>Following completion of additional evaluation surveys to be undertaken within the Solar PV Site and Grid Connection Corridor which are set out within the Framework AMS, and subject to detailed design, a Final AMS will be prepared in agreement with SYAS, post-consent.</p>

7.4 Assessment Methodology

Study Areas

- 7.4.1 The following Study Areas have been defined to include all designated and non-designated heritage assets with the potential to be affected by the Scheme, and to ensure comprehensive data capture to provide information on the archaeological potential of the Order limits. The Study Areas encompass all relevant heritage assets, both designated and non-designated, including archaeological sites, historic buildings, Conservation Areas and Registered Parks and Gardens, together with the relevant historic landscape characterisation. The size of the Study Areas proposed is based on a standard assessment methodology based on good practice and professional judgement and is considered appropriate and acceptable in relation to developments of this type. The methodology responds, through the graded size of the proposed Study Areas, to the variation in the relative significance of the heritage assets considered, and the likely nature of potential impacts as a result of the Scheme.
- 7.4.2 If the Scheme utilises a Grid Connection Line Drop, this would comprise below ground cables connecting the On-Site Substation to a new cable sealing end compound at the base of an existing on-site 400 kV overhead line tower located within Field SE2. These works have also been considered as part of this assessment.

3km Study Area from the Solar PV Site for Designated Assets

- 7.4.3 A Study Area of 3km from the Solar PV Site boundary has been defined to provide historical and archaeological context and to identify designated heritage assets with the potential to be affected by the Scheme (refer to **ES Volume II Figure 7-1: Designated Heritage Assets [EN010152/APP/6.2]**). The 3km Study Area also includes the Grid Connection Corridor where it falls within the Study Area. Where the Grid Connection Corridor is located beyond the 3km Study Area, a separate Study Area has been defined (see Paragraph 7.4.5 below). This Study Area allows for designated heritage assets to be set within their wider context within the surrounding landscape, and for the assessment of archaeological potential within the Order limits.

Wider Study Area (up to 5km from the Solar PV Site) for Designated Assets

- 7.4.4 Designated heritage assets of the highest value (i.e. World Heritage Sites, scheduled monuments, Grade I and II* listed buildings, Grade I and II* Registered Parks and Gardens and Conservation Areas containing a number of assets of the highest value) located outside of the above defined 3km Study Area from the Solar PV Site, where there may be an impact through change to their setting, are considered up to 5km beyond the Solar PV Site boundary (refer to **ES Volume II Figure 7-1: Designated Heritage Assets [EN010152/APP/6.2]**).
- 7.4.5 Assets of the highest value up to this distance will be considered where identified as necessary by the EIA technical discipline team or through consultation. This will be guided by modelling the Scheme's Zone of Theoretical Visibility (ZTV) (prepared as part of the landscape and visual amenity assessment, see **ES Volume I, Chapter 10: Landscape and**

Visual Amenity [EN010152/APP/6.1]), but will also consider physical and historical connectivity and relationships with other assets and the wider landscape.

1km Study Area from the Grid Connection Corridor for Designated Assets

- 7.4.6 Where the Grid Connection Corridor is located beyond the 3km Study Area as detailed above, a 1km Study Area has been applied (refer to **ES Volume II Figure 7-1: Designated Heritage Assets [EN010152/APP/6.2]**). This Study Area is considered proportionate to the level of impact as the infrastructure within the Grid Connection Corridor would be entirely underground following construction. Once operational, these components would not be visible and would not change the setting of heritage assets. The Study Area will provide data relating to heritage assets in proximity to the Scheme whose setting may change temporarily during construction, operation and maintenance, and decommissioning, but would not experience any long-term effects as a result of the Scheme.

1km Study Area for Non-designated Assets

- 7.4.7 The Study Area for non-designated heritage assets extends to a distance of 1km from the Solar PV Site and the Grid Connection Corridor Boundary (Site Boundary) (refer to **ES Volume II Figure 7-2: Non-Designated Heritage Assets [EN010152/APP/6.2]**). This Study Area is considered appropriate to provide historical and archaeological context and to assess the potential for the survival of archaeological remains within the Order limits.

Sources of Information

Desk-Based Assessment

- 7.4.8 A cultural heritage Desk-Based Assessment (DBA) has been prepared which sets out the baseline conditions for the Order limits and Study Areas and is presented in **ES Volume III Appendix 7-2: Cultural Heritage Desk-based Assessment [EN010152/APP/6.3]**. The DBA identifies those assets that have the potential to be impacted by the Scheme and includes a summary, including justification, of those assets that do not have the potential to be impacted by the Scheme and have therefore not been brought forward for assessment in the ES.
- 7.4.9 The cultural heritage DBA has been prepared in accordance with industry standards and good practice guidelines (Ref. 7-15), and with reference to statutory consultation responses received and additional consultation undertaken with relevant stakeholders.

Desk-based Sources

- 7.4.10 Sources of information that have been consulted include:
- a. The National Heritage List for England (NHLE), held by Historic England (Ref. 7-19), for designated heritage assets;
 - b. Formal searches of the South Yorkshire Historic Environment Record (HER) and North Yorkshire HER, including the Historic Landscape Characterisation (HLC) data and for spatial and non-spatial data on heritage assets and previous archaeological investigations;

- c. Portable Antiquities Scheme online database for data relating to archaeological finds (Ref. 7-20);
- d. The British Geological Survey (BGS) Geology of Britain Viewer (Ref. 7-21) for information on geology and topography, including historic borehole data;
- e. Published and unpublished literature (including a detailed review of reports for previous fieldwork carried out within close proximity to the Order limits);
- f. Historic maps Local history information as deposited within the local archives;
- g. National Monuments Records (NMR) data accessed via Heritage Gateway for information on relevant heritage assets not recorded on the HER;
- h. Local authority conservation area appraisals and management documents and their mapping;
- i. The South Yorkshire Historic Environment Research Framework;
- j. National Library of Scotland (Ref. 7-26) for historic Ordnance Survey mapping;
- k. Vertical aerial photography of the Study Areas available from the National Collection of Aerial Photographs; and
- l. Available 1m and 2m spatial resolution LiDAR data published by the Environment Agency.

Surveys

Site Walkover Survey

- 7.4.11 Site walkover surveys were undertaken in order to further inform the baseline. The site walkovers comprised a visual inspection of fields within the Order limits in order to identify known and previously unknown heritage assets and to record their survival, extent, condition, setting and significance.
- 7.4.12 The site walkover also included the Study Areas – as defined in Section 7.4 above – to assess the settings of heritage assets which could potentially be affected by the Scheme. The site walkover established the key features of the assets settings, alongside any intervisibility with the Site.

Additional Surveys

- 7.4.13 A programme of geophysical survey and trial trench evaluation has been undertaken within the Solar PV Site, in agreement with the Archaeological Advisor for SYAS. The scope and specification of each survey were set out in Written Schemes of Investigation (WSIs) approved by the Archaeological Advisor at SYAS. The results of these surveys have been incorporated into the desk-based assessment (**ES Volume III Appendix 7-2: Cultural Heritage Desk-based Assessment [EN010152/APP/6.3]**) and the assessment of impact in this ES chapter and the full reports are provided in **ES Volume III Appendix 7-4: Geophysical Survey Report [EN010152/APP/6.3]** and **Trial Trench Evaluation Report [EN010152/APP/8.17]**.

- 7.4.14 Four fields within the Solar PV Site were not able to be trenched during the first phase of work due to ecological constraints (proximity to Great Crested Newts habitats). The Archaeological Advisor to SYAS has agreed that three of these fields (NW3, NW8, NW10) will be undertaken post-consent, the requirement for which would have been out and secured within the **Framework AMS [EN010152/APP/8.16]**. One further field (SE5) was descope from trial trenching as the baseline information available was sufficient to confirm a low potential for archaeological remains.
- 7.4.15 A programme of geophysical survey is planned within the Grid Connection Corridor. The requirement for this survey has been set out in the **Framework AMS [EN010152/APP/8.16]** and will be undertaken post-consent, as agreed with the Archaeological Advisor for SYAS.
- 7.4.16 The results of the geophysical survey within the Grid Connection Corridor will inform the requirement for any further archaeological evaluation surveys and mitigation strategies, the scope of which will be set out in the Final AMS and will be approved by the Archaeological Advisor to SYAS.

Impact Assessment Methodology

- 7.4.17 This section sets out the approach to the assessment of the potential impacts of the Scheme on designated and non-designated heritage assets. The objective of this assessment is to identify the significance of any effects upon cultural heritage receptors that are likely to arise from construction, operation and maintenance, and decommissioning of the Scheme.
- 7.4.18 The principles of the impact assessment methodology rest upon independently evaluating the significance of the cultural heritage resources and the magnitude of impact upon that significance. By combining the sensitivity of the cultural heritage resource with the predicted magnitude of impact, the significance of the effect can be determined. The effect can be beneficial or adverse.
- 7.4.19 The sensitivity of a heritage asset is determined by a combination of its heritage value and its susceptibility to change, either as a result of physical changes or from changes to its setting. The criteria for determining an asset's value and its susceptibility to change are set out in Table 7-2 and Table 7-3.
- 7.4.20 The cultural heritage assessment includes an assessment of the heritage significance of potentially affected assets, in line with NPS EN-1 (November 2023) and NPPF (December 2023). This requires the provision of information sufficient to enable adequate understanding of the potential impacts on the value (significance) of any heritage asset, which is consistent with the requirements of the NPS and the NPPF (December 2023), and is proportionate to the importance of the asset. Both the NPS and NPPF (December 2023) also require this assessment to take account of changes to both the physical asset and its setting.
- 7.4.21 Both the NPS EN-1 (November 2023) and the NPPF (December 2023) set out criteria which should be considered when assessing the value (significance) of cultural heritage assets, which include archaeological, architectural, artistic and historic interest. These criteria have been used in the assessment of value (significance) for each affected heritage asset, in conjunction with professional judgement.

- 7.4.22 Both documents include provisions relating to the assessment and management of impacts affecting the value of heritage assets in terms of harm. There is a requirement to determine whether the level of harm amounts to 'substantial harm' or 'less than substantial harm'. The NPS EN-1 (November 2023) and NPPF (December 2023) make it clear that substantial harm to, or loss of, a Grade II designated asset should be exceptional; and that substantial harm to a Grade II* or I asset, or Scheduled Monument, should be 'wholly exceptional'.
- 7.4.23 There is no direct correlation between the significance of effects identified through the EIA process and the level of harm caused to heritage value (significance). The assessment of harm arising from the impact of the Scheme has been determined using professional judgement and is provided within the **Planning Statement and Policy Accordance Table [EN010152/APP/7.1]**.

Assessment of Value

- 7.4.24 For the purpose of this assessment, the significance of a heritage asset, as defined by Annex 2 of the NPPF (December 2023), is referred to as its 'value'.
- 7.4.25 The value of a heritage asset (its heritage significance) is guided by its designated status but is derived also from its heritage interest, which may be archaeological, architectural, artistic or historic as defined in the NPPF Annex 2 (December 2023), Glossary and NPS EN-1 (November 2023) Paragraph 5.9.3 (November 2023). The setting of a heritage asset can also contribute to its value.
- 7.4.26 Advice Note 12, published by Historic England, offers an interpretation of the various heritage interests that an asset can possess, based on the terms provided in the NPS EN-1 (November 2023) and NPPF Glossary (December 2023), as follows:
- a. Archaeological Interest – there will be archaeological interest in a heritage asset if it holds, or has the potential to hold, evidence of past human activity worthy of expert investigation at some point;
 - b. Architectural and Artistic Interest – these are interests in the design or general aesthetics of a place. They can arise from conscious design or fortuitously from the way the heritage asset has evolved. More specifically, architectural interest is an interest in the art or science of the design, construction, craftsmanship and decoration of buildings and structures of all types. Artistic interest is an interest in other human creative skills, such as sculpture; and
 - c. Historic Interest – an interest in past lives and events (including prehistoric). Heritage assets can illustrate or be associated with them. Heritage assets with historic interest not only provide a material record of our nation's history but can also provide meaning for communities derived from their collective experience of a place and can symbolise wider values such as faith and cultural identity.
- 7.4.27 Following assessment of the heritage interests, each identified heritage asset can be assigned a value in accordance with the criteria set out in Table 7-2. This table provides guidance, but professional judgement has been applied in all cases regarding the appropriate category for individual heritage

assets. When professional judgement and the results of consultation are applied, some assets may not fit into the specified category presented in Table 7-2. Each heritage asset is assessed on an individual basis and regional variations and individual qualities are considered where applicable.

- 7.4.28 Whilst it is recognised that listed buildings are designated due to an architectural or historic interest considered to be of national importance, for the purpose of this assessment a distinction in value is made in Table 7-2 between Grade I and Grade II* listed buildings and Grade II listed buildings. This reflects the separation of the grades in Paragraph 206 of the NPPF (December 2023) and Paragraphs 5.9.29 and 5.9.30 of NPS EN-1 (November 2023), which makes a distinction between Grade II listed buildings and registered parks and gardens, and assets which it considers to be of ‘the highest significance’, notably scheduled monuments, Grade I and II* listed buildings and Grade I and II* registered parks and gardens.

Table 7-2: Criteria for Assessing the Value of Heritage Assets

Asset Value	Description
High	<p>World Heritage Sites</p> <p>Scheduled monuments</p> <p>Grade I and II* listed buildings</p> <p>Grade I and II* registered parks and gardens</p> <p>Registered battlefields</p> <p>Conservation areas of demonstrable high value (i.e. high number of Grade I and II* buildings; diverse and high-quality buildings)</p> <p>Non-designated heritage assets (archaeological sites, historic buildings, monuments, parks, gardens or landscapes) that can be shown to have demonstrable national or international importance</p> <p>Well preserved historic landscape character areas, exhibiting considerable coherence, time-depth or other critical factors</p>
Medium	<p>Grade II listed buildings</p> <p>Grade II registered parks and gardens</p> <p>Conservation Areas (majority Grade II buildings displaying, predominantly, local characteristics and styles)</p> <p>Locally listed buildings included within a Conservation Area</p> <p>Non-designated heritage assets (archaeological sites, historic buildings, monuments, park, gardens or landscapes) that can be shown to have demonstrable regional importance</p> <p>Averagely preserved historic landscape character areas, exhibiting reasonable coherence, time-depth or other critical factors</p> <p>Historic townscapes with historic integrity in that the assets that constitute their make-up are clearly legible</p>
Low	<p>Locally listed buildings</p>

Asset Value	Description
	<p>Non-designated heritage assets (archaeological sites, historic buildings, monuments, park, gardens or landscapes) that can be shown to have demonstrable local importance</p> <p>Assets whose heritage interests are compromised by poor preservation or survival of contextual associations to justify inclusion into a higher grade</p> <p>Historic landscape character areas whose value is limited by poor preservation and/or poor survival of contextual associations</p>
Very Low	<p>Assets (archaeological sites, historic buildings, monuments, park, gardens or landscapes) whose heritage values are compromised by poor preservation or damaged so that too little remains to justify inclusion into a higher grade</p> <p>Assets identified on national or regional databases, but which have no archaeological, architectural, artistic or historic interest</p> <p>Landscape with no or little significant historical merit</p>

Magnitude of Impact

- 7.4.29 Having identified the value of the heritage asset, the next stage in the assessment will be to identify the level and degree of impact upon an asset arising from the Scheme. Impacts upon heritage assets can arise during construction, operation and maintenance and/or decommissioning phases of the Scheme; they can be positive or negative; direct or indirect; permanent, long term, or temporary; and/or cumulative. Impacts can affect the physical fabric of the asset or affect its setting. Physical impacts are considered permanent and result in the total, or partial, loss of a heritage asset; these impacts are not reversible. Impacts arising from changes to setting are split between those resulting from construction, operation and maintenance, and decommissioning activities, which can be temporary; or the physical presence and operation of the Scheme which is assessed as permanent but in some cases is reversible upon decommissioning.
- 7.4.30 The level and degree of impact (impact rating) will be assigned with reference to a four-point scale as set out in Table 7-3. The criteria presented in Table 7-3 have been developed using available guidance and professional judgement. The assessment of the level and degree of impact will be made in consideration of any embedded mitigation measures (refer to Section 7.7) for the Scheme.

Table 7-3: Criteria for Determining the Magnitude of Impact

Magnitude of Impact	Description of impact
High	Changes to most or all key components of the asset through physical impact, such that it is totally altered or destroyed, resulting in a comprehensive impact upon its overall value; and/or

Magnitude of Impact	Description of impact
	Comprehensive alteration, including the total loss or complete restoration, of elements of an asset's setting that cause a fundamental change in the ability to understand and appreciate its heritage interests; thereby resulting in a comprehensive impact upon its overall value.
Medium	<p>Changes to many key components of the asset through physical impact, such that it is significantly altered or modified, resulting in a noticeable impact upon its overall value; and/or</p> <p>Changes to the setting of an asset which noticeably affect the ability to understand and appreciate its heritage interests, resulting in a noticeable impact upon its overall value.</p>
Low	<p>Changes to some key components of the asset through physical impact, such that it is slightly altered, resulting in a slight impact on its overall value; and/or</p> <p>Changes to the setting of an asset that slightly alter the ability to understand and appreciate its heritage interests, resulting in a slight impact upon its overall value.</p>
Very Low	<p>Very minor changes to key components of an asset through physical impact, resulting in no real change upon its overall value; and/or</p> <p>Changes to the setting of an asset that have little effect on the ability to understand and appreciate its heritage interests, resulting in no real change upon its overall value.</p>
No Change	No physical impacts upon the asset and/or no alteration or change to the asset's setting.

Significance of Effect

- 7.4.31 The assessment to classify the effect, having taken into account any embedded mitigation, is determined applying the matrix in Table 7-4.
- 7.4.32 The overall effect on a heritage asset, caused by the impact, is determined by consideration of the value of the asset (Table 7-2) and the magnitude of the impact (Table 7-3), with a level of professional judgement included in the determination. This is identified by the degree of change that would be experienced by the asset and its setting if the Scheme were to be completed as compared with a 'do nothing' situation. Effects can be neutral, adverse or beneficial.
- 7.4.33 Major or moderate effects are deemed to be 'significant' for the purposes of the EIA Regulations, in accordance with standard EIA practice. Minor and negligible effects are deemed to be 'not significant' and may not be important or relevant to the decision-making process, although they may be matters of local concern.
- 7.4.34 Where the ES identifies that there would be no change to a heritage asset, this is classified as 'no impact' and 'no effect'.

- 7.4.35 There is no direct correlation between the classification of effect as reported in the ES and the level of harm caused to heritage value. A major (significant) effect on a heritage asset would, however, more often be the basis by which to determine that the level of harm to the value of the asset would be substantial. A moderate (significant) effect is unlikely to meet the test of substantial harm and would therefore more often be the basis by which to determine that the level of harm to the value of the asset would be less than substantial. A minor or negligible (not significant) effect would still amount to a less than substantial harm. However, a neutral effect is classified as no harm.
- 7.4.36 If appropriate, additional mitigation is proposed, as set out in Section 7.9, where significant effects are predicted. It is noted that mitigation does not reduce the magnitude of the impact where the impact relates to physical loss, but may reduce the effect if used to offset or compensate for an adverse effect.

Table 7-4: Criteria for Determining the Significance of Effect

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

Assessing Cumulative Effects

- 7.4.37 Cumulative effects have the potential to arise where the construction and/or operation of two or more developments would result in effects to the same heritage asset.
- 7.4.38 For a cumulative impact to arise as a result of direct, physical impacts during construction, another development would have to impact the same heritage asset as the Scheme.
- 7.4.39 Cumulative impacts arising from changes to the setting of a heritage asset can arise where, for example, built components of another development, when viewed alongside the above-ground components of the Scheme, contribute to a change in setting that could affect an asset's heritage value. Cumulative impacts may also arise where there is potential for change to a heritage asset's setting arising from an increase in noise levels. This is relevant for assets where a particular noise environment contributes to the appreciation and understanding of the asset's function.
- 7.4.40 Cumulative effects are considered in Section 7.11 of this chapter.

Rochdale Envelope

- 7.4.41 In order to ensure a robust assessment of the likely significance of the effects of the Scheme, the assessment is being undertaken adopting the principles of the 'Rochdale Envelope' approach, where appropriate, in line

with Planning Inspectorate guidance (Ref. 7-22). This involves assessing the maximum (or where relevant, minimum) worst case parameters for the elements where flexibility needs to be retained (facility dimensions or operational modes, for example).

7.4.42 In line with Planning Inspectorate guidance, the following assumptions have been made with regard to the Scheme as applicable to this cultural heritage assessment:

- a. The Solar PV Panels will be positioned on Solar PV Mounting Structures which will be constructed using poles driven directly into the ground, with indicative installation depth of 1.8 – 3m depending on ground conditions.
- b. The Solar PV Panels may be mounted on pre-cast concrete blocks in areas of archaeological activity identified within the Solar PV Site, in order to avoid impacts to below ground archaeological remains.
- c. The Solar PV Panels will be fixed south facing and will have a max. height of 3.5 m.
- d. The Solar PV Perimeter Fencing posts will be installed directly driven into the ground and no excavation of foundations or 'concreting in' of posts will be required. The fencing will have a max. height of 2.2 m.
- e. The Solar PV Site Internal Fencing posts will be installed directly driven into the ground and no excavation of foundations or 'concreting in' of posts will be required. The fencing will have a typical height of 1 m.
- f. CCTV cameras will be installed on wooden posts approximately 2.5m high positioned at every change in the perimeter fence and every 50m along straight sections. The posts will be directly driven into the ground using a standard post driver. There will be no excavation of foundations or 'concreting in' of posts. The power supply and communication (fibre optic) cables to the cameras will be underground.
- g. Field Stations (up to a maximum of 28) are areas of hardstanding that would house central inverters, transformers, and switchgear that could be housed in a single containerised unit (called a Field Station Unit) or may be all separate standalone units. Up to a maximum 99 Field Station Units would be required. The maximum dimensions when housed in one unit will be 12.5m x 2.5m and up to 3.5m in height. Concrete foundations would be used typically, although ground screws or reinforced concrete piles may be required depending on local geology.
- h. The Battery Energy Storage System (BESS) would comprise an indicative number of 432 containers each with a maximum footprint of 12.5m x 2.5m and up to 3.5m height. BESS Containers would be located at a centralised BESS Area within Field SW10 of the Solar PV Site.
- i. On-Site Cables will connect Solar PV Panels and BESS Containers to inverters and transformers. Cabling between Solar PV Panels and inverters is typically above ground (along a row of racks fixed to the Solar PV Mounting Structure or fixed to other parts of nearby components) and then underground if required (between racks and the inverters input). All other On-Site Electrical Cabling will be underground. Trench dimensions for cabling would be typically up to 0.8m in width and up to 1.4m in depth.

- j. There will be no above ground structures within the Grid Connection Corridor Boundary.
- k. The Grid Connection Cables would be installed between the On-Site Substation and the Existing National Grid Thorpe Marsh Substation. This would be via three single core AC cables within a single cable trench which would be up to approximately 0.75m wide and a depth of up to 1.495m.
- l. The Grid Connection Corridor is approximately 100m wide along the majority of its length but widens and narrows where required.
- m. It is assumed that construction activities could take place anywhere within the Grid Connection Corridor Boundary. However, the working area for installation of the Grid Connection Cables is anticipated to be a 30m wide corridor. This working width includes the cable trench, soil and spoil storage, working area and haul road, with passing places where required.
- n. The On-Site Substation is located within the Solar PV Site and has dimensions of approximately 100m x 200m and up to 13m (in places) in height. It is considered that all land within this footprint will be 'developed'/hardstanding. The On-Site Substation would be securely fenced up to a height of 2.5m, and will contain CCTV mounted on a pole up to 5m in height.
- o. The On-Site Substation would have a separate control building. This may incorporate the metering room or this may be a smaller separate structure. A combined control building and metering room would have a typical footprint of 20m x 20m and be a maximum of 6m in height.
- p. An Operations and Maintenance Hub would be located adjacent to an existing barn in Field NW08 and will be in use throughout the operation and maintenance of the Scheme. This would comprise a containerised welfare unit up to 6.5m in height.
- q. The external colour of the above-ground components of the Scheme including Field Stations (up to a maximum of 28), BESS Containers and the On-Site Substation will be in keeping with the prevailing surrounding environment.
- r. The Order limits also include a section of highway at the junction of the A19 and Station Road in the town of Askern to allow for abnormal indivisible load (AIL) vehicle access and escort. As the works will be limited to banksman control for the period of AIL delivery whilst it is escorted to site, based upon preliminary swept path analysis, it is not anticipated that any street furniture is required to be removed to facilitate the manoeuvre.

7.5 Assumptions, Limitations and Uncertainties

- 7.5.1 This assessment is based on the maximum design parameters of the Scheme, recognising that the locations of some components of the Scheme are not fixed, and that their construction could result in impacts to buried archaeological remains. The worst-case construction scenario assumes that construction activities within any part of the Grid Connection Corridor, On-Site Cabling and the Solar PV Site could result in permanent physical

impacts to buried archaeological remains, which may result in significant effects.

- 7.5.2 As stated in **ES Volume I Chapter 2: The Scheme [EN010152/APP/6.1]**, the design life of the Scheme is expected to be 40 years (currently anticipated to be 2030 to 2070). The conclusions of this ES chapter are not affected by the timing or phasing of construction, should it occur later or be carried out over a longer duration than that outlined in **ES Volume I Chapter 2: The Scheme [EN010152/APP/6.1]**. Similarly, a delay in the decommissioning of the Scheme would not impact the findings of the assessment presented in this chapter.
- 7.5.3 The proposed works at the junction of the A19 and Station Road in the town of Askern will comprise short duration temporary traffic management. Due to the very short duration of these works, no changes to the setting of heritage assets has been identified. No removal of street furniture is required as part of these works, therefore there will be no physical impacts to below ground archaeological remains. No impacts to cultural heritage assets are anticipated as a result of these works, and this area is not assessed further in this chapter.
- 7.5.4 For the purpose of this assessment and as a worst-case scenario, it is assumed that the On-Site Substation may remain in place following decommissioning of the Scheme and, as such, this is considered a permanent structure. No changes to the setting of heritage assets have been identified as a result of the permanent presence of the On-Site Substation.
- 7.5.5 A worst-case operational scenario assumes a Zone of Theoretical Visibility, as illustrated in **ES Volume II Figure 10-6 to 10-8 [EN010152/APP/6.2]**, based on the maximum design parameters listed in Table 2-1 in **ES Volume I Chapter 2: The Scheme [EN010152/APP/6.1]**, as this represents the greatest potential for impacts to heritage assets arising from change within their setting.
- 7.5.6 For the purpose of this assessment, it is assumed that the likely significant effects to heritage assets arising from decommissioning would be no greater than those deriving from the construction of the Scheme.
- 7.5.7 Assessment within this chapter assumes a worst-case scenario for decommissioning of On-Site Cables and Grid Connection Cables, which comprises excavating the ground at intervals and pulling the cable through to the extraction point, as per **ES Volume I Chapter 2: The Scheme [EN010152/APP/6.1]**. This worst-case scenario would not result in additional impacts to heritage assets, as it is assumed that the works will be contained within previously disturbed areas, such as the already established starter and end pits used during construction, and impacts to heritage assets, if present, would have occurred during construction or been mitigated. As such, the worst-case construction scenario also covers the worst-case decommissioning scenario.
- 7.5.8 Trial trench evaluation within Fields NE3, NE8 and NE10 was not undertaken at the time of writing due to ecological constraints (proximity to Great Crested Newts habitats). These works will be undertaken post-consent, as agreed with the Archaeological Advisor to SYAS, the requirement for which has been set out and secured within the **Framework AMS [EN010152/APP/8.16]**.

- 7.5.9 No evaluation surveys were undertaken within the Grid Connection Corridor at the time of writing. Geophysical survey is planned to be undertaken post-consent, as agreed with the Archaeological Advisor to SYAS, the requirement for which has been set out and secured within the **Framework AMS [EN010152/APP/8.16]**. The baseline for the Grid Connection Corridor is based on the available evidence at the time of writing and a worst-case scenario assumed for the potential and value of archaeological remains within the Grid Connection Corridor.

7.6 Baseline Conditions

- 7.6.1 This section presents a summary of the existing baseline and predicted future baseline conditions for cultural heritage assets relevant to this ES assessment.
- 7.6.2 Key heritage assets which have the potential to be impacted by the Scheme are identified in this chapter and their values detailed such that the potential impacts can be proportionally assessed. The archaeological potential of the Order limits is likewise described to enable the impacts upon archaeological remains and deposits therein to be proportionally assessed.
- 7.6.3 A detailed baseline is set out in the DBA and presented in **ES Volume II Appendix 7-2: Cultural Heritage Desk-based Assessment [EN010152/APP/6.3]**. A gazetteer of heritage assets is provided in **ES Volume III Appendix 7-3: Cultural Heritage Gazetteer of Heritage Assets [EN010152/APP/6.3]**. The location of heritage assets, previous archaeological events and indicative illustrations of historic landscape character are presented in **ES Volume II Figures 7-1 to 7-4 [EN010152/APP/6.2]**.

Existing Baseline

Designated Heritage Assets

- 7.6.4 There are no designated heritage assets located within the Order limits.
- 7.6.5 There are no World Heritage Sites, Registered Parks and Gardens, Registered Battlefields, or Protected Wrecks located within the Study Areas.
- 7.6.6 Within the 3km Study Area from the Solar PV Site, there are 38 designated heritage assets comprising five Scheduled Monuments and 33 Grade II listed buildings.
- 7.6.7 Within the 1km Study Area from the Grid Connection Corridor, there are two Scheduled Monuments (one of which also contains a Grade II* listed building), one Grade I listed building, one Grade II* listed building and three Grade II listed buildings.
- 7.6.8 Within the wider 5km Study Area, beyond the 3km Study Area from the Solar PV Site (and not including those assets already identified within the 1km Study Area from the Grid Connection Corridor), there are 14 designated heritage assets of the highest value, comprising seven Scheduled Monuments, two Grade I listed buildings and four Grade II* listed buildings. In addition, there are three Conservation Areas.

Scheduled Monuments

- 7.6.9 All Scheduled Monuments are deemed to be of high value as nationally important heritage assets.
- 7.6.10 There are five Scheduled Monuments located within the 3km Study Area from the Solar PV Site Boundary, comprising:
- Moat Hill moated site [NHLE 1011920], located approximately 850m west of the Solar PV Site.
 - Fenwick Hall moated site [NHLE 1012459], lies within an area to the east of the village of Fenwick, outside of the Order limits, which is encircled by elements of the Solar PV Site.
 - Cross in the churchyard of Holy Trinity Church [NHLE 1012933], located approximately 1km east of the Solar PV Site.
 - Parkshaw moated site, 170m northwest of Wood Farm [NHLE 1016025], located approximately 1.5km northwest of the Solar PV Site.
 - Warren Hall moated site [NHLE 1017581], located approximately 2.9km east of the Solar PV Site.
- 7.6.11 There are two Scheduled Monuments located within the 1km Study Area from the Grid Connection Corridor (and also located within the wider 5km Study Area from the Solar PV Site) comprising:
- Thorpe in Balne moated site, chapel and fishpond [NHLE 1012111], which is located approximately 180m west of the Grid Connection Corridor (and 3.5km south of the Solar PV Site). The scheduling includes the chancel of a 12th century chapel which is also listed as Grade II* listed building [1286641]); and
 - Cross in the churchyard of St Oswald's Church (SM; NHLE 1012938), located approximately 950m southwest of the Grid Connection Corridor.
- 7.6.12 A further seven Scheduled Monuments are located within the wider 5km Study Area from the Solar PV Site, comprising:
- Earthworks on Sutton Common [NHLE 1004816], located approximately 3.2km southwest of the Solar PV Site.
 - Sutton Common bowl barrow [NHLE 1010768], located approximately 3.4km southwest of the Solar PV Site.
 - Wayside cross on Pinfold Lane [NHLE 1012932], located approximately 5km southwest of the Solar PV Site.
 - Wayside cross on Trundle Lane [NHLE 1014146], located approximately 4.5km southwest of the Solar PV Site.
 - Kings Manor moated site, 450m south of Little London [NHLE 1015307], located approximately 4.5km northeast of the Solar PV Site.
 - Manorial complex including the site of Norton Manor House, chapel, dovecote, moat, fishpond, field system and mill, 600m southwest of Wentbank House [NHLE 1016945], located approximately 4.7km west of Solar PV Site.
 - Medieval standing cross on Tanpit Lane, 150m west of Westbank House [NHLE 1017825], located approximately 4.8km west of the Solar PV Site.

Conservation Areas

- 7.6.13 Conservation Areas are designated for their architectural or historic interest, to preserve or enhance their special character or appearance. They include listed buildings, often centred around their historic core and which have group value, and other buildings and features which contribute to their character.
- 7.6.14 There are three Conservation Areas located within the wider 5km Study Area from the Solar PV Site, comprising:
- Campsall Conservation Area, located approximately 4.1km west of the Solar PV Site.
 - Owston Conservation Area, located approximately 4.7km southwest of the Solar PV Site.
 - Fishlake Conservation Area, located approximately 4.8km southeast of the Solar PV Site.

Listed Buildings

- 7.6.15 There are a total of 33 listed buildings located within the 3km Study Area from the Solar PV Site Boundary, all of which are Grade II. There are also six listed buildings (Grade I, Grade II* and Grade II) located within the 1km Study Area from the Grid Connection Corridor. In addition, there are four Grade I listed buildings and four Grade II* listed buildings located within the wider 5km Study Area from the Solar PV Site (not including those assets already identified within the 1km Study Area from the Grid Connection Corridor).
- 7.6.16 The Grade I and Grade II* listed buildings are all of high value due to their exceptional architectural, historical, archaeological and/or artistic interest.
- 7.6.17 The Grade II listed buildings are all of medium value due to their special architectural, historical, archaeological and/or artistic interest.
- 7.6.18 The Grade I listed buildings comprise:
- Church of St Mary Magdalene [NHLE 1151464], located approximately 4.2km west of the Solar PV Site.
 - The Old Rectory [NHLE 1286761], located approximately 4.2km west of the Solar PV Site.
 - Church of All Saints [NHLE 1192336], located approximately 4.9km southwest of the Solar PV Site.
 - Church of St Cuthbert [NHLE 1314801], located approximately 4.8km southeast of the Solar PV Site.
 - Church of St Peter and St Paul [NHLE 1151488], located approximately 500m east of the Grid Connection Corridor.
- 7.6.19 The Grade II* listed buildings comprise:
- Church of St Mary [NHLE 1286522], located approximately 1.3km east of the Grid Connection Corridor and 3.5km south of the Solar PV Site.
 - Remains of Chapel at Manor House Farm [NHLE 1286641], located approximately 250m west of the Grid Connection Corridor (note this

asset is also listed under the Scheduled Monument Thorpe in Balne moated site, chapel and fishpond [NHLE 1012111]).

- c. Owston Hall Flats 1 to 5 and including the Old Hall [NHLE 1286676], located approximately 5km southwest of the Solar PV Site.
- d. Stubbs Hall [NHLE 1174475], located approximately 4.7km west of the Solar PV Site.
- e. Church of St Oswald [NHLE 1286919], located approximately 950m southwest of the Grid Connection Corridor.

7.6.20 The Grade II listed buildings comprise churches, farmhouses and associated agricultural buildings such as dovecotes and barns, bridges and a milepost. This includes Fenwick Hall [NHLE 1151612] and associated agricultural buildings ([NHLE 1151612] and [NHLE 1151613]) and Lily Hall (at Riddings Farm) [NHLE 1151609] and associated agricultural buildings ([NHLE 1151610] and [NHLE 1151611]), all of which are located within an area encircled, at a distance, by the Solar PV Site but outside the Order limits itself.

Non-Designated Heritage Assets

7.6.21 Searches of both the SYAS Historic Environment Record (HER) and North Yorkshire Council HER have identified four non-designated heritage assets located within the Solar PV Site Boundary and one located within the Grid Connection Corridor.

7.6.22 The assets located within the Order limits comprise:

- a. Unclassified cropmark (02791/01);
- b. Undated probable enclosure or ditch intersection (05633);
- c. Undated ring ditch and linear ditches (05632);
- d. Undated possible ring ditch (05631); and
- e. Unclassified cropmark and earthwork, Moss (02531/01).

7.6.23 In addition, the evaluation surveys undertaken for the Scheme have identified multiple areas of archaeological activity which represent Iron Age/Romano-British settlement activity comprising ditched enclosures, internal divisions, roundhouses, pits and postholes etc. (AEC004 – AEC021).

7.6.24 Additionally, there are a total of 49 assets recorded within the 1km Study Area from the Order limits. These assets include, but are not limited to, find spots, archaeological sites, and buildings which are not recorded as designated heritage assets.

7.6.25 Findspots are included in the baseline as they contribute to the understanding of the archaeological and historical background of the Order limits and inform the potential for archaeological remains to survive within the Order limits, however they are not considered any further in this assessment as they comprise the former locations of individual finds that have been removed from their location and are no longer extant.

7.6.26 Some of these non-designated heritage assets are duplicate records of designated heritage assets and, as such, are referenced in this ES by their NHLE record. Details of the non-designated heritage assets are included in **ES Volume III Appendix 7-3: Cultural Heritage Gazetteer of Heritage**

Assets [EN010152/APP/6.3] and presented on ES Volume II Figure 7-2: Non-Designated Heritage Assets [EN010152/APP/6.2].

- 7.6.27 The analysis of historic maps, combined with the site walkover survey, also identified the following non-designated historic buildings located within the 1km Study Area from the Solar PV Sites, comprising:
- Haggs Farm (AEC001), located approximately 80m south of Field NW4 of the Solar PV Site;
 - Croft Farm (AEC002), located approximately 20m south of Field NW3 of the Solar PV Site; and
 - West End Farm (AEC003), located approximately 80m west of Field SE2 of the Solar PV Site.

Heritage Assets Scoped in to Assessment

- 7.6.28 The cultural heritage baseline assessment presented in **ES Volume III Appendix 7-2: Cultural Heritage Desk-Based Assessment [EN010152/APP/6.3]** has identified the potential for impacts to designated and non-designated heritage assets within the Order limits and Study Areas as a result of the Scheme.
- 7.6.29 A number of designated and non-designated assets were scoped out of further assessment in the baseline study due to the lack of potential for impacts resulting from the Scheme. A rationale for scoping out these assets is provided in **ES Volume III Appendix 7-2: Cultural Heritage Desk-Based Assessment [EN010152/APP/6.3]**.
- 7.6.30 The following designated and non-designated assets are those where it is considered that there is the potential for impacts as a result of the Scheme.
- 7.6.31 Designated heritage assets scoped in to further assessment comprise:
- Moat Hill moated site [SM; NHLE 1011920];
 - Thorpe in Balne moated site, chapel and fishpond [SM; NHLE 1012111; also Grade II*; NHLE 1286641];
 - Parkshaw moated site, 170m northwest of Wood Farm (SM; NHLE 1016025);
 - Fenwick Hall moated site [SM; NHLE 10124459];
 - Fenwick Hall [Grade II; NHLE 1314800]; and its associated barn and attached outbuildings [Grade II; NHLE 1151612] and shelter shed and attached loose box [Grade II; NHLE 1151613];
 - Lily Hall (at Riddings Farm) [Grade II; NHLE 1151609] and its associated barn and granary [Grade II; NHLE 1151610] and dovecote and attached outbuilding [Grade II; NHLE 1151611]; and
 - Glebe Farmhouse [Grade II; NHLE 1192743] and its associated barn [Grade II; NHLE 1314794].
- 7.6.32 Non-designated heritage assets scoped in to further assessment comprise:
- Haggs Farm [AEC001];
 - Croft Farm [AEC002];
 - West End Farm [AEC003];

- d. Unclassified cropmark (02791/01);
- e. Undated probable enclosure or ditch intersection (05633);
- f. Undated ring ditch and linear ditches (05632);
- g. Undated possible ring ditch (05631);
- h. Unclassified cropmark and earthwork, Moss (02531/01);
- i. Iron Age/Romano-British archaeological remains located within the Solar PV Site (AEC004 – AEC021); and
- j. Potential previously unknown archaeological remains located within the Grid Connection Corridor dating to the prehistoric, Roman, medieval and post-medieval periods.

7.6.33 In addition, the Historic Landscape Character of the Order limits has been scoped in to further assessment due to its sensitivity to change.

Future Baseline

7.6.34 This section considers changes to the baseline conditions described above that might occur in the absence of the Scheme, and during the time period over which the Scheme would have been in place.

7.6.35 The future baseline scenarios are set out in **ES Volume I Chapter 5: Environmental Impact Assessment Methodology [EN010152/APP/6.1]** and described for cultural heritage below.

No Development

7.6.36 Based on available information, there are no reasons to expect that there would be any marked change in the cultural heritage baseline in the absence of the Scheme.

7.6.37 In the absence of the Scheme, land within the Order limits is anticipated to continue as farmland, which would retain the existing settings of built heritage assets. In addition, it is not considered likely that significant numbers of designated built heritage assets will be added to the baseline during the lifespan of the Scheme, in the absence of the Scheme.

7.6.38 Changes to buried archaeological remains which might occur during the lifespan of the Scheme, in the absence of the Scheme, would be minimal and limited to typical taphonomic (i.e. erosion, degradation, corrosion, etc.) processes and are not considered likely to alter the values of heritage assets.

7.7 Embedded Mitigation

7.7.1 This section describes the embedded and good practice mitigation for cultural heritage that has been incorporated into the Scheme design or assumed to be in place before undertaking the assessment.

7.7.2 The Scheme has been designed to avoid and reduce impacts and effects on cultural heritage through the process of design development, and by embedding measures into the Scheme design. In addition, how the Scheme is constructed, operated and maintained, and decommissioned would be appropriately controlled via requirements of the DCO (refer to Management Measures section below for further information) in order to manage and

minimise potential environmental effects (required as a result of legislative requirements and/or standard sectoral practices).

Measures Embedded into the Scheme Design

- 7.7.3 This section sets out the embedded mitigation measures, where currently identified, relevant to cultural heritage that have been incorporated into the Scheme design or assumed to be in place before undertaking the assessment, as described in **ES Volume I Chapter 2: The Scheme [EN010152/APP/6.1]**.
- 7.7.4 The Scheme design has been carefully considered to avoid, reduce or mitigate likely significant effects on cultural heritage assets. Cultural Heritage mitigation measures which have been embedded into the design of the Scheme include:
- a. **Avoidance** – where practicable, cultural heritage assets have been avoided in order to reduce or remove potential impacts upon them, via heritage buffer areas. These avoidance measures have been implemented in a staged, iterative manner as the potential impacts of the Scheme are understood.
 - b. **Reduction** – areas of soft landscaping/screening around parts of the perimeter of the Scheme have been built into the design of the Solar PV Site. The aim is to screen the Solar PV Panels and associated infrastructure from view and thus reduce impact upon the settings of heritage assets. This landscaping has been carefully considered to integrate itself into the existing landscape and largely comprises the enhancement of existing hedgerows/boundaries.
 - c. **Investigation** – a programme of archaeological evaluation surveys of the Solar PV Site has been undertaken. This has identified areas of archaeological interest that have been set out as Heritage Buffer Areas within the Scheme design to enable preservation in-situ of these remains.
- 7.7.5 Specific embedded mitigation measures that have already been identified within the Scheme design include:
- a. The exclusion from development of a number of fields immediately surrounding the listed buildings at Fenwick Hall Farm [1314800] and Lily Hall (at Riddings Farm) [NHLE 1151609] and the Scheduled Monument Fenwick Hall moated site [NHLE 1012459], so as to preserve the open, pasture fields in their immediate surrounds;
 - b. Heritage buffer area in the field adjacent to the Scheduled Monument Fenwick Hall moated site [NHLE 1012459]. This Heritage Buffer Area incorporates a 20m setting buffer as agreed with Historic England, and has been extended to the full extents of the field to incorporate archaeological remains that may be associated with the moated site;
 - c. Enhancement of existing hedgerows along Lawn Lane to reduce visual intrusion and change to setting of the non-designated Haggs Farm and Croft Farm and to protect the character of the approach to the designated assets at Fenwick Hall and Riddings Farm;
 - d. Replanting/enhancement of existing hedgerows/boundaries that are remnants of the medieval/post-medieval historic landscape in order to

- maintain the historic connectivity with associated heritage assets such as Fenwick Hall moated site;
- e. Retention and enhancement of hedgerows identified as 'important' hedgerows;
 - f. Enhancement of existing hedgerows in proximity to designated heritage assets in order to screen views of the Scheme and reduce potential impacts to their setting, including along the western-most extent of the Solar PV Site; and
 - g. Heritage buffer areas for areas of archaeological interest identified from the archaeological evaluation surveys, of potentially high sensitivity to impacts. These areas include archaeological remains that may be associated with the Scheduled Monument Fenwick Hall moated site in Field SE1; and possible Iron Age/Romano-British settlement corridor that extends along the northern extent of the Fleet Drain through Fields NE11, NE12, NE10, NE8, and SE1. Where heritage buffer areas also correlate with other environmental discipline mitigation areas, there will be no below ground impacts that could result in impacts to archaeological remains.

Management Measures

- 7.7.6 The delivery of embedded mitigation measures to manage potential effects on heritage assets will be described within and secured through the detailed Construction Environmental Management Plan (CEMP), detailed Operational Environmental Management Plan (OEMP) and detailed Decommissioning Environmental Management Plan (DEMP), via Requirements in the DCO. A Framework CEMP (**Framework CEMP [EN010152/APP/7.7]**), Framework OEMP (**Framework OEMP [EN010152/APP/7.8]**) and Framework DEMP (**Framework DEMP [EN010152/APP/7.9]**) have been prepared and submitted as part of the ES.

7.8 Assessment of Likely Significant Effects

- 7.8.1 This section sets out the likely effects of the Scheme, as outlined in **ES Volume I Chapter 2: The Scheme [EN010152/APP/6.1]**, on Cultural Heritage, whilst considering the embedded mitigation measures as detailed in Section 7.7.
- 7.8.2 The following provides a proportionate assessment of likely significant effects on cultural heritage. As such, only those assets which are considered likely to be impacted by the Scheme, as informed by the desk-based research, evaluation surveys and professional judgement, are assessed. Those assets which will not experience an impact, either physically or through changes to their setting, are omitted. Details of assets within the Study Areas, but not impacted by the Scheme, are provided in **ES Volume III Appendix 7-2 Cultural Heritage Desk-Based Assessment [EN010152/APP/6.3]**.

Construction Effects

- 7.8.3 This section identifies the potential impacts and resulting likely significant effects, either temporary or permanent, resulting from the construction phase of the Scheme.

- 7.8.4 Temporary and short-term impacts lasting for all or part of the construction phase of the Scheme may arise as a result of the following:
- Activities within the Order limits, such as the presence and movement of construction plant and equipment, the presence of construction compounds, noise and lighting, which may impact heritage assets as a result of temporary changes to their setting; and
 - Activities outside of the Order limits such as traffic management systems and increased volumes of traffic on the local road network, which may impact heritage assets as a result of temporary changes to their setting.
- 7.8.5 Permanent and reversible long-term (for the lifespan of the Scheme) impacts lasting beyond the construction phase may arise as a result of the following activity:
- Any below ground activities, including but not limited to groundworks, planting, earth-moving operations, topsoil removal for haul road or compound locations, trenches for cabling, the installation of Solar PV Panels and associated infrastructure, that are required for the construction of the principal Scheme components, as described in **ES Volume I, Chapter 2: The Scheme [EN010152/APP/6.1]**. This is because all of the principal Scheme components, either entirely or in part, will entail impacts to the existing ground surface, resulting in the physical disturbance, truncation or removal of archaeological remains that may be present;
 - Construction activities such as site clearance, resulting in the partial or total loss of important elements of the historical landscape including hedgerows and areas of ridge and furrow through physical impacts; and
 - Impacts through change to the setting of heritage assets as a result of the introduction of the physical form and appearance of the Scheme within their setting (long-term for the lifespan of the Scheme, but reversible at decommissioning).

Designated Heritage Assets

- 7.8.6 There are no designated heritage assets located within the Order limits and as such none would be physically impacted by the Scheme.
- 7.8.7 The construction of the Scheme has the potential to result in impacts to heritage assets as a result of temporary and long-term (for the lifespan of the Scheme) reversible changes to their settings.
- 7.8.8 The assessment of likely significant temporary and long-term (for the lifespan of the Scheme) reversible effects has considered the results of surveys undertaken for the ES and reported in other technical chapters, including Noise and Vibration, Landscape and Amenity, and Transport and Access, to assess potential temporary impacts arising from construction noise, landscape planting, construction traffic, dust and vibration.

Moat Hill moated site [NHLE 1011920]

- 7.8.9 The Scheduled Monument Moat Hill moated site [NHLE 1011920] is an asset of high value located approximately 850m west of the Solar PV Site. The value of the asset is derived from its archaeological and historic interest as it comprises the buried remains of a well-defined medieval moated site. The

moat island displays no obvious sign of building foundations, but stone wall footings have been seen on it in the past and, more recently, limestone blocks were observed in the west arm of the moat. Though the historic context of the monument is not known, according to local tradition it was a Templar site.

- 7.8.10 The setting of the moated site is defined by its immediate location within a rural landscape, surrounded entirely by farmland and by extensive ridge and furrow [05769], [02562/01], [05770] to the south, west and east. Other moated sites and medieval settlements in the wider landscape also form part of the setting of the asset as they contribute to the understanding of the moated site's position in the landscape. The setting of the asset therefore contributes to the understanding of its heritage interests.
- 7.8.11 The railway line which extends north to south through the landscape, approximately 650m east of the moated site, somewhat severs the asset's setting in this direction, and intervening hedgerows restrict views between the asset and the railway line, and beyond towards the Solar PV Site.
- 7.8.12 Embedded mitigation is proposed in the form of enhancement of existing hedgerows along the western-most extent of the Solar PV Site which would aid to further screen views towards the Scheme from the west.
- 7.8.13 The construction of the Scheme, including construction activities and the presence of the Scheme, would have little effect on the ability to understand and appreciate the heritage interest of the asset, resulting in no real change upon its overall value. This impact is assessed as long-term (for the lifespan of the Scheme, but is considered to be reversible upon decommissioning.
- 7.8.14 The magnitude of impact through long-term (for the lifespan of the Scheme) but reversible change to the setting of the asset is therefore assessed as **very low**, which, on an asset of high value, would result in a **minor adverse** effect, which is considered to be **not significant**.

Thorpe in Balne moated site, chapel and fishpond [NHLE 1012111] and remains of Chapel at Manor House Farm [NHLE 1286641]

- 7.8.15 The Scheduled Monument Thorpe in Balne moated site, chapel and fishpond [NHLE 1012111] is an asset of high value and is located approximately 180m west of the Grid Connection Corridor. The chapel is also Grade II* listed [NHLE 1286641] but for the purposes of this assessment is included in the assessment of the scheduled monument. The value of the asset is derived from its architectural, archaeological and historic interest as it comprises the buried remains of a well-defined medieval moated site and the remains of a 12th century chapel with later alterations. The asset's historical associations are well documented and are unusual in having a medieval chapel on site that was used as the parish church of Thorpe in Balne until the loss of its endowment in 1556. Although somewhat disturbed by post-medieval building and activity, substantial remains will survive beneath the modern buildings on the island, and across the whole of the site.
- 7.8.16 The setting of the asset is defined by its immediate location adjacent to the medieval core of the village of Thorpe in Balne and surrounded by a rural landscape. Other moated sites and medieval settlements in the wider landscape also form part of the setting of the asset as they contribute to the

understanding of the asset's position in the landscape. The setting of the asset therefore contributes to the understanding of its heritage interests.

- 7.8.17 The Grid Connection Corridor extends through agricultural fields south of the Solar PV Site, heading south towards Thorpe in Balne. Where the corridor meets Moss Lane and Marsh Road, it diverges across agricultural fields and field boundaries approximately 150m east of the asset, before rejoining Thorpe Lane where it meets Marsh Road and continuing along Thorpe Bank. In addition, a temporary construction compound is proposed in the field immediately west of Marsh Road.
- 7.8.18 Intervening hedgerows restrict views from the asset towards the eastern route option north of Thorpe Marsh and temporary compound. The western route option north of Thorpe Marsh brings the Scheme closer to the asset, however there are still hedgerows located between the asset and this option of the Grid Connection Corridor, which screen views towards the Scheme in this direction.
- 7.8.19 The construction phase of the Grid Connection Corridor, which may include but is not limited to, construction traffic, construction machinery and a temporary compound, may slightly affect the ability to understand and appreciate the heritage interests of the asset, which may result in a slight impact upon its overall value. However, this impact would only last for the duration of the construction of the Grid Connection Corridor, after which the Grid Connection Corridor will be entirely below ground and the temporary compound removed, and the impact would therefore be short-medium term and temporary.
- 7.8.20 The magnitude of impact through temporary change to the setting of the asset is therefore assessed as **low**, which, on an asset of high value results in a **moderate adverse** effect, which is considered to be **significant**.

Parkshaw moated site, 170m northwest of Wood Farm [SM; NHLE 1016025]

- 7.8.21 The Scheduled Monument Parkshaw moated site [NHLE 1016025] is an asset of high value and is located approximately 1.6km north west of the Solar PV Site. The value of the asset is derived from its archaeological and historic interests as it comprises the buried remains of a well-preserved medieval moated site, with evidence of surviving buried features on the moat island. The monument includes the earthworks of a moated island with two further moat ditches to the west. There is no evidence of external banking to the moat, with the upcast from the ditch appearing to have been placed entirely on the island. Some low earthworks can be identified on the island itself which suggests the survival of buried features. To the west of the island, two uncompleted moat ditches have been identified which are considered to have been intended as the boundaries of up to two further islands.
- 7.8.22 The setting of the moated site is defined by its immediate location within enclosed woodland, and the wider open rural landscape beyond. Other moated sites and medieval settlements in the wider landscape also form part of the setting of the asset as they contribute to the understanding of the moated site's position in the landscape that provides information on the distribution of wealth and status in the countryside. The setting of the asset therefore contributes to its significance.

- 7.8.23 The railway line which extends north to south through the landscape, approximately 750m east of the moated site, somewhat severs the asset's setting in this direction. In addition, the moated site is entirely enclosed by woodland (Parkshaw Wood) and intervening hedgerows restrict views between the asset and the railway line, and beyond towards the Solar PV Site.
- 7.8.24 Embedded mitigation is proposed in the form of enhancement of existing hedgerows along the northern-most extent of the Solar PV Site, as well as an area of ecological mitigation along the northern boundary of the Solar PV Site which will include planting, both of which would aid to further screen views towards the Scheme from the north.
- 7.8.25 The construction of the Scheme, including construction activities and the presence of the Scheme, would have little effect on the ability to understand and appreciate the heritage interest of the asset, resulting in no real change upon its overall value. This impact is assessed as long-term (for the lifespan of the Scheme, but is considered to be reversible upon decommissioning.
- 7.8.26 The magnitude of impact through long-term (for the lifespan of the Scheme) but reversible change to the setting of the asset is therefore assessed as **very low**, which, on an asset of high value, would result in a **minor adverse** effect, which is considered to be **not significant**.

Fenwick Hall moated site [NHLE 1012459]

- 7.8.27 The Scheduled Monument Fenwick Hall moated site [NHLE 1012459] is an asset of high value and is located approximately 90m west of Field SE1, surrounded by the Solar PV Site. The value of the asset is derived from its archaeological and historic interests as it comprises the buried remains of a well-defined medieval moated site, which itself sits within a wider area of relatively poorly understood earthworks. The asset's historical associations are well documented and include its use as a principal seat of the prominent Foliot family. Although somewhat altered and overlain by a post-medieval farmstead, substantial archaeological remains will survive beneath the later buildings on the island and across the whole of the site.
- 7.8.28 The setting of the moated site is defined by its location within open countryside, and at a short distance from the medieval core of the village of Fenwick. In itself, this slight separation from the core of the village is of interest and suggests that archaeological remains connecting the two may yet remain unrecognised. Of particular relevance to the setting of the asset is the linear pond at Riddings Farm, which itself lies between Fenwick and Fenwick Hall. This pond may represent an arm of a partially surviving moat, perhaps a subsidiary enclosure to the moat at Fenwick Hall, or may equally represent a surviving medieval fishpond within the manorial landscape surrounding the moated site at Fenwick Hall. Beyond this, elements of the medieval use of the surrounding agricultural landscape, including ridge and furrow ploughing and identifiably medieval land packages and field boundaries, also contribute to an understanding of the historic functional setting of the asset. Other moated sites and medieval settlements in the wider landscape also form part of the setting of the asset as they contribute to the understanding of the moated site's position in its wider contemporary landscape – in particular the other extensive Foliot family seat at Norton, and

surrounding moated sites at Thorpe in Balne and at Moat Hill. The setting of the asset therefore contributes to the understanding of its heritage interests.

- 7.8.29 The Solar PV Site lies in close proximity to this asset and surrounds the approach to it along Lawn Lane. Embedded mitigation, in the form of intervening hedgerows and a designed buffer area in all directions around the asset, reduce views of the Scheme when looking towards and away from the asset itself, and preserve an immediate surrounding of open agricultural land. However, the construction phase of the Solar PV Site is still likely to affect the ability to understand and appreciate the heritage interests of the asset through a reduction in the clarity with which its wider position in open countryside, separate from the core of Fenwick and surrounded by other elements of historic landscape, can be appreciated.
- 7.8.30 Whilst the ridge and furrow located within fields which contribute to the setting of this asset will be impacted as a result of the construction of the Scheme, these parcels of ridge and furrow are somewhat degraded and are remnants of what would have been a much larger scale of ridge and furrow across the Solar PV Site, prior to post-medieval agglomeration. The retention and enhancement of existing hedgerows would preserve the historic field system layout which provides the functional relationship for the ridge and furrow. In addition, part of the ridge and furrow will be preserved in-situ within a heritage buffer zone in Field NW10. Whilst the loss of the ridge and furrow is permanent, it is not considered that this would result in a loss of understanding of the agricultural setting of Fenwick Hall moated site and would not affect the ability to appreciate the heritage interests of the asset.
- 7.8.31 The construction of the Scheme, including construction activities and the physical presence of the Scheme, would therefore slightly change the ability to understand and appreciate the heritage interests of this high value asset. This impact is assessed as long-term (for the lifespan of the Scheme), but is considered to be reversible upon decommissioning.
- 7.8.32 The magnitude of impact through long-term (for the lifespan of the Scheme) but reversible change to the setting of the asset is therefore assessed as **low**, which, on an asset of high value results in a **moderate adverse** effect, which is considered to be **significant**.

Fenwick Hall farmhouse [NHLE 1314800], Barn and attached outbuildings approximately 25 metres to southeast of Fenwick Hall [NHLE 1151612], and Shelter shed and attached loose box forming southeast side of farmyard at Fenwick Hall [NHLE 1151613]

- 7.8.33 This well-defined group of listed buildings, all listed at Grade II and of medium value comprise three separate listings. The assets overlie the scheduled monument of the Fenwick Hall moated site [NHLE 1012459], and they are surrounded by the Solar PV Site, but excluded from the Order Limits. The Solar PV Site is c. 120m east of the assets at its closest extent.
- 7.8.34 The farm buildings form a demonstrable courtyard-plan farmstead of relatively contemporaneous buildings. Developed in the 18th and early 19th centuries, the buildings preserve clear structural evidence of their date, structural development, and past use, and, as such, their functional relationships to one another can be well appreciated. Beyond this, their wider setting, within open countryside in agricultural use, allows a reasonable level of appreciation of their historic setting, albeit accepting that

this setting is much altered by the process of agglomeration of fields and agricultural techniques, and reinforces appreciation of their historic intended use. The surrounding open fields, and the tranquil, rural approach along the tree-lined Lawn Lane contribute to a sense of separation and an appreciation of the rural surrounds of the grouping.

- 7.8.35 The structural decay of the principal farmhouse has strongly denuded its significance as the main building of interest through a concurrent loss of architectural and archaeological interest. This, along with the more limited decay of the other farm buildings and their immediate surrounds, has done much to reduce the historic illustrative interest and architectural interest of the group as a whole.
- 7.8.36 The Solar PV Site lies in close proximity to this asset group, and surrounds the approach to it along Lawn Lane. Embedded mitigation, in the form of intervening hedgerows and a designed buffer area in all directions around the farmstead, would reduce views of the development when looking towards and away from the asset group itself, and preserve the immediate surrounding of open agricultural land. However, the construction phase of the Solar PV Site is still likely to affect the ability to understand and appreciate the heritage interests of the farmstead through a reduction in the clarity with which its wider position in open countryside, separate from the core of Fenwick and surrounded by other elements of historic landscape, can be appreciated. The construction of the Scheme, including construction activities and the presence of the Scheme, would therefore slightly change the ability to understand and appreciate the heritage interests of the asset group. This impact is assessed as long-term (for the lifespan of the Scheme), but is considered to be reversible upon decommissioning.
- 7.8.37 The magnitude of impact through long-term (for the lifespan of the Scheme) but reversible change to the setting of these assets is therefore assessed as **low**, which on assets of medium value results in a **minor adverse** effect, which is considered to be **not significant**.

Lily Hall (at Riddings Farm) [NHLE 1151609], Barn and granary (at Riddings Farm) immediately to northwest of Lily Hall [NHLE 1151610] and, Dovecote and attached outbuilding on west side of farmyard at Riddings Farm [NHLE 1151611]

- 7.8.38 This well-defined group of listed buildings, all listed at Grade II and of medium value, comprise three separate listings forming a courtyard-plan farmstead of relatively contemporaneous buildings. Modern buildings have infilled space around the buildings to obscure the historic layout to a great degree. The farm buildings are located c.300m west of the Fenwick Hall asset grouping and they are surrounded by the Solar PV Site, but excluded from the Order Limits. The Solar PV Site is c. 150m west of the assets at its closest extent.
- 7.8.39 Developed in the 18th and early 19th centuries, the buildings preserve clear structural evidence of their date, structural development, and past use and, as such, their functional relationships to one another can be well appreciated. Beyond this, their wider setting, within open countryside in agricultural use, allows a reasonable level of appreciation of their historic setting, albeit accepting that this setting is much altered by the process of aggregation of fields and agricultural techniques, and reinforces appreciation

of their historic intended use. The surrounding open fields, and the tranquil, rural approach along the tree-lined Lawn Lane contribute to a sense of separation and an appreciation of the rural surrounds of the grouping.

- 7.8.40 The structural decay of the principal farmhouse has strongly denuded its significance as the main building of interest through a concurrent loss of architectural and archaeological interest. This, along with the more limited decay of the other farm buildings and their immediate surrounds, has done much to reduce the historic illustrative interest and architectural interest of the group as a whole.
- 7.8.41 The Solar PV Site lies in close proximity to this asset group and surrounds the approach to it along Lawn Lane. Embedded mitigation, in the form of intervening hedgerows and a designed buffer area in all directions around the farmstead, reduce views of the Scheme when looking towards and away from the asset group itself, and preserve an immediate surrounding of open agricultural land. However, the construction phase of the Solar PV Site is still likely to affect the ability to understand and appreciate the heritage interests of the farmstead through a reduction in the clarity with which its wider position in open countryside, separate from the core of Fenwick and surrounded by other elements of historic landscape, can be appreciated. The construction of the Scheme, including construction activities and the presence of the Scheme, would therefore slightly change the ability to understand and appreciate the heritage interests of the asset group. This impact is assessed as long-term (for the lifespan of the Scheme), but is considered to be reversible upon decommissioning.
- 7.8.42 The magnitude of impact through long-term (for the lifespan of the Scheme) but reversible change to the setting of these assets is therefore assessed as **low** which, on assets of medium value results in a **minor adverse** effect, which is considered to be **not significant**.

Glebe Farmhouse [NHLE 1192743] and its associated barn [NHLE 1314794]

- 7.8.43 This well-defined pair of listed buildings are both listed at Grade II and of medium value. They comprise the late-17th century Glebe Farmhouse and its associated late-18th century linear farmstead range (threshing barn) located to its north side. The latter is now partially roofless. A non-designated range is also present to enclose the east side of the complex which appears to be contemporary with the listed buildings as a former stable with hayloft over, now converted to residential use. The farm is located immediately to the south of the Grid Connection Corridor on Trumfleet Lane, and c.2km south of the Solar PV Site.
- 7.8.44 Developed in the 17th and late-18th centuries, the buildings preserve clear structural evidence of their date, structural development, and past use, and, as such, their functional relationships to one another can be well appreciated. The disused and decayed state of the threshing barn affects its architectural interest, but its scale and purpose are still understandable within the farm complex. The farm complex is located off Trumfleet Lane and it has an unenclosed aspect readily visible from the road and with clear views west from the farmhouse's principal elevation over the surrounding pastoral farmland which contributes to understanding of the complex's former purpose as a farm. The monolithic northern elevation of the barn with its regular rows of ventilation slits is impressive when viewed from Trumfleet

Lane, where the scale and readily understandable function of the building can be appreciated contributing to its illustrative historic interest.

- 7.8.45 The Grid Connection Corridor is located immediately to the north of the complex on Trumfleet Lane, where during the construction phase, a proposed construction access (Access 6), two nearby areas of HDD, and the open-cut cable trench works will be located. Embedded mitigation, in the form of HDD, means that to the east of the farmstead there will be no open-cut trenching in the surrounding farmland. The location of the Grid Connection Corridor also avoids placing infrastructure into views west from the farmhouse's principal elevation. Construction activities, including increased traffic for construction vehicles, machine movements and visual disturbance of the field to the north of the farmstead will however have a temporary, short term urbanising effect during construction, affecting understanding of the farmland and farm through disruption of an otherwise attractive pastoral landscape immediately around, and on approach to, the buildings. The construction of the Scheme would have little effect on the ability to understand and appreciate the heritage interests of the asset group. This impact is assessed as temporary during the construction phase.
- 7.8.46 The magnitude of impact through temporary change to the setting of these assets is therefore assessed as **very low** which, on assets of medium value results in a **negligible** effect, which is considered to be **not significant**.

Non-Designated Heritage Assets

- 7.8.47 The construction of the Scheme has the potential to result in permanent physical impacts to below ground archaeological remains located within the Solar PV Site Boundary and one non-designated heritage asset located within the Grid Connection Corridor Boundary.
- 7.8.48 In addition, the construction of the Scheme has the potential to result in impacts to heritage assets as a result of temporary and long-term (for the lifespan of the Scheme) reversible changes to the settings of three non-designated buildings.
- 7.8.49 The assessment of likely significant temporary and long-term (for the lifespan of the Scheme) reversible effects has considered the results of surveys undertaken for the ES and reported in other technical chapters, including Noise and Vibration, Landscape and Amenity, and Transport and Access, to assess potential temporary impacts arising from construction noise, landscape planting, construction traffic, dust and vibration.

Undated possible ring ditch (05631) and undated ring ditch and linear ditches (05632)

- 7.8.50 Within the Solar PV Site, a geophysical survey (ESY1439) was undertaken along the route of the Thorpe Marsh Gas Pipeline in 2014. This survey was carried out along a narrow corridor transecting the eastern portion of the Solar PV Site from north to south. Although undertaken along a narrow corridor, the survey identified two areas of potential archaeological features, or feature groups, within the Solar PV Site which extend along the northern boundary of the Fleet Drain, within Fields NE8 and NE10. These were interpreted as a ring ditch and linear ditches (05632) and another possible ring ditch (05631).

- 7.8.51 These anomalies have been confirmed by the geophysical survey undertaken for the Scheme to be associated with an extensive complex of rectilinear enclosures, most likely interpreted as an Iron Age/Romano-British 'ladder settlement', which also extends into Field NE12. Further likely related/contemporary features have been identified in Field SE1 towards the southwestern extent of the Fleet Drain, and additional features have been identified which may relate to later medieval activity associated with the medieval Fenwick Hall moated site scheduled monument.
- 7.8.52 The value of these assets derives from their evidential archaeological interest in their ability to inform on past human activity and are considered to be of medium value as they have the potential to be of regional importance.
- 7.8.53 Embedded mitigation in the form of a heritage buffer area corridor along the northern extent of the Fleet Drain through the southern portions of fields NE8, NE10 and NE12, as well as the entirety of Field SE1, which excludes all construction, operation and maintenance, and decommissioning activities in this area, allows for preservation in-situ of these remains. This area is also required for ecological mitigation, however this would not result in any below ground impacts as it comprises the retention and management of the existing ground conditions.
- 7.8.54 No impacts are anticipated as a result of the Scheme, therefore, the magnitude of impact is assessed as **no change**, resulting in **no impact** and **no effect**.

Archaeological remains located within the Solar PV Site (AEC005)

- 7.8.55 Within Field NW5 of the Solar PV Site, Trenches 41, 42 and 43 identified a series of intercutting rectilinear and circular features in the northwestern corner of this field which largely correlate with the geophysical survey anomalies and likely represent an Iron Age/Romano-British settlement enclosure.
- 7.8.56 Within the centre of Trench 43, a north-south aligned ditch correlating with the geophysical survey anomaly was identified which forms the western extent of a rectilinear enclosure. Roman pottery and animal bone were identified within the ditch. Towards the east of the trench and internal to the enclosure was a curvilinear section of ditch and two oval pits. Within the ditch, pottery of possible prehistoric or Romano-British date was recovered, and further Roman pottery and animal bone were recovered from within the pits.
- 7.8.57 Within Trench 42, two parts of a ring ditch were identified which correlated with the geophysical survey anomaly. No finds were recovered from this feature. Within the ring ditch, the corner of a separate enclosure which possibly forms the eastern extent of the enclosure identified in Trench 43 was observed but not excavated.
- 7.8.58 A further north-south aligned ditch was identified in Trench 41 which corresponds to a geophysical survey anomaly and which may form a second rectilinear enclosure to the east of the enclosure identified in Trench 43. No finds were recovered from this feature.
- 7.8.59 The value of these assets derives from their evidential archaeological interest in their ability to inform on Iron Age and Romano-British settlement

activity and land management, and they are considered to be of medium value as they have the potential to be of regional importance.

- 7.8.60 The proposed works within the Solar PV Site comprise the installation of the Solar PV Panels, cutting of trenches for cabling, ground levelling for installation of Solar PV Panels, as well as the installation of access roads and other supporting infrastructure for the Solar PV Panels. In addition, within the northern portion of this field, landscape and ecological mitigation works are proposed which includes hedgerow and tree planting, and 'scrapes' which will reach a maximum depth of c. 40-50cm. The proposed works would result in physical impacts to these archaeological remains, and could result in the loss of multiple elements of these assets, which would affect the ability to understand the heritage interests of the assets.
- 7.8.61 This is assessed as a permanent **medium** magnitude of impact, which on assets of medium value, would result in a **moderate adverse** effect. This is considered to be **significant**.

Archaeological remains located within the Solar PV Site (AEC006)

- 7.8.62 Within Field NW9 of the Solar PV Site, in the immediate area around the gas main, some poorly visible curving and linear anomalies were identified within the geophysical survey, which may represent a focus of Iron Age or Romano-British settlement extending along the southern bank of the River Went. Given the strong response produced by the gas main, these much weaker anomalies do not show clearly in the data, and so their interpretation is tentative, however, an archaeological origin is most likely based on their form and similarity to other archaeological anomalies identified in surrounding fields.
- 7.8.63 The value of these assets derives from their evidential archaeological interest in their ability to inform on Iron Age and Romano-British settlement activity and land management, and they are considered to be of medium value as they have the potential to be of regional importance.
- 7.8.64 The anomalies are located entirely within the health and safety buffer zone for the gas main and no works are proposed as part of the Scheme.
- 7.8.65 No impacts are anticipated as a result of the Scheme, therefore, the magnitude of impact is assessed as **no change**, resulting in **no impact** and **no effect**.

Archaeological remains located within the Solar PV Site (AEC013)

- 7.8.66 Within Field SE3 of the Solar PV Site, two areas of archaeological activity were identified which likely represent an Iron Age / Roman-British enclosure and associated field systems. The two areas of activity do not appear to be physically connected to each other but are likely to be contemporary.
- 7.8.67 In the north-eastern extent of this field, Trenches 293, 294, 295, 296, 298 and 299 contained a series of linear features which correspond to geophysical anomalies and likely represent a field system. Pottery recovered from these features date to the Roman period. Towards the south of the field system, a series of pits were identified in Trench 299, most of which also contained Roman pottery sherds and may represent a foci of settlement activity and possibly internal features related to an enclosure not picked up in the trenches.

- 7.8.68 In the south-western extent of this field, Trenches 305, 306, 307, 309, 310, 311, 315 contained a series of substantial ditches broadly corresponding with the geophysical survey anomalies. The large ditch in Trench 305 is of post-medieval date and corresponds to a former field boundary recorded on the 1st edition OS map. Whereas the rest of the features are Iron Age/Roman in date based on the finds recovered and are likely to represent a field system.
- 7.8.69 The value of these assets derives from their evidential archaeological interest in their ability to inform on Iron Age and Romano-British settlement activity and land management, and they are considered to be of medium value as they have the potential to be of regional importance.
- 7.8.70 The proposed works within the Solar PV Site comprises the installation of the Solar PV Panels, cutting of trenches for cabling, ground levelling for installation of Solar PV Panels, as well as the installation of access roads and other supporting infrastructure for the Solar PV Panels.
- 7.8.71 With regards to the linear features which represent an Iron Age / Romano-British field system, due to the spacing and low density of these features, physical impacts as a result of works within the Solar PV Site would be minimal. This is assessed as a permanent **low** magnitude of impact, which on assets of medium value, would result in a **minor adverse** effect. This is considered to be **not significant**.
- 7.8.72 With regards to the foci of settlement activity around Trench 299, the proposed works would result in physical impacts to these remains, which could result in the loss of multiple elements of these assets, which would affect the ability to understand the heritage interests of the assets. This is assessed as a permanent **medium** magnitude of impact, which on assets of medium value, would result in a **moderate adverse** effect. This is considered to be **significant**.

Archaeological remains located within the Solar PV Site (AEC014)

- 7.8.73 Within Field SE3 of the Solar PV Site, Trench 330 located in the southeastern corner of the field contained a curvilinear ditch containing Roman pottery and burnt bone. It possibly forms a ring ditch with a terminus in the north of the ditch. Between these two ditch returns, a gully was identified which contained heated pebbles and fragments of burnt bone. A larger ditch was identified towards the south of these features which contained a single sherd of Roman pottery and which may represent an encompassing enclosure based on its similar form to those features in the north of the field.
- 7.8.74 The value of these assets derives from their evidential archaeological interest in their ability to inform on Iron Age and Romano-British settlement activity, and they are considered to be of medium value as they have the potential to be of regional importance.
- 7.8.75 The proposed works within the Solar PV Site comprise the installation of the Solar PV Panels, cutting of trenches for cabling, ground levelling for installation of Solar PV Panels, as well as the installation of access roads and other supporting infrastructure for the Solar PV Panels. However, due to the location of these remains on the edge of the area proposed for Solar PV Panels and the extent of the remains falling within the health and safety

buffer zone for the existing overhead lines, physical impacts as a result of works within the Solar PV Site would be minimal.

- 7.8.76 This is assessed as a permanent **low** magnitude of impact, which on assets of medium value, would result in a **minor adverse** effect. This is considered to be **not significant**.

Archaeological remains located within the Solar PV Site (AEC017)

- 7.8.77 Within Field SW10 of the Solar PV Site, trenches identified a series of linear anomalies which likely represent an Iron Age / Romano-British field system. The field system formed by ditches appears to be a co-axial style arrangement, typical of South Yorkshire, formed off a trackway extending from Trench 620 (in Field SW10) in the south, through to Trenches 589 and 586 as it heads north. The field system corresponds with cropmarks previously recorded within the field. In Field SW9, a series of ditches on a NE-SW alignment broadly correspond with the field system identified in Field SW10 and is almost certainly a continuation of this field system. However, the ditches in this field were generally smaller and shallower than those identified in Field SW10 although this is likely attributed to later truncation in this field, and or a different phase of activity on the same alignment.
- 7.8.78 The value of these assets derives from their evidential archaeological interest in their ability to inform on Iron Age and Romano-British settlement activity and land management, and they are considered to be of medium value as they have the potential to be of regional importance.
- 7.8.79 Within Field SW9, the proposed works within the Solar PV Site comprises the installation of the Solar PV Panels, cutting of trenches for cabling, ground levelling for installation of Solar PV Panels, as well as the installation of access roads and other supporting infrastructure for the Solar PV Panels. However, due to the spacing and low density of the linear features, physical impacts as a result of works within the Solar PV Site would be minimal. This is assessed as a permanent **low** magnitude of impact, which on assets of medium value, would result in a **minor adverse** effect. This is considered to be **not significant**.
- 7.8.80 Within Field SW10, the proposed works comprises the main construction compound and the BESS Area. The proposed works would result in physical impacts to these remains, which could result in the loss of multiple elements of these assets, which would affect the ability to understand the heritage interests of the assets. This is assessed as a permanent **medium** magnitude of impact, which on assets of medium value, would result in a **moderate adverse** effect. This is considered to be **significant**.

Unclassified Cropmark, Fenwick (AEC019 / HER 02791/01)

- 7.8.81 Within the Solar PV Site, an unclassified cropmark was identified through analysis of aerial photography from 1971 in Field NE1. The trial trench evaluation undertaken for the Scheme did not confirm the presence of the circular feature, however a trench located immediately south of this HER point did identify the linear feature which was confirmed to be a former field boundary which continues east and west through adjacent fields. Additional, trenches immediately surrounding this HER point identified a series of ditches on a N-S and E-W alignment, which may represent a continuation of

Iron Age / Romano-British settlement activity which is recorded in nearby fields.

- 7.8.82 The value of these remains derives from their evidential archaeological interest in their ability to inform on Iron Age / Romano-British settlement activity and land management, and they are considered to be of medium value as they have the potential to be of regional importance.
- 7.8.83 The proposed works within the Solar PV Site comprise the installation of the Solar PV Panels, cutting of trenches for cabling, ground levelling for installation of Solar PV Panels, as well as the installation of access roads and other supporting infrastructure for the Solar PV Panels. However, due to the spacing and low density of the linear features, physical impacts as a result of works within the Solar PV Site would be minimal. This is assessed as a permanent **low** magnitude of impact, which on assets of medium value, would result in a **minor adverse** effect. This is considered to be **not significant**.
- 7.8.84 However, within the northern portion of this field, landscape and ecological mitigation works are proposed which includes hedgerow and tree planting, and 'scrapes' which will reach a maximum depth of c. 40-50cm. The proposed works would result in physical impacts to these archaeological remains, and could result in the loss of multiple elements of these assets, which would affect the ability to understand the heritage interests of the assets. This is assessed as a permanent **medium** magnitude of impact, which on assets of medium value, would result in a **moderate adverse** effect. This is considered to be **significant**.

Archaeological remains located within the Solar PV Site (AEC004, AEC007, AEC008, AEC009, AEC010, AEC011, AEC012 / HER 05633, AEC015, AEC016, AEC018, AEC020, AEC021)

- 7.8.85 The geophysical survey and trial trench evaluation surveys undertaken for the Scheme have identified further areas of archaeological activity located within the Solar PV Site, located in Fields NW1, NW7, NW9, NW10, NE9, NE11, SW3, SW6, SW8, SW9 and SW10. These areas of archaeological activity comprise Iron Age/Romano-British rectilinear and square enclosures, circular enclosures (roundhouses), pits, postholes, and possible hearths/kilns and appear to form the foci of settlement in the wider Iron Age / Romano-British landscape seen across the Site represented by field systems and isolated pits and ditches.
- 7.8.86 The value of these assets derives from their evidential archaeological interest in their ability to inform on Iron Age and Romano-British settlement activity and land management, and they are considered to be of medium value as they have the potential to be of regional importance.
- 7.8.87 The proposed works within the Solar PV Site comprise the installation of the Solar PV Panels, cutting of trenches for cabling, ground levelling for installation of Solar PV Panels, as well as the installation of access roads and other supporting infrastructure for the Solar PV Panels. Due to the density / concentration of the features in these areas, the proposed works would result in physical impacts to these assets, which could result in the loss of multiple elements of these assets, which would affect the ability to understand the heritage interests of the assets.

- 7.8.88 This is assessed as a permanent **medium** magnitude of impact, which on assets of medium value, would result in a **moderate adverse** effect. This is considered to be **significant**.

Undated cropmark and earthwork, Moss (02531/01)

- 7.8.89 Within the Grid Connection Corridor, archaeological remains recorded as unclassified and undated cropmarks and earthworks identified through aerial photography analysis have been recorded on the HER. These remains may relate to Iron Age/Romano-British settlement activity, as identified across the Solar PV Site and within the Study Areas, however evaluation surveys are required to confirm the nature, extent and value of these remains.
- 7.8.90 The value of this asset derives from its evidential archaeological interest in its ability to inform on past human activity and it is considered to be of medium value.
- 7.8.91 The proposed works within the Grid Connection Corridor in the vicinity of this asset comprises open trench excavation for cabling, starter and end pits for HDD, as well as temporary construction lay-down areas and access tracks. The working area for the installation of the Grid Connection Cables is anticipated to be a 30m wide corridor and the cable trench would be up to approximately 0.75m wide, with a minimum depth of 1m below ground level. It is anticipated that to facilitate the installation of temporary construction lay-down areas, access tracks and other working areas, topsoil stripping would be required. The proposed works would result in the loss of part or multiple elements of this asset, which would affect the ability to understand the heritage interests of the asset.
- 7.8.92 A worst-case scenario has been assumed for the purposes of this assessment, in terms of the value of this asset, and the level of impact anticipated.
- 7.8.93 This is considered to be a permanent **medium** magnitude of impact to this asset of medium value, resulting in a **moderate adverse** effect. This is considered to be **significant**.

Potential previously unknown archaeological remains located within the Grid Connection Corridor dating to the prehistoric, Roman, medieval and post-medieval periods

- 7.8.94 In addition to the known archaeological resource located within the Order limits, the desk-based assessment has identified a high potential for archaeological remains to be encountered within the Grid Connection Corridor, dating to the Iron Age, Roman, medieval and post-medieval periods.
- 7.8.95 The value of any such remains would derive from their evidential archaeological interest in their ability to inform on past human activity and they are considered to be of medium value.
- 7.8.96 The proposed works within the Grid Connection Corridor comprises open trench excavation for cabling, starter and end pits for HDD, temporary construction compounds, as well as temporary construction lay-down areas and access tracks. The working area for the installation of the Grid Connection Cables is anticipated to be a 30m wide corridor and the cable trench would be up to approximately 0.75m wide, with a minimum depth of

1m below ground level. It is anticipated that to facilitate the installation of temporary construction compounds, temporary construction lay-down areas, access tracks and other working areas, topsoil stripping would be required. The proposed works would result in the loss of part or multiple elements of any such remains, which would affect the ability to understand the heritage interests of the assets.

- 7.8.97 A worst-case scenario has been assumed for the purposes of this assessment, in terms of the value of these remains, and the level of impact anticipated.
- 7.8.98 This is considered to be a **permanent medium** magnitude of impact to these potential assets of medium value, resulting in a **moderate adverse** effect. This is considered to be **significant**.

Haggs Farm (AEC001)

- 7.8.99 Haggs Farm is shown on the Plan of the Township of Fenwick dated 1815 on the eastern outskirts of the hamlet of Fenwick, on Lawn Lane. It comprises a farmhouse with its principal elevation facing north onto the road, sitting to the north of a loose courtyard farmstead comprising two linear ranges to the east and west and an enclosing wall to the south. The farmhouse and the eastern range survive, with further modern farmbuildings having been added to the east and west. The complex is likely to be late-18th or early-19th century. The farmhouse has been altered with external render, replacement windows throughout and replacement pantiles to its pitched roof, affecting its architectural and historic interest. The farm range is of brick with a pitched pantile roof. It now has extensions adjoining and obscuring its north, east and west sides, detracting from its architectural and illustrative historical value. The complex has been significantly altered and is assessed as of very low heritage value. The setting of the asset includes its relationship with Lawn Lane and the hamlet of Fenwick, as well as the surrounding agricultural land that contributes to understanding of its purpose as a working farm.
- 7.8.100 The farmstead is located immediately to the south of the Solar PV Site on Lawn Lane. Embedded mitigation includes the exclusion of the area to the north of Lawn Lane from the Order Limits, the retention of existing hedgerow to the immediate north of this excluded area, the creation of a panel free buffer area of c.40m north of that and the introduction of screening planting on the boundary of the panel area. These measures serve to minimise the visual intrusion of the Scheme on Lawn Lane, retaining its tranquil green character. Whilst there will likely be views of the Solar PV Site from the first floor windows of the farmhouse, these views are not a key component of the assets setting. The embedded mitigation therefore reduces the potential impact of the physical presence of the scheme within the asset's setting to having little effect on the ability to understanding this asset's heritage value. This impact is assessed as long-term (for the lifespan of the Scheme), but is considered to be reversible upon decommissioning.
- 7.8.101 The magnitude of impact through long-term (for the lifespan of the Scheme) but reversible (upon decommissioning) change to the setting of these assets is therefore assessed as **very low** which, on assets of very low value results in a **negligible** effect, which is considered to be **not significant**.

Croft Farm (AEC002)

7.8.102 Croft Farm is shown as a single building on the Plan of the Township of Fenwick dated 1815. By the time of the first edition OS map of 1853 this had developed into a farmstead comprising a farmhouse to the south of a linear farmstead range. It is located on the eastern outskirts of the hamlet of Fenwick, on Lawn Lane. The farmhouse and farm range survive, within a larger farm complex containing multiple large-scale modern farmbuildings. The farmhouse is likely to be late-18th or early-19th century, whilst the farm range is mid-19th century. The farmhouse has been altered with external render, replacement and enlarged windows throughout and replacement tiles to its pitched roof, affecting its architectural and historic interest. The farm range is of brick with a pitched pantile roof. It now has extensions adjoining and obscuring its north and south sides detracting from its architectural and illustrative historical value. The complex has been significantly altered and is assessed as of very low heritage value. The setting of farm includes its relationship with Lawn Lane and the hamlet of Fenwick, as well as the surrounding agricultural land that contributes to understanding of its purpose as a working farm.

7.8.103 The farmstead is located immediately to the southwest of the Solar PV Site on Lawn Lane. Embedded mitigation includes the exclusion of the area to the north of Lawn Lane from the Order Limits, the retention of existing hedgerow to the immediate north of this excluded area and northeast of the farm, the creation of an ecology mitigation area immediately north and northeast of the farm and the introduction of screening planting on the boundary of the panel area beyond that. These measures serve to minimise the visual intrusion of the Scheme to the rear of the historic farm and on Lawn Lane. The embedded mitigation therefore reduces the potential impact of the physical presence of the scheme within the asset's setting to having little effect on the ability to understanding this asset's heritage value. This impact is assessed as long-term (for the lifespan of the Scheme), but is considered to be reversible upon decommissioning.

7.8.104 The magnitude of impact through long-term (for the lifespan of the Scheme) but reversible change to the setting of these assets is therefore assessed as **very low** which, on assets of very low value results in a **negligible** effect, which is considered to be **not significant**.

West End Farm (AEC003)

7.8.105 West End Farm is shown on the first edition OS map of 1854 on the west side of West Lane. It comprised a farmhouse with its principal elevation facing southeast onto the road, sitting to the southeast of a loose courtyard farmstead comprising an L-shaped farmstead range on the north and west sides and a single small range on the south side. Only the farmhouse and a portion of the L-shaped range now survive, within a much larger farm complex containing several large-scale modern farm buildings to the northwest of the farmhouse. The complex is likely to be late-18th or early-19th century. The farmhouse has been altered with external render, replacement windows throughout and replacement pantiles to its pitched roof, affecting its architectural and historic interest. The truncated farm range is stone-built with asbestos sheeting to the roof. Its truncated form and roofing detract from its architectural and illustrative historical value. The complex has been significantly altered and is assessed as of very low heritage value. The

setting of farm includes its relationship with West Lane as well as the surrounding agricultural land that contributes to understanding of its purpose as a working farm.

- 7.8.106 The farmstead is located immediately to the southeast of the Solar PV Site on West Lane. Embedded mitigation includes the retention of existing hedgerow defining the curtilage of the farm on the boundary of the Order Limits and a panel free area of c.40m west of the farm. These measures, together with the presence of the large-scale farmbuildings between the historic buildings and the Site, serve to minimise the visual intrusion of the Scheme on the farm. The embedded mitigation therefore reduces the potential impact of the physical presence of the scheme within the asset's setting to having little effect on the ability to understanding this asset's heritage value. This impact is assessed as long-term (for the lifespan of the Scheme), but is considered to be reversible upon decommissioning.
- 7.8.107 The magnitude of impact through long-term (for the lifespan of the Scheme) but reversible change to the setting of these assets is therefore assessed as **very low** which, on assets of very low value results in a **negligible** effect, which is considered to be **not significant**.

Historic Landscape Character

- 7.8.108 The Historic Landscape Character baseline of the Order limits is largely defined as predominantly post-medieval landscape redevelopment and modern agglomeration. Within this landscape, there are remnants of earlier boundaries and land patterns, including ridge and furrow, which relate to the preceding pattern of medieval strip fields. This type of landscape is assessed as being of high sensitivity to change (high value).
- 7.8.109 Embedded mitigation within the Order limits will retain existing field boundaries and hedgerows. Only small sections of existing hedgerows will be removed for access purposes, but these will not degrade the historic value of the hedgerows or greatly change the field systems they represent. Ridge and furrow within the Order limits will be impacted, except where it is located within identified heritage buffer areas where no construction activities will take place, however the existing ridge and furrow earthworks are somewhat degraded and the retention and enhancement of existing hedgerows would preserve the historic field system layout which provides the functional relationship for the ridge and furrow identified within the Solar PV Site. In addition, embedded mitigation in Field NE10 in the form of a heritage buffer in the southern portion of the field would preserve the ridge and furrow in this area. The Scheme will introduce a limited number of new hedgerows and tree and shrub planting, most of these follow existing boundaries but some are new introductions to the landscape to screen taller components of the Scheme.
- 7.8.110 It is considered that the Scheme will not alter the ability to view and understand these historic landscapes, and it will have little effect on legibility of the historic landscape within the Order limits.
- 7.8.111 The magnitude of impact to the historic landscape character, is therefore assessed as **very low** which, on an asset of high value results in a **minor adverse** effect, which is considered to be **not significant**.

Table 7-5: Summary of Assessment of Effects – Cultural Heritage (Construction)

Receptor	Potential Impacts	Duration	Embedded Mitigation	Likely Significance of Effect
The Moat Hill moated site [NHLE 1011920]	Changes to the setting of the asset	Long-term (for the lifespan of the Scheme) (reversible)	Embedded mitigation in the form of enhancement/retention of existing hedgerows	Minor Adverse (Not Significant)
Thorpe in Balne moated site, chapel and fishpond [NHLE 1012111], including Grade II* listed remains of chapel [NHLE 1286641]	Changes to the setting of the asset	Short-term and temporary	Embedded mitigation in the form of enhancement/retention of existing hedgerows	Moderate Adverse (Significant)
Parkshaw moated site [NHLE 1016025]	Changes to the setting of the asset	Long-term (for the lifespan of the Scheme) (reversible)	Embedded mitigation in the form of enhancement/retention of existing hedgerows and additional planting	Minor Adverse (Not Significant)
Fenwick Hall moated site [NHLE 1012459]	Changes to the setting of the asset	Long-term (for the lifespan of the Scheme) (reversible)	Embedded mitigation in the form of heritage buffer area and enhancement/retention of existing hedgerows	Moderate adverse (Significant)
Fenwick Hall farmhouse [NHLE 1314800], attached outbuildings [NHLE 1151612] and shelter shed and attached loose box [NHLE 1151613]	Changes to the setting of the asset	Long-term (for the lifespan of the Scheme) (reversible)	Embedded mitigation in the form of heritage buffer area and enhancement/retention of existing hedgerows	Minor adverse (Not Significant)

Receptor	Potential Impacts	Duration	Embedded Mitigation	Likely Significance of Effect
Lily Hall [1151609], barn and granary [NHLE 1151610] and dovecote and attached outbuilding [NHLE 1151611]	Changes to the setting of the asset	Long-term (for the lifespan of the Scheme) (reversible)	None currently identified	Minor adverse (Not Significant)
Glebe Farmhouse [NHLE 1192743] and associated barn [NHLE 1314794]	Changes to the setting of the asset	Short-medium term and temporary	None currently identified	Negligible (Not Significant)
Undated possible ring ditch (05631) and undated ring ditch and linear ditches (05632)	Physical impacts	Permanent	Embedded mitigation in the form of heritage buffer area which enables preservation in-situ	No effect
Archaeological remains located within the Solar PV Site (AEC005)	Physical impacts	Permanent	None identified	Moderate Adverse (Significant)
Archaeological remains located within the Solar PV Site (AEC006)	Physical impacts	Permanent	Located within buffer for gas main and no works are proposed as part of the Proposed Development which enables preservation in-situ	No effect
Archaeological remains located within the Solar PV Site (AEC013 – field system)	Physical impacts	Permanent	None identified	Minor Adverse (Not Significant)
Archaeological remains located within the Solar PV Site (AEC013 – activity around Trench 299)	Physical impacts	Permanent	None identified	Moderate Adverse (Significant)
Archaeological remains located within the Solar PV Site (AEC014)	Physical impacts	Permanent	None identified	Minor Adverse (Not Significant)

Receptor	Potential Impacts	Duration	Embedded Mitigation	Likely Significance of Effect
Archaeological remains located within the Solar PV Site (AEC017 – Field SW9)	Physical impacts	Permanent	None identified	Minor Adverse (Not Significant)
Archaeological remains located within the Solar PV Site (AEC017 – Field SW10)	Physical impacts	Permanent	None identified	Moderate Adverse (Significant)
Unclassified Cropmark, Fenwick (AEC019 – HER 02791/01) (with Solar PV Site area)	Physical impacts	Permanent	None identified	Minor Adverse (Not Significant)
Unclassified Cropmark, Fenwick (AEC019 – HER 02791/01) (within ecological riparian corridor)	Physical impacts	Permanent	None identified	Moderate Adverse (Significant)
Archaeological remains located within the Solar PV Site (AEC004, AEC007, AEC008, AEC009, AEC010, AEC011, AEC012 / HER 05633, AEC015, AEC016, AEC018, AEC020, AEC021)	Physical impacts	Permanent	None identified	Moderate Adverse (Significant)
Undated cropmark and earthwork, Moss (02531/01)	Physical impacts	Permanent	None identified	Moderate Adverse (Significant)
Potential previously unknown archaeological remains located within the Grid Connection Corridor	Physical impacts	Permanent	None identified	Moderate Adverse (Significant)

Receptor	Potential Impacts	Duration	Embedded Mitigation	Likely Significance of Effect
dating to the prehistoric, Roman, medieval and post-medieval periods				
Haggs Farm (non-designated) (AEC001)	Changes to the setting of the asset	Long-term (for the lifespan of the Scheme) (reversible)	Embedded mitigation in the form of enhancement/retention of existing hedgerows and screening planting	Negligible (Not Significant)
Croft Farm (non-designated) (AEC002)	Changes to the setting of the asset	Long-term (for the lifespan of the Scheme) (reversible)	Embedded mitigation in the form of enhancement/retention of existing hedgerows and screening planting	Negligible (Not Significant)
West End Farm (non-designated) (AEC003)	Changes to the setting of the asset	Long-term (for the lifespan of the Scheme) (reversible)	Embedded mitigation in the form of enhancement/retention of existing hedgerows and screening planting	Negligible (Not Significant)
Historic Landscape Character	Changes in the ability to view and understand the historic landscape	Long-term (for the lifespan of the Scheme) (reversible)	Embedded mitigation in the form of enhancement/retention of existing hedgerows and heritage buffer areas which enables preservation in-situ of ridge and furrow in these areas	Minor Adverse (Not Significant)

Operation and Maintenance Effects

- 7.8.112 Taking into account the embedded mitigation measures in Section 7.7 of this ES, the following provides an assessment of the likely significant effects arising from the operation and maintenance phase of the Scheme.
- 7.8.113 Temporary or permanent impacts lasting for all or part of the operation and maintenance phase of the Scheme potentially include the following:
- a. Increase in traffic movements on and around the Solar PV Site (maintenance traffic), which could impact heritage assets through change to their setting; and
 - b. Impacts through change to the setting of heritage assets in relation to operational lighting and/or noise.
- 7.8.114 The impact of the introduction of the physical form and appearance of the Scheme during construction will result in a continued effect on the setting of heritage assets through the operation and maintenance phase. The presence of infrastructure or plant screening during the lifespan of the Scheme's operation, after the active construction phase has been completed, may cause changes or alterations to the setting of heritage assets, which may be beneficial or adverse. These impacts are long-term in respect of infrastructure, for the operation and maintenance duration of the Scheme, but are reversible upon decommissioning. Planting would be assessed as permanent but not reversible, however the planting proposed is not considered to result in adverse impacts to heritage assets through change to their setting. Table 7-6 sets out those assets where there is a continued effect on their setting through the operation and maintenance phase.
- 7.8.115 Heritage assets in proximity to the Grid Connection Corridor would not be impacted by the operational Scheme as below-ground components would preclude change within their setting, therefore no impact is anticipated during this phase on the Thorpe in Balne moated site [NHLE1012111], including Grade II* listed remains of chapel [NHLE 1286641] and Glebe Farmhouse [NHLE 1192743] and associated barn [NHLE 1314794].
- 7.8.116 It is not expected that the operation and maintenance of the Scheme will result in any further intrusive activities and, as such, no impact to below ground archaeological remains is anticipated during this phase.
- 7.8.117 Other impacts may occur from the operation of the Scheme, which may include those experienced from security lighting, operational noise and associated traffic and glint and glare. No additional significant effects are considered likely through operation over and above those already identified during construction relating to the presence of the Scheme infrastructure within an asset's setting. As with the presence of the Scheme, any such effects would be reversed upon decommissioning.

Table 7-6: Summary of Assessment of Effects – Cultural Heritage (Operation and Maintenance)

Receptor	Potential Impacts	Duration	Embedded Mitigation	Likely Significance of Effect
The Moat Hill moated site [NHLE 1011920]	Changes to the setting of the asset. The impact of the introduction of the physical form and appearance of the Scheme at construction will result in a continued effect on the setting of this asset through the operation and maintenance phase.	Long-term (for the lifespan of the Scheme) (reversible)	Embedded mitigation in the form of enhancement/retention of existing hedgerows	Minor Adverse (Not Significant)
Parkshaw moated site [NHLE 1016025]	Changes to the setting of the asset. The impact of the introduction of the physical form and appearance of the Scheme at construction will result in a continued effect on the setting of this asset through the operation and maintenance phase.	Long-term (for the lifespan of the Scheme) (reversible)	Embedded mitigation in the form of enhancement/retention of existing hedgerows and additional planting	Minor Adverse (Not Significant)
Fenwick Hall moated site [NHLE 1012459]	Changes to the setting of the asset. The impact of the introduction of the physical form and appearance of the	Long-term (for the lifespan of the Scheme) (reversible)	Embedded mitigation in the form of heritage buffer area and enhancement/retention of existing hedgerows	Moderate adverse (Significant)

Receptor	Potential Impacts	Duration	Embedded Mitigation	Likely Significance of Effect
	Scheme at construction will result in a continued effect on the setting of this asset through the operation and maintenance phase.			
Fenwick Hall farmhouse [NHLE 1314800], attached outbuildings [NHLE 1151612] and shelter shed and attached loose box [NHLE 1151613]	Changes to the setting of the asset. The impact of the introduction of the physical form and appearance of the Scheme at construction will result in a continued effect on the setting of this asset through the operation and maintenance phase.	Long-term (for the lifespan of the Scheme) (reversible)	Embedded mitigation in the form of heritage buffer area and enhancement/retention of existing hedgerows	Minor adverse (Not Significant)
Lily Hall [NHLE 1151609], barn and granary [NHLE 1151610] and dovecote and attached outbuilding [NHLE 1151611]	Changes to the setting of the asset. The impact of the introduction of the physical form and appearance of the Scheme at construction will result in a continued effect on the setting of this asset through the operation and maintenance phase.	Long-term (for the lifespan of the Scheme) (reversible)	None currently identified	Minor adverse (Not Significant)

Receptor	Potential Impacts	Duration	Embedded Mitigation	Likely Significance of Effect
Haggs Farm (non-designated) (AEC001)	Changes to the setting of the asset. The impact of the introduction of the physical form and appearance of the Scheme at construction will result in a continued effect on the setting of this asset through the operation and maintenance phase.	Long-term (for the lifespan of the Scheme) (reversible)	Embedded mitigation in the form of enhancement/retention of existing hedgerows and screening planting	Negligible (Not Significant)
Croft Farm (non-designated) (AEC002)	Changes to the setting of the asset. The impact of the introduction of the physical form and appearance of the Scheme at construction will result in a continued effect on the setting of this asset through the operation and maintenance phase.	Long-term (for the lifespan of the Scheme) (reversible)	Embedded mitigation in the form of enhancement/retention of existing hedgerows and screening planting	Negligible (Not Significant)
West End Farm (non-designated) (AEC003)	Changes to the setting of the asset. The impact of the introduction of the physical form and appearance of the Scheme at construction will result in a continued	Long-term (for the lifespan of the Scheme) (reversible)	Embedded mitigation in the form of enhancement/retention of existing hedgerows and screening planting	Negligible (Not Significant)

Receptor	Potential Impacts	Duration	Embedded Mitigation	Likely Significance of Effect
	effect on the setting of this asset through the operation and maintenance phase.			

Decommissioning Effects

- 7.8.118 Following the decommissioning of the Scheme, it is considered that the Scheme, including the solar panels and associated infrastructure will be removed in accordance with the relevant statutory process at that time. It is expected that the selected method of decommissioning would have due regard to health and safety, environmental impact and benefits, and economic aspects which is set out in the **Framework DEMP [EN010152/APP/7.9]**, which is secured through a DCO Requirement. Any future maintenance, decommissioning and/or reinstatement works would be subject to prevailing legislation, guidance and permitting regimes. Landscape restoration and remediation to suitable surfaces would be undertaken. This will result in the restoration of the rural landscape. A well-designed decommissioning scheme would not have any impact beyond the already-disturbed footprint of the Scheme.
- 7.8.119 It is assumed for the purpose of this assessment that there will be no additional permanent effects on below ground archaeological remains during decommissioning activities. Decommissioning will be undertaken within the same footprint used during construction and therefore any impact to buried archaeological remains would have occurred, and would have been mitigated, at the construction phase.
- 7.8.120 There would be temporary effects to the setting of designated assets in the Study Areas during decommissioning, resulting from the use of machinery to dismantle the Scheme. Decommissioning is likely to affect the setting of those heritage assets described for the construction phase above. However, effects would be no greater than those assessed during construction. Effects arising from decommissioning activities would be temporary and the duration would be shorter than the effects during construction. The effects of decommissioning, therefore, would not be greater than those reported during construction. No additional significant effects are considered likely through decommissioning over and above those already identified relating to the presence of the Scheme infrastructure within an asset's setting.
- 7.8.121 All long-term (for the lifespan of the Scheme) 'reversible' effects reported in the cultural heritage chapter will be removed during the decommissioning phase. Although reported as long-term (for the lifespan of the Scheme), they remain reversible and will be removed upon decommissioning of the Scheme. All long-term (for the lifespan of the Scheme) 'reversible' effects reported in the cultural heritage chapter have been assessed as being adverse. The removal of the cause of this effect, by means of the removal of any above ground element of the Scheme during decommissioning, would result in no effect to cultural heritage assets.

7.9 Additional Mitigation and Enhancement Measures

- 7.9.1 This section describes the mitigation measures identified as a result of the assessment which are proposed in addition to those already considered to be in place as described in Section 7.7 Embedded Mitigation. These are proposed to reduce or mitigate the effects on Cultural Heritage as a result of the construction of the Scheme.

- 7.9.2 Significant adverse effects have been identified on known buried archaeological remains within the Solar PV Site (AEC004, AEC005, AEC007, AEC008, AEC009, AEC010, AEC011, AEC012 / HER 05633, AEC013, AEC015, AEC016, AEC017, AEC018, AEC019 / HER 02791/01, AEC020, AEC021).
- 7.9.3 Design measures such as the use of pre-cast concrete blocks rather than piled mounts within the Solar PV Site to enable preservation in-situ of archaeological remains or micro-siting of Scheme elements to avoid archaeological remains altogether (embedded mitigation) will be considered in the first instance. Avoiding physical impacts to these assets would result in no impact to their historical and archaeological interests and no effect to their heritage value. Preservation of the archaeological remains through exclusion from development would require protective measures, such as fencing, during construction, operation and maintenance, and decommissioning activities to avoid unintentional damage.
- 7.9.4 Potential impacts to buried archaeological remains that cannot be avoided by design can be mitigated through a proportionate programme of archaeological investigation, recording and reporting, such as archaeological excavation in advance of construction, archaeological monitoring during intrusive activities, which would form additional mitigation. This would not result in a reduction in the physical impacts to archaeological remains but would compensate for their loss as it would provide greater understanding and appreciation of the evidential value of archaeological remains.
- 7.9.5 Areas of archaeological activity within the Solar PV Site that have been identified that require additional mitigation are set out in the **Framework AMS [EN010152/APP/8.16]**. The **Framework AMS [EN010152/APP/8.16]** has been agreed with the Archaeological Advisor to SYAS. Following detailed design, and the completion of the additional evaluation surveys within Fields NE3, NE8 and NE10, the specific mitigation strategy for each area will be agreed with SYAS and set out within the Final AMS.
- 7.9.6 A significant effect has also been identified on known (02531/01) and potential buried archaeological remains within the Grid Connection Corridor, due to the assessment of worst-case parameters and assumption that these assets will be impacted. Evaluation surveys will be undertaken within the Grid Connection Corridor post-consent, the requirement for which is secured within the **Framework AMS [EN010152/APP/8.16]** to confirm the value and spatial extent of these remains. The results of these surveys will inform detailed design and avoidance by design measures will be considered. This could include design measures such as micro-siting of Scheme elements within the Grid Connection Corridor to avoid archaeological remains altogether (embedded mitigation). Avoiding physical impacts to these assets would result in no impact to their historical and archaeological interests and no effect to their heritage value. Preservation of the archaeological remains would require protective measures, such as fencing, during construction activities to avoid unintentional damage. Potential impacts to buried archaeological remains that cannot be avoided by design can be mitigated through a proportionate programme of archaeological investigation, recording and reporting, such as archaeological excavation in advance of construction, archaeological monitoring during intrusive activities, and further assessment and analysis of existing samples/finds retrieved during previous

evaluation surveys which would form additional mitigation measures. This would not result in a reduction in the physical impacts to archaeological remains but would compensate for their loss as it would provide greater understanding and appreciation of the evidential value of archaeological remains.

- 7.9.7 Following the completion of evaluation surveys within the Grid Connection Corridor, the scope and type of mitigation to be applied to any identified areas of mitigation required will be set out in the Final AMS following detailed design, which will be agreed with the Archaeological Advisor to SYAS, and secured by a DCO requirement.
- 7.9.8 A significant effect has been identified on the Scheduled Monument Thorpe in Balne moated site, chapel and fishpond [NHLE 1012111], including Grade II* listed remains of chapel [NHLE 1286641] as a result of construction activities within the Grid Connection Corridor. Due to the temporary nature of this effect, no additional mitigation is proposed.
- 7.9.9 A significant effect has been identified on the Scheduled Monument Fenwick Hall moated site [NHLE 1012459] as a result of the introduction of the physical form and appearance of the Scheme at construction, and the continued effect on the setting of this asset through the operation and maintenance phase. Embedded mitigation measures have been incorporated into the Scheme design in the form of a heritage buffer area and the enhancement/retention of existing hedgerows associated with this asset. This effect is considered to be reversible upon decommissioning of the Scheme, and as such no additional mitigation is proposed.

7.10 Residual Effects

- 7.10.1 As described above, moderate adverse significant effects have been identified on known assets located within the Solar PV Site (AEC004, AEC005, AEC007, AEC008, AEC009, AEC010, AEC011, AEC012 / HER 05633, AEC013, AEC015, AEC016, AEC017, AEC018, AEC019 / HER 02791/01, AEC020, AEC021). In addition, moderate adverse significant effects have been identified on known (HER 02531/01) and potential buried archaeological remains within the Grid Connection Corridor.
- 7.10.2 Mitigation measures within the Solar PV Site and Grid Connection Corridor will be agreed following the results of additional evaluation surveys to be undertaken and subject to detailed design. Mitigation measures will comprise either embedded mitigation or additional mitigation.
- 7.10.3 Embedded mitigation measures may be deployed which would enable preservation in-situ of archaeological remains, resulting in **no impact and no effect**, therefore resulting in **no significant residual effects**.
- 7.10.4 The potential additional mitigation measures described in Section 7.9 comprising a programme of archaeological investigation, recording and reporting would not minimise the physical impact to individual heritage assets, as the archaeological evidence would still be removed, but would compensate for their loss by preserving them by record. This would reduce the magnitude of impact on individual assets from moderate to minor, resulting in no significant residual effects.

- 7.10.5 With no additional mitigation identified, the residual effects on the scheduled monuments of Fenwick Hall moated site [1012459] and Thorpe in Balne moated site [1012111] and Grade II* listed chapel [1286631] would remain as moderate adverse; this effect is significant, albeit reversible upon decommissioning for Fenwick Hall moated site, and temporary during construction for Thorpe in Balne moated site.

7.11 Cumulative Effects

- 7.11.1 This section assesses the potential effects of the Scheme in combination with the potential effects of other proposed and committed plans and projects including other developments (referred to as 'cumulative developments') within the surrounding area.
- 7.11.2 The cumulative developments shortlisted to be considered in combination with the Scheme have been prepared and shared with City of Doncaster Council, North Yorkshire Council and East Riding of Yorkshire Council and are listed in **ES Volume I Chapter 15: Cumulative Effects and Interactions [EN010152/APP/6.1]** and presented in **ES Volume II Figure 15-3: Location of Short List Schemes [EN010152/APP/6.2]**. The assessment has been made with reference to the methodology and guidance set out in **ES Volume I Chapter 5: Environmental Impact Assessment Methodology [EN010152/APP/6.1]**.
- 7.11.3 This cumulative effect assessment identified, for each receptor, the areas where the predicted effects of the Scheme could interact with effects arising from other plans and/or projects on the same receptor, based on a spatial and/or temporal basis.
- 7.11.4 One project (represented by two application numbers due to the joint requirement for listed building consent and planning consent - 22/01536/FUL and 22/01537/LBC) identified in **ES Volume I Chapter 15: Cumulative Effects and Interactions [EN010152/APP/6.1]** is considered to result in cumulative effects on cultural heritage assets identified in this assessment.
- 7.11.5 The remaining projects were reviewed in relation to cultural heritage assets identified in this assessment and no further potential for cumulative effects have been identified.

Demolition of Grade II listed 'Lily Hall' [NHLE 1151609] (22/01536/FUL and 22/01537/LBC)

- 7.11.6 The project referred to above comprises the demolition of 'Lily Hall' [NHLE 1151609], a Grade II listed farmhouse located at Riddings Farm, to the east of Fenwick and to the west of Fenwick Hall. The farmhouse, currently in a ruinous state of repair, lies in context with its surrounding, listed, contemporary farm buildings [NHLE 1151610 and 1151611], all of which sit within a wider agricultural landscape, separated by fields from the core of Fenwick village.
- 7.11.7 As assessed within the ES, the construction phase of the Solar PV Site is likely to affect the ability to understand and appreciate the heritage interests of the listed farm buildings through a reduction in the clarity with which their wider position in open countryside, separate from the core of Fenwick and surrounded by other elements of historic landscape, can be appreciated.

- 7.11.8 The demolition of the listed farmhouse [NHLE 1151609] is considered to result in a loss of association, group value, and context for the remaining listed, contemporary farm buildings [NHLE 1151610 and NHLE 1151611]. Once the farmhouse is removed there will be no effect on this asset from the construction of the Scheme and therefore, there will be no cumulative effect on this asset. On the remaining, contemporary farm buildings [NHLE 1151610 and NHLE 1151611], there will be a reduction in the ability to understand the historic and functional setting of these assets resulting from both schemes in combination. This would give rise to a cumulative effect.
- 7.11.9 The resulting cumulative impact is considered to have a **medium** magnitude of impact on the listed, contemporary farm buildings [NHLE 1151610 and 1151611] which, on assets of medium value, results in a **moderate adverse** cumulative effect, which is considered to be **significant**.
- 7.11.10 It is noted that the greater impact in this case arises from the loss of the consented demolition of Lily Hall farmhouse (22/01536/FUL and 22/01537/LBC) and the resultant loss of association, group value, and context for the remaining listed, contemporary farm buildings [NHLE 1151610 and NHLE 1151611]. The Scheme makes a lesser, non-significant, contribution to the identified cumulative impact. Further, the Scheme alone does not result in significant adverse effects on these designated assets.
- 7.11.11 In accordance with Sections 3.4.10 and 3.4.11 of Planning Inspectorate Advice Note 17 Cumulative Effects Assessment (August 2019) (Ref. 7-25) mitigation options, over and above those embedded in the Scheme, have been considered in order to attempt to reduce the identified significant cumulative effect to a non-significant level. However, no such mitigation has been identified in relation to the Scheme due to the larger portion of the cumulative impact being derived from the consented development (22/01536/FUL and 22/01537/LBC), which is considered to give rise to a significant effect in isolation, and which therefore cannot be reduced to a non-significant level through changes to the Scheme design.
- 7.11.12 Significant cumulative effects identified during the construction phases are presented in Table 7-7.

Table 7-7: Significant Cumulative Effects (Cultural Heritage) – Construction Phase

Scheme ID	Scheme Name	LPA	Distance from the Order limits	Summary of Cumulative Effect
22/01536/FUL and 22/01537/LBC	Demolition of Grade II listed 'Lily Hall' [NHLE 1151609] and erection of one replacement residential farmworker's dwelling and associated works.	City of Doncaster Council	c. 150 m	Additional impact to the Grade II listed Barn and granary (at Riddings Farm) [NHLE 1151610] immediately to northwest of Lily Hall and, Dovecote and attached outbuilding on west side of farmyard at Riddings Farm [NHLE 1151611] through cumulative erosion of functional and historical setting of the farmstead's buildings.

7.12 Summary and Conclusions

- 7.12.1 The assessment of effects (based on worst-case parameters and the assumption that these assets will be impacted) has identified potential impacts through change to the setting of several listed buildings, however these are considered to be not significant and, therefore, no significant residual effects have been identified in relation to listed buildings.
- 7.12.2 Potential impacts to the setting of the scheduled medieval moated sites at Fenwick Hall [NHLE 1012459] and Thorpe in Balne [NHLE 1012111] (including the Grade II* listed chapel [NHLE 1286641]) are considered to result in significant effects, resulting in significant residual effects. For Fenwick Hall, this is reversible upon decommissioning, and for Thorpe in Balne this is temporary during the construction phase.
- 7.12.3 The assessment of effects has identified potential physical impacts to known buried archaeological remains located within the Solar PV Site and Grid Connection Corridor (AEC004, AEC005, AEC007, AEC008, AEC009, AEC010, AEC011, AEC012 / HER 05633, AEC013, AEC015, AEC016, AEC017, AEC018, AEC019 / HER 02791/01, AEC020, AEC021; HER 02531/01), and potential buried archaeological remains within the Grid Connection Corridor, which are considered to result in significant effects, however with the implementation of further embedded or additional mitigation, it is considered that there would be no significant residual effects.
- 7.12.4 A significant cumulative effect has been identified upon two Grade II listed buildings at Riddings Farm comprising the Barn and granary (at Riddings Farm) [NHLE 1151610] immediately to north west of Lily Hall, and the Dovecote and attached outbuilding on west side of farmyard at Riddings Farm [NHLE 1151611]. This moderate adverse cumulative effect is due to

the consented demolition of the associated Grade II listed 'Lily Hall' farmhouse [NHLE 1151609] (22/01536/FUL and 22/01537/LBC) and the resultant additional erosion of the functional and historical setting of the farmstead's buildings in combination with the effects of the Scheme. No suitable mitigation has been identified to reduce the significant cumulative effect to a non-significant level and so a significant residual cumulative effect remains on the two listed farmstead buildings.

- 7.12.5 Table 7-8 sets out a summary of the residual significant effects, including significant residual cumulative effects, identified as a result of this assessment.

Table 7-8: Summary of Residual Significant Effects – Cultural Heritage

Receptor	Development Stage	Environmental Effect (taking account of embedded mitigation)	Classification of Effect	Additional Mitigation Requirements (if required)	Significance of Residual Effect	Nature of Effect (Lt/Mt/St and P/T and D/In)
Fenwick Hall moated site [NHLE 1012459] scheduled monument	Construction	Change to setting of the asset	Moderate adverse (significant)	None identified	Moderate adverse (significant)	Long-term (for the lifespan of the Scheme). Reversible upon decommissioning.
Thorpe in Balne moated site, chapel and fishpond [NHLE 1012111] and Grade II* listed remains of Chapel [NHLE 1286641] scheduled monument	Construction	Change to setting of the asset	Moderate adverse (significant)	None identified	Moderate adverse (significant)	Temporary (short-term) during the construction phase of the Grid Connection Corridor.
Grade II listed Barn and granary (at Riddings Farm) [NHLE 1151610] immediately to northwest of Lily Hall	Cumulative	Cumulative change to setting of the asset with demolition of 'Lily Hall' farmhouse (22/01536/FUL and 22/01537/LBC)	Moderate adverse (significant)	None identified	Moderate adverse (significant)	Long-term (for the lifespan of the Scheme)
Grade II listed Dovecote and attached outbuilding on west side of farmyard at Riddings Farm [NHLE 1151611].	Construction	Cumulative change to setting of the asset with demolition of 'Lily Hall' farmhouse	Moderate adverse (significant)	None identified	Moderate adverse (significant)	Long-term (for the lifespan of the Scheme)

Receptor	Development Stage	Environmental Effect (taking account of embedded mitigation)	Classification of Effect	Additional Mitigation Requirements (if required)	Significance of Residual Effect	Nature of Effect (Lt/Mt/St and P/T and D/In)
		(22/01536/FUL and 22/01537/LBC)				

Note: Lt = long term, Mt = medium term, St = short term, P = permanent, T = temporary

7.13 References

- Ref. 7-1 His Majesty's Stationary Office (HMSO) (2017) The Infrastructure Planning (Environmental Impact Assessment) Regulations 2017 (as amended by the Town and Country Planning and Infrastructure Planning (Environmental Impact Assessment) (Amendment) Regulations 2018). Available at: http://www.legislation.gov.uk/ukxi/2017/572/pdfs/ukxi_20170572_en.pdf and http://www.legislation.gov.uk/ukxi/2018/695/pdfs/ukxi_20180695_en.pdf. [Accessed 14 July 2023].
- Ref. 7-2 HMSO (2010) The Infrastructure Planning (Decisions) Regulations 2010. Available at: <https://www.legislation.gov.uk/ukdsi/2010/9780111490266/contents> [Accessed 13 March 2024].
- Ref. 7-3 HMSO (1990) Planning (Listed Buildings and Conservation Areas) Act 1990. Available at: <https://www.legislation.gov.uk/ukpga/1990/9/contents> [Accessed 13 March 2024].
- Ref. 7-4 HMSO (1979) Ancient Monument and Archaeological Areas Act 1979 (as amended). Available at: <https://www.legislation.gov.uk/ukpga/1979/46> [Accessed 13 March 2024].
- Ref. 7-5 Department of Energy and Climate Change (DECC) (November 2023). Overarching National Policy Statement for Energy (EN-1) Available at: <https://assets.publishing.service.gov.uk/media/655dc190d03a8d001207fe33/overarching-nps-for-energy-en1.pdf>. [Accessed 7 December 2023].
- Ref. 7-6 DECC (November 2023). National Policy Statement for Renewable Energy Infrastructure (EN-3) <https://assets.publishing.service.gov.uk/media/655dc352d03a8d001207fe37/nps-renewable-energy-infrastructure-en3.pdf>. [Accessed 7 December 2023].
- Ref. 7-7 DECC (November 2023). National Policy Statement for Electricity Networks Infrastructure (EN-5) <https://assets.publishing.service.gov.uk/media/655dc25e046ed400148b9dca/nps-electricity-networks-infrastructure-en5.pdf>. [Accessed 7 December 2023].
- Ref. 7-8 Ministry of Housing, Communities and Local Government (MHCLG) (December 2024). National Planning Policy Framework (NPPF). Available at: https://assets.publishing.service.gov.uk/media/65829e99fc07f3000d8d4529/NPPF_December_2023.pdf. [Accessed 10 January 2024].
- Ref. 7-9 City of Doncaster Council (2021). Doncaster Local Plan 2015 – 2035. Available at: <https://www.doncaster.gov.uk/services/planning/local-plan>. [Accessed 14 July 2023].
- Ref. 7-10 MHCLG (2019) Planning Practice Guidance. Conserving and enhancing the Historic Environment. Available at:

<https://www.gov.uk/guidance/conserving-and-enhancing-the-historic-environment> [Accessed 13 March 2024].

- Ref. 7-11 Historic England (2015) Historic Environment Good Practice Advice in Planning Note 2 – Managing Significance in Decision Taking. Available at: <https://historicengland.org.uk/images-books/publications/gpa2-managing-significance-in-decision-taking/gpa2/> [Accessed 13 March 2024].
- Ref. 7-12 Historic England (2017) Historic Environment Good Practice Advice in Planning Note 3 – The Setting of Heritage Assets (second edition). Available at: <https://historicengland.org.uk/images-books/publications/gpa3-setting-of-heritage-assets/heag180-gpa3-setting-heritage-assets/> [Accessed 13 March 2024].
- Ref. 7-13 Historic England (2019) Statements of Heritage Significance: Analysing Significance in Heritage Assets. Historic England Advice Note 12. Available at: <https://historicengland.org.uk/images-books/publications/statements-heritage-significance-advice-note-12/heag279-statements-heritage-significance/> [Accessed 13 March 2024].
- Ref. 7-14 Historic England (2021) Commercial Renewable Energy Development and the Historic Environment. Historic England Advice Note 15. Available at: <https://historicengland.org.uk/images-books/publications/commercial-renewable-energy-development-historic-environment-advice-note-15/> [Accessed 13 March 2024].
- Ref. 7-15 Chartered Institute for Archaeologists (CIfA) (2020) Standard and guidance for historic environment desk-based assessment. Available at: https://www.archaeologists.net/sites/default/files/CIfAS%26GDBA_4.pdf [Accessed 13 March 2024].
- Ref. 7-16 CIfA (2022) Code of Conduct. Available at: <https://www.archaeologists.net/sites/default/files/Code%20of%20conduct%20revOct2022.pdf> [Accessed 13 March 2024].
- Ref. 7-17 IEMA (2021) Principles of Cultural Heritage Impact Assessment in the UK. Chartered Institute for Archaeologist/Institute of Historic Building Conservation/Institute of Environmental Management and Assessment. Available at: https://www.archaeologists.net/sites/default/files/j30361_iema_principlesof chia_v8.pdf [Accessed 13 March 2024].
- Ref. 7-18 SYAS (2022) Standards and Guidance Archaeological Desk-based Assessments & Building Appraisals. Available at: <https://www.sheffield.gov.uk/sites/default/files/docs/planning-and->

[development/archaeology/SYAS Standards DBA Building Appraisals.pdf](#) [Accessed 13 March 2024].

- Ref. 7-19 Historic England (2024) National Heritage List for England. Available at: <https://historicengland.org.uk/listing/the-list/> [Accessed 13 March 2024].
- Ref. 7-20 Portable Antiquities Scheme (2024) Online Database. Available at: <https://finds.org.uk/database> [Accessed 13 March 2024].
- Ref. 7-21 British Geological Survey (BGS) Geology of Britain Viewer. Available at: <https://www.bgs.ac.uk/map-viewers/bgs-geology-viewer/> [Accessed 13 March 2024].
- Ref. 7-22 Planning Inspectorate (2018) Advice Note Nine: Rochdale Envelope. Available at: <https://infrastructure.planninginspectorate.gov.uk/legislation-and-advice/advice-notes/advice-note-nine-rochdale-envelope/> [Accessed 13 March 2024].
- Ref. 7-23 Natural England (2014) Profile 39: Humberhead Levels (NE339). Available at: <https://publications.naturalengland.org.uk/publication/1843305> [Accessed 13 March 2024].
- Ref. 7-24 HMSO (1997) The Hedgerow Regulations 1997. Available at: <https://www.legislation.gov.uk/uksi/1997/1160/contents/made> [Accessed 13 March 2024].
- Ref. 7-25 The Planning Inspectorate (2019). Advice Note 17: Cumulative effects assessment relevant to nationally significant infrastructure projects (version 2). Available at: <https://infrastructure.planninginspectorate.gov.uk/legislation-and-advice/advice-notes/advice-note-17/>. [Accessed 28 August 2024].
- Ref. 7-26 National Library of Scotland for historic maps. Available at: <https://maps.nls.uk/>



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