Dean Moor
Solar Farm

Environmental Statement: Appendix 6.3 – Archaeological Mitigation Strategy

on behalf of **FVS Dean Moor Limited**

March 2025
Prepared by: Stantec UK Ltd
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DEAN MOOR SOLAR FARM
ENVIRONMENTAL STATEMENT
APPENDIX 6.3 – ARCHAEOLOGICAL MITIGATION STRATEGY
PLANNING INSPECTORATE REFERENCE EN010155
PREPARED ON BEHALF OF FVS DEAN MOOR LIMITED

The Infrastructure Planning (Applications: Prescribed Forms and Procedure) Regulations 2009, Regulation 5(2)(a)

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1 Introduction

1.1 Background

1.1.1 This Archaeological Mitigation Strategy ('AMS') has been prepared for FVS Dean Moor Ltd (the Applicant) to support the DCO application for the Dean Moor Solar Farm (the Proposed Development) located between the villages of Gilgarran and Branthwaite in West Cumbria (the Site), which is situated within the administrative area of Cumberland Council (the Council). The Proposed Development will be within the 'Order Limits' (the land shown on the Work Plans) [**REF: 2.3**] within which the Proposed Development can be carried out. For the purpose of this AMS, the terms 'Order Limits' and 'Site' are used interchangeably.

1.1.2 The Proposed Development comprises the construction, operation, and decommissioning of a solar photovoltaic ('PV') energy generating station with a total capacity exceeding 50 Megawatts ('MW') comprising solar PV arrays, grid connection infrastructure, associated infrastructure, and green infrastructure. Further information on the Proposed Development is available from ES Chapter 3 – Site and Proposed Development Description [**REF: 6.1**].

1.1.3 This AMS has been produced to secure a programme of archaeological fieldwork in association with the pre-commencement and construction phases of the Proposed Development. This AMS is provided as Appendix 6.3 of the Cultural Heritage ES Chapter [**REF: 6.1**].

1.1.4 ES Cultural Heritage Chapter 6 has been informed by Site walkovers, desk-based study, and a geophysical survey undertaken in 2023. Following the desk-based work and Site walkovers, the Geophysical Survey Report (Appendix 6.2) was produced and finds that the archaeological potential of the Site is low (for receptors which would appear within a geophysical survey).

1.1.5 The geophysical survey identifies a series of anomalies within the Site. It was determined that the anomalies were caused by geological,

agricultural, or modern causes rather than the presence of archaeology. There are no anomalies of clear archaeological potential recorded.

1.1.6 The AMS framework sets out a staged approach designed to preserve 'by record' (i.e. archaeological fieldwork and recording) heritage receptors of archaeological interest, which could be affected by the Proposed Development. No below ground receptors warranting preservation in-situ have been identified to date across the Site.

1.1.7 In the unlikely event that nationally significant receptors are revealed (such as those equivalent to a scheduled monument)[1], mitigation would be designed-in to preserve any nationally significant receptors in situ. This would be through either exclusion of the archaeologically sensitive areas (ASA) or by implementing non-intrusive 'no-dig' alternatives for elements of the Proposed Development that are not excluded. For remains of lesser significance, a full archaeological 'Strip, Map and Sample' ('SMS') excavation and recording may be undertaken where works in that area have potential to impact on unknown archaeological assets.

1.1.8 The Archaeological Contractor will produce their own Written Scheme of Investigation ('WSI') and Risk Assessment and Method Statement ('RAMS') for the Stage 1 work based on the methodology described in this document. This AMS has been produced based on information available at the time of writing and consultation with the Council's Archaeological Advisor.

1.1.9 The archaeological work set out in this AMS comprises a programme of work to be secured by a DCO Requirement, this approach has been adopted to account for varying archaeological potential across different sections of the Site.

- **Stage 1: Targeted archaeological and geoarchaeological trial trench evaluation**. A series of trial trenches will be dug in sections of Area C in those areas highlighted by the Historic Environment Record (HER) as having potential to contain archaeological and paleo-

[1] HM Government (2013) Department for Culture, Media, and Sport. Scheduled Monuments & nationally important but non-scheduled monuments

environmental receptors. A WSI would be produced prior to this which would detail the methodology the archaeological sub-contractor would use, this WSI would be agreed with

These receptors consist of unclassified crop marks and potential ridge and furrow within the boundary of the Site along with areas of peat deposits and anomalies identified in the geophysical survey (likely of geological origin).

Areas A, B, and D will not undergo trial trenching as it has experienced extensive mining and quarrying in the past, which will have truncated any archaeological resource in the area (as detailed in the HEDBA Appendix 6.1).

- **Stage 2: Further archaeological mitigation at the start of the construction phase**. – Different strategies may be undertaken based on archaeological potential and results of the Stage 1 fieldwork. The strategies may comprise:
  - No-dig design solutions and/or exclusion zones to enable preservation 'in situ' should receptors of national importance be found during Stage 1.
  - Archaeological watching brief. This will monitor certain ground works and record receptors exposed, in an area of likely low potential.
  - Archaeological SMS in the area where Stage 1 investigations revealed archaeological potential. This will mitigate the impact where complex/deep archaeological receptors are not anticipated, without causing significant delays to the construction programme. If complex receptors are encountered as the hardstanding is stripped back, sufficient time will be allowed for recording.
- **Stage 3: Reporting, Dissemination, and Archiving**. - Appropriate final reporting methodologies and dissemination of any findings to provide knowledge creation and a public benefit.

1.1.10 The potential location of the Stage 1 investigations and their phasing are shown on Figure 1 and detailed in sections 3, 4, and 5.

1.1.11 Further archaeological SMS investigation in the area where Stage 1 outcomes revealed unresolved archaeological potential is only a possibility where 'significant' remains are found during the Stage 1 fieldwork. This strategy is not anticipated.

1.1.12 Further geoarchaeological assessment and analysis is only a possibility if deposits of high significance are found during the Stage 1 fieldwork. This strategy is not anticipated. This is due to the low quality of the peat

deposits across the Site. Peat with thicknesses of 0.46m bgl to 2.1m bgl was confirmed very locally in two distinct locations which are both within the area indicated as peat on BGS mapping. To minimise the impact on peat at the Site, the areas have been avoided for works with potential to have adverse effects. At these two locations, the peat deposits were recorded as brown to dark brown fibrous Peat. A von Post classification of the two localised areas of peat encountered showed it to be H9 indicating that the peat is practically fully decomposed (see Appendix 10.3: Peat Survey Report ('PSR')).

1.1.13 The results of the Stage 1 trial trench evaluation will be presented in a separate evaluation fieldwork report (within six weeks of the completed fieldwork) and will inform the need for any Stage 2 mitigation, which will be set out and agreed through an updated AMS and/or WSI as appropriate.

1.1.14 Following all archaeological fieldwork, if deemed appropriate a post-excavation assessment report will form part of the project archive. It will include a statement of the quantity and perceived quality of the data in the Site archive, a statement of the archaeological potential of the data to answer the project research aims, and recommendations on further analysis, data storage and curation and dissemination requirements. The decision for any further archaeological or geoarchaeological analysis and publication work rests with the relevant specialist in consultation with the Council's Archaeological Advisor.

1.1.15 Where appropriate, the results will be further disseminated at a level appropriate to the significance of the receptors recorded. This might be either a summary or an article in a local or period-based archaeological journal. Other forms of dissemination (such as outreach programmes) shall be considered in consultation with the Applicant, the Council, and the project archaeologist.

1.2 Consultation

1.2.1 The scope of this AMS has been agreed with Historic Environment Officer at Westmorland and Furness Council acting as the Council's

Archaeological Advisor. The AMS details the archaeological methodologies and approaches to each element of work required to mitigate the impacts of the Proposed Development on potential receptors of archaeological interest based on the Work Plans for the DCO and is reflected in Figure 1 of this AMS.

1.3 Project Roles

1.3.1 The 'Project Archaeologist' is responsible for managing the scope and for monitoring and assuring the work on behalf of the Applicant. The 'Project Archaeologist' will liaise directly with the Westmorland and Furness Council ('WFC') Archaeological Advisor (the Council's Archaeological Advisor' who provides development control advice to the Council).

1.3.2 The 'Archaeological Contractor' is responsible for carrying out the fieldwork, post excavation reporting, deposition of the archive and dissemination. The Archaeological Contractor will be a full member of the Chartered Institute of Field Archaeologists ('CIfA').

1.3.3 The 'Principal Contractor' is the contractor in control of the Site and responsible for all Health and Safety and site security under CDM Regulations. The Applicant (or the Client as defined in the CDM Regulations) would appoint the Principal Contractor.

2 Site and Historic Environment Baseline

2.1 Introduction

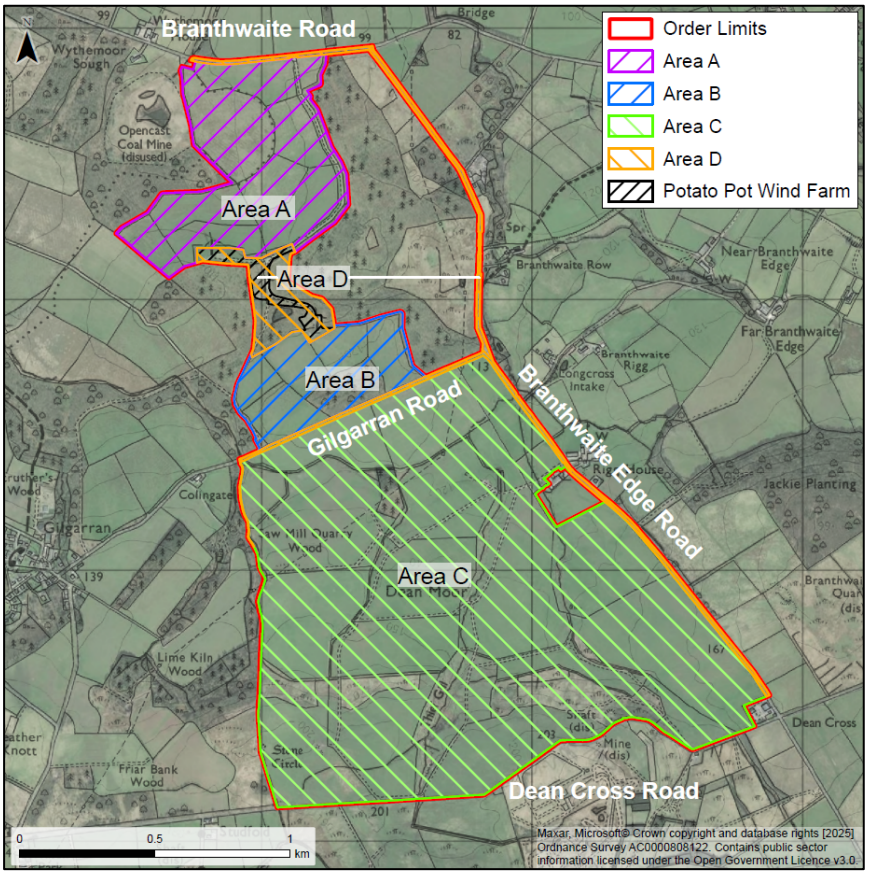
2.1.1 The historic environment baseline is fully detailed within the HEDBA at ES Chapter 6 (Appendix 6.1). This AMS is focused on the archaeological conditions which are present at the Site.

2.1.2 The Site (ES Figure 1.1) [**REF: 6.2**] extends to approximately 276.5ha and is located approximately 1.1km east of the Lillyhall Industrial Estate, 600m east of the small village of Gilgarran, approximately 900m west of Branthwaite, and approximately 5km southeast of Workington town centre on the west Cumbrian coast. The hamlet of Branthwaite Edge is directly adjacent to the east of the Site.

2.1.3 For ease of reference within the ES the Site is divided into four areas as illustrated by ES Figure 3.1.

- **Area A** – Land south of Branthwaite Road (approximately 40.2ha);
- **Area B** – Land south of Branthwaite Road and north of Gilgarran Road (approximately 19.9ha);
- **Area C** – Land south of Gilgarran Road and north of Dean Cross Road (approximately 203ha); and
- **Area D** – Land connecting Areas A and B, including Potato Pot Wind Farm (the 'Wind Farm'), Gilgarran Road between Areas B and C, and Branthwaite Edge Road (approximately 13.4ha).

Figure 2.1: Solar Farm Area Plan (Extract of ES Figure 3.1)



2.1.4 For this AMS, Areas A, B, and D are excluded because they have been exposed to extensive mining and are therefore scoped out of further archaeological mitigation requirements as agreed with the Council's Archaeological Advisor. The focus of this AMS is therefore on those parts of Area C proposed for Work No. 1-5 that are not excluded due from impact by the Work Plans or by the historic mining that has also occurred in parts of Area C.

2.2 Topography and Geology

2.2.1 A comprehensive report of the ground conditions of the Site can be found in the Phase 1 Ground Condition Assessment (GCA) (ES Appendix 10.1) [**REF: 6.3**].

2.2.2 A relevant feature of the geology of the Site is the presence of peat deposits in discreet areas of Area C. Peat may have evidential value as a means of preserving organic remans as well as representing a historic

environment which has existed as early as the Holocene. Further information on identified peat deposits in Area C is available from the PSR (ES Appendix 10.3) [**REF: 6.3**]. Peat with thicknesses of 0.46m bgl to 2.1m bgl was confirmed very locally in two distinct locations which are both within the area indicated as peat on BGS mapping. To minimise the impact on peat at the Site, solar generating station infrastructure from Work Nos. 1, 2, 4, and 5 has been avoided on identified peat deposits.

2.3 Archaeological Potential

2.3.1 The HEDBA (Appendix 6.1) provides a detailed archaeological and historical background and potential.

2.3.2 The Site has benefitted from three archaeological investigations, including excavations of the Stone Circle and Round Cairn in 1877 and 1924 by Westmorland Antiquarian and Archaeological Society, and the geophysical survey by Headland Archaeology in 2023.

2.3.3 The Geophysical Survey Report (see Appendix 6.2) concludes that the archaeological potential of the Site is low (for remains which would register in such a survey). The survey identifies a series of anomalies within the Site boundary but concludes that these anomalies are caused by geological, agricultural, or modern causes rather than the presence of archaeology. Nine anomalies of uncertain origin were recorded, as well as an anomaly locating a former field boundary, former field drains, and modern agricultural features. There are no anomalies of clear archaeological potential recorded.

3 Targeted Archaeological Evaluation (Stage 1)

3.1 Introduction

3.1.1 In advance of field investigations, a WSI will be agreed with the Council that details a programme of archaeological investigation, to include trial trenches that are substantially in accordance with Figure 1 of this AMS. The results of the Stage 1 investigations will inform a Stage 2 mitigation strategy if required.

3.1.2 A series of evaluation trial trenches will be dug in Area C, in the area highlighted as having a number of data points by the HER. These areas were also highlighted as having potential by the geophysical survey, even if they may be agricultural in nature.

3.1.3 The Stage 1 work will be carried out in accordance with current best archaeological practice as defined in the Chartered Institute for Archaeologists Code of Conduct[2] (the CIfA guidelines), Universal Guidance for Archaeological Field Evaluation[3], Standard for archaeological monitoring and recording[4].

3.1.4 Trial trench evaluation as defined by the CIfA guidelines as a means to *'determine, as far as is reasonably possible, the nature of the archaeological resource within a specified area using appropriate methods and practices*'. The results of the evaluation will inform an appropriate mitigation strategy for any archaeological receptors, if required.

3.1.5 This is further explained as:

'A limited programme of non-intrusive and/or intrusive fieldwork which determines the presence or absence of archaeological features, structures, deposits, artefacts or ecofacts within a specified area or site…. If such archaeological remains are present field evaluation defines their character, extent, quality, and preservation, and enables an assessment of their worth in a local, regional, national or international context as appropriate.'

[2] Chartered Institute for Archaeologists (CIfA) (2014, last updated October 2022) Code of Conduct

[3] CIfA (2023). Universal guidance for archaeological field evaluation.

[4] CIfA (2023). Universal guidance for archaeological monitoring and recording

3.2 Research Aims and Objectives

3.2.1 The aim of the evaluation is to clarify the presence, nature, date and extent of any archaeological receptors that might be present in the area highlighted by the HER in Area C, which has not been investigated previously. This is for the purpose of informing what further mitigation, if any, may be required.

3.2.2 In respect of the archaeological potential of the Site, the main objective will be to clarify the evidence for Prehistoric, Medieval and Post Medieval resources. Initial research objectives therefore comprise:

- What evidence is there for Prehistoric, especially Bronze and Iron Age activity? If present what is its nature, extent and significance?
- What evidence is there for Medieval activity? If present what is its nature, extent and significance?
- What evidence is there for Post-Medieval activity? If present what is its nature, extent and significance?
- What evidence is there for receptors form any other period? If present what is its nature, extent, and significance of the receptors?
- What are the nature and levels of natural deposits, and has there been any modern disturbance?
- How can we expand our understanding of late Holocene peat or alluvial deposits and sequences?
- Can we contribute to our understanding of the nature, depth, extent and date of any former land surfaces, alluvial and peat deposits.
- Following Stage 1 works are there any recommendations for further geoarchaeological and paleoenvironmental works.

3.3 Archaeological and Geoarchaeological Investigation

3.3.1 The proposed trench locations can be seen in Figure 1. Up to date service plans will be consulted and the Site will be inspected prior to the commencement of any machine excavation, including the examination of any available exposures (e.g. recently cut ditches and geotechnical test pits).

3.3.2 The trenches have been targeted on specific HER evidence and geophysical anomalies as identified in the HEDBA (Appendix 6.1) and geophysical survey (Appendix 6.2), along with areas of

paleoenvironmental potential (as identified within ES Appendix 10.1 Phase 1 GCA and ES Appendix 10.3 PSR. These include:

- HER 16630: an area of ridge and furrow is noted on the HER (upon review of aerial photography and LiDAR data this potential seems to be low.
- HER 45801: a possible building associated with a historic mine.
- Geophysical anomalies U1-U9 (as shown in Appendix 6.2): while these are thought to be natural in origin (as concluded in the Geophysical Survey Report) it has been agreed that these are included within the Stage 1 evaluation work.
- The Site has potential for peat deposits to be present and therefore to investigate these areas in response to the historic environment. Trial pits with geo-archaeological sampling are proposed in certain areas of the Site located on the edge of peat deposits (shown on Figure 1).

3.3.3 The trench locations are shown on Figure 1 and described in Table 3.1 below.

3.3.4 Care has been made to ensure that the trench locations align with the Works Plans and the have been informed by Exclusion Plan (ES Figure 3.5) which identifies the locations of overhead line ('OHL') infrastructure.

Table 3.1: Trial Trench Locations

Number	Dimension	Target
01	30m x 2m	Edge of western peat deposits
02	30m x 2m	Edge of western peat deposits
03	30m x 2m	Edge of western peat deposits
04	30m x 2m	Edge of western peat deposits
05	30m x 2m	Edge of western peat deposits
06	30m x 2m	Edge of western peat deposits
07	30m x 2m	Edge of western peat deposits
08	30m x 2m	building associated with the mine HER 45801
09	30m x 2m	geophysical anomaly U1 / site of HER 16630
10	30m x 2m	geophysical anomaly U1 / site of HER 16630
11	30m x 2m	site of HER 16630
12	30m x 2m	geophysical anomaly U2
13	30m x 2m	geophysical anomaly U2

Number	Dimension	Target
14	30m x 2m	geophysical anomaly U3
15	30m x 2m	geophysical anomaly U3
16	30m x 2m	geophysical anomaly U4
17	30m x 2m	geophysical anomaly U5 / edge of alluvium
18	30m x 2m	geophysical anomaly U5 / edge of alluvium
19	30m x 2m	geophysical anomaly U6
20	30m x 2m	geophysical anomaly U6
21	30m x 2m	geophysical anomaly U8
22	30m x 2m	geophysical anomaly U8
23	30m x 2m	geophysical anomaly U9
24	30m x 2m	geophysical anomaly U9

3.3.5 Based on the predicted depth of deposits, it is assumed that the trenches will be no more than 1.2m deep. This is sufficiently deep to reach the underlying geology, and any archaeological features cut into it.

3.3.6 Each trench will be excavated by a mechanical excavator equipped with a toothless grading bucket. All machining will be conducted under archaeological supervision.

3.3.7 Following initial exposure of archaeological horizons, investigation will be by hand, including cleaning, examination, sampling and recording in the appropriate manner. Archaeological hand dug investigation, and recording will proceed only until significant archaeological levels have been reached and will be sufficient to allow the nature, extent, survival and significance of archaeological receptors to be identified. The trenches will be cleaned sufficiently to enhance the definition of features, unless it is certain that there are no archaeological receptors present.

3.3.8 Topsoil and subsoil will be stored separately adjacent to the trench to enable backfilling. Where further limited excavation beyond the trench footprint may be necessary to clarify the extent and nature of some archaeological receptors, any decision to extent the trench footprint will be approved in advance with the project archaeologist in consultation with the

Council's Archaeology Advisor. Likewise, the levels at which all sampling excavation and/or mechanised excavation will cease will be determined by consultations between the project archaeologist and the Council's Archaeology Advisor, which would typically entail a Site visit. Where the evaluation has revealed no significant archaeological receptors, digital photographs may be sufficient.

3.3.9 An objective of the evaluation is to confirm the extent, nature and sensitivity of any surviving deposits across the Site which may provide paleoenvironmental information of archaeological interest. Therefore, in addition to the evaluation of archaeological (i.e. human-caused) deposits, in accordance with an identified research objective, an assessment of natural deposits will be necessary, especially when these are organically preserved and laid down within archaeological timescales; for example, alluvial or peat deposits, which can hold paleoenvironmental information.

3.3.10 This geoarchaeological work would comprise hand coring (under supervision of a qualified geoarchaeologist) to determine peat survival and paleoenvironmental potential with the relevant investigations (see Table 3.1 and Figure 1 for investigation locations and paragraphs 3.3.12 to 3.3.15 for sampling strategy and paragraphs 3.3.16 to 3.2.18 for geoarchaeological reporting considerations). Trial trenches may need to be extended to enable this geoarchaeological investigation. Continuous samples will be collected through the deposits and preliminary interpretation of the soil and sediment characteristics of the cores will be made on-Site. An overview of the stratigraphy produced will characterise the deposit sequence and identify soil / sediment processes. The geoarchaeologist will keep a field log of the cores and a photographic record.

3.3.11 In the unlikely event that receptors of very high significance (see Scheduled Monument Guidance) warranting preservation in-situ are identified, the project archaeologist, who will then consult with the Council's Archaeological Advisor. Appropriate measures will be taken to protect such receptors from any damage or deterioration. This might

involve for instance protective boxing, wrapping deposits or features in a geo-textile such as terram, sealing with sand or other suitable soft materials, or other means as deemed suitable/appropriate in consultation with the Council's Archaeological Advisor and relevant specialists, where required. In this scenario an appropriate design will be required for the Proposed Development (see section 4 of this AMS).

Sampling Strategy

3.3.12 To obtain sufficient information on the likely nature, date, extent, survival, and significance of any potential archaeological features and deposits identified, these will be sample excavated by hand. It is not the objective of the evaluation to archaeologically excavate features in their entirety as this would form part of the Stage 2 mitigation strategy for preservation by record.

3.3.13 The following evaluation sampling strategy will be carried out for the archaeological trial trenches:

- Linear features will be hand excavated to achieve a minimum of a 10% sample along their length, with a minimum of a section of 1.0m width.
- The termini of any linear features will be 100% hand excavated.
- Pits will be 50% hand excavated as a minimum.
- Significant solid or bonded structural remains, building slots or postholes will be preserved intact, even if fills are sampled.
- Isolated post holes and complex features such as hearths will be 100% hand excavated.
- If human remains are exposed, these will be left in situ, covered and protected.

3.3.14 Datable finds from the sampled areas will be recovered to allow features and deposits to be dated.

3.3.15 Where paleoenvironmental potential has been identified, bulk samples, 20L (litres) for wet and 40L–60L for dry contexts of will be taken from appropriate contexts for the recovery and assessment of paleoenvironmental data.

3.3.16 Within the identified trenches of geoarchaeological interest (see Table 3.1 and Figure 1), provision will be made for column and other appropriate samples to be taken. Detailed laboratory-based description of the borehole sequences using the Tröels-Smith (1955) procedure[5] for the description of sediments, noting composition, colour boundary types (sharp or diffuse) and degree of humification.

3.3.17 Description of the sedimentary sequence recovered in the core samples will provide primary information on the nature of the depositional environment through time. For example, sand and gravel indicate deposition with a high energy fluvial environment, such as braided river system, during cold climatic conditions. Fine-grained mineral sediment, such as silt or clay indicates deposition within or on the margins of a lake, pond or river. Soil and peat formation indicates the formation of semi-terrestrial or fully terrestrial conditions resulting in the colonisation of vegetation adapted to the specific local conditions.

3.3.18 Where necessary, a supplementary strategy for sampling of environmental deposits may be developed by the project archaeologist in accordance with Historic England[6] guidelines. Advice will be sought from the Council's Archaeological Advisor and the Historic England Regional Archaeological Science Advisor as appropriate. Archaeological specialists will undertake subsequent off-Site work and analysis of the processed samples and receptors.

Recording

3.3.19 Standard archaeological recording methods comprise a written record (both description and interpretation with annotated sketches where appropriate), scaled drawings both in plan and in section, photographic record, and retrieval and annotation of archaeological finds and samples. A full record of all archaeological receptors as revealed in the evaluation will be made. A full photographic record will be maintained and indexed

[5] Troels-Smith, J. (1955) Karakterisering af lose jordater (Characterisation of Unconsolidated Sediments). Danmarks Geologiske Undersogelse, 3, 39-73.

[6] Historic England (2011). A Guide to the Theory and Practice of Methods, from Sampling and Recovery to Post-excavation (second edition). Campbell, G. Moffett. L. Straker. V.

using digital Single Lens Reflex ('SLR') cameras to produce digital RAW (uncompressed) images.

Finds

3.3.20 All recovery, retention, and treatment of finds and samples will be carried out mindful of the overall purpose of the exercise, i.e. to evaluate for further decision making, as expressed in the CIfA guidelines (2014). To this end, all artefactual and eco factual material will be reviewed on Site for its capability to inform the evaluation report.

3.3.21 Identified archaeological finds and artefacts will be carefully recovered by hand and bagged or boxed according to the type of artefact (i.e. pottery, ceramic building material ('CBM'), bone, worked flint, metal) archaeological context from which they came, with a label indicating the Site code, find type and context reference number). Particularly notable artefacts will be recorded as a 'registered' find and recorded three dimensionally with Ordnance Datum levels. This will include in situ prehistoric, worked flint.

3.3.22 Initial conservation and storage will be in a proper manner and to standards set out follow First Aid for Finds[7] and the CIfA *'Standard and Guidance for the collection, documentation, conservation, and research of archaeological materials'* (CIfA 2014b). If necessary, an appropriately qualified and experienced archaeological conservator will be appointed to advise and assist in the lifting of fragile finds of significance and or value and to arrange for the X-raying and investigative conservation of objects as may be necessary.

3.3.23 Certain classes of bulk material, i.e. post-medieval pottery and building material may be discarded if there is a considerable quantity (more than a single standard archive box of c. 0.016m²), after recording with a representative sample.

[7] First Aid for Finds: Practical Guide for Archaeologists 3 by Leigh, David, Watkinson, David, Neal, Virginia (ISBN: 9781871656282)

3.3.24 All pottery, bone and worked flint will be washed and then marked in accordance with the project archive repository guidelines. Any building material and burnt flint (not including significant diagnostic material) will be identified, counted, weighed, and discarded. Samples will be retained as appropriate. The finds identification and specialist work will be undertaken by the relevant finds specialists agreed with the Council's Archaeological Advisor to assess the date range of the assemblage with particular reference to pottery use relevant county or region-specific type series for identification and dating, where available. This evidence will be used to characterise the Site, and to establish the potential for all categories of finds should further archaeological work be necessary. Records of artefact assemblages will clearly state how they were recovered, sub-sampled and processed. Consideration will be given for donation of appropriate artefacts to type series reference collections.

3.3.25 All finds of gold and silver, or other objects definable as 'treasure' under the Treasure Act 1996[8], will be removed to a safe place and reported to the local Coroner according to the procedures of the Treasure Act 1996 and the Treasure (Designation) Order 2002[9]. Where removal cannot be affected on the same working day as the discovery suitable security measures will be taken to protect the finds from theft.

3.4 Reporting

3.4.1 A fully illustrated archaeological evaluation report will be made available to the Applicant and the Council's Archaeological Advisor within six weeks of the completion of archaeological and geoarchaeological fieldwork.

3.4.2 Regarding the geoarchaeological reporting, any samples / subsamples will be retained and taken to a geoarchaeological laboratory, extruded / cleaned, and recorded according to standard sedimentary criteria. Any previous geotechnical data will be input into a Rockworks (or similar)

[8] HM Government (1996). Treasure Act. c. 24

[9] HM Government (1996). The Treasure Act Code of Practice (2nd Revision)

digital database. This will reconstruct the deposit sequence across the Site to ensure the Site is considered in its wider landscape context.

3.4.3 The dataset will be transferred to ArcGIS, where the Spatial Analyst module will be used to reconstruct the sub-surface stratigraphy and model horizons and deposits. Typically, this would consist of mapping the surface topography, and/or mapping the thickness and extent of peat and alluvial deposits. Therefore, the core samples and the recorded deposit sequences can be viewed in terms of their relationship to the wider landscape and the buried topography.

3.4.4 The preservation and potential of environmental remains within the samples / subsamples may be assessed by sub-sampling / choosing the 'best' sequence if deem appropriate (i.e. that retained unopened from Site).

3.4.5 In accordance with the CIfA guidelines (2014) this will include as a minimum, the following:

- Non-technical summary - One-page summary outlining project background and circumstance, the principal reason for the work and when it was undertaken and by whom, its objectives, main results, and where appropriate, recommendations.
- Introduction - This will set out the circumstances of the project such as planning background and the reason for the work and will include the aims and specific research objectives reflected or reiterated in this AMS.
- Archaeological and historical background - A brief summary with the Site description (including size, geology and topography, location) and background. In most cases this will be derived from the desk-based assessment.
- Fieldwork methodology - The methods used. This will include the detail of any variation to this agreed AMS and the reasons for such.
- Results - This will present a series of summary objective statements, organised clearly in relation to the methods used, and describing both structural data and associated finds and/or environmental data recovered. Descriptive material will be clearly separated from interpretative statements. It will place the evidence in a local and regional context, highlighting any research priorities which it addresses. Technical terminology (including dating or period references) will be explained.

- Conclusions - Summary and interpretation the results and their likely significance. Other elements might include a confidence rating on the results and limitations (e.g. weather or problems of access). Recommendations on further work may also be included.
- References and bibliography - A list of all sources used. The final destination of the archive (records and finds) will be noted in the report along with the Site code assigned by the relevant project archive repository.
- Appendices - Essential technical and supporting detail, including for example lists of artefacts and contexts or details of measurements, gazetteers etc. Pottery reports will be expected to refer to the appropriate type series for pottery.
- Illustrations - Location plan, plans and sections at appropriate scales showing location and position of trenches dug and features located and selective photography. Section drawing will include heights Above Ordnance Datum ('AOD'); plans should include AOD spot heights for all principal strata and features.

3.4.6 The fully illustrated archaeological evaluation report will include the geoarchaeological results; illustrating the location of the core samples / subsamples within the wider distribution of buried deposits in plan and in schematic section; identifying their potential for past landscape reconstruction.

3.5 Publication and Dissemination

3.5.1 A single digital (.pdf) copy will be deposited with the Cumbria HER, on the understanding that it will be made available as a public document after an appropriate period (not exceeding six months from the completion of fieldwork).

3.5.2 A concise summary of the results of the work will be submitted to the HER, and National Record for the Historic Environment ('NRHE'), as maintained by Historic England, via a standard OASIS archaeological report form.

3.6 Copyright

3.6.1 Copyright will remain with the archaeological fieldwork contractor under the Copyright, Designs and Patents Act 1988 with all rights reserved. An exclusive licence will be provided to the client, or their appointed

representative, for use of all project records and reports in all matters relating to the Proposed Development.

3.7 Archiving

3.7.1 The Site archive will contain all the data collected during the fieldwork, including records and finds, and all reports. The archaeological fieldwork contractor will ensure that the archive is quantified, ordered, indexed and internally consistent, and adequate resources will be provided to ensure that all records are checked. Archive consolidation will be undertaken immediately following the conclusion of fieldwork.

3.7.2 The archive will be compiled in accordance with the guidelines in the Historic England procedural document, Management of Research Projects in the Historical Environment ('MoRPHE')[10].

3.7.3 Any finds of archaeological interest should be appropriately conserved and deposited in an appropriate institution: any finds which cannot be so deposited should be fully analysed and published.

3.7.4 Finds and records will be assembled and curated by a single organisation, and be available for public consultation in a project archive repository compatible with other archaeological archives in the county, and adhering to guidelines and standards set out in the following:

- Archaeological Archive Forum, Archaeological Archives: a guide to best practice in creation, compilation transfer and curation[11];
- Chartered Institute for Archaeologists, Standard and Guidance for the Creation, Compilation, Transfer and Deposition of Archaeological Archives[12]; and
- Museums and Galleries Commission Standards in the Museum Care of Archaeological Collections[13];

[10] Historic England (2015). Management of Research Projects in the Historic Environment The MoRPHE Project Managers' Guide. Reissue date v1.2 01-04-2015 © Historic England

[11] Brown, D. H. (2011). Archaeological Archives: A guide to best practice in creation, compilation, transfer and curation. Second Edition. Archaeological Archive Forum.

[12] CIfA (2014) (last updated October 2020), Standard and guidance for the creation, compilation, transfer and deposition of archaeological archives

[13] Museums and Galleries Commission (1992). Standards in the Museum Care of Archaeological Collections

3.7.5 Copyright of the written archive will be vested in the project archive repository, which will be clearly identified in the report. The Site archive will be deposited within six months of issuing the evaluation report.

3.8 Ownership of Finds

3.8.1 Whereas ownership of any finds on the Site lies with the landowner, it is necessary that the landowner gives the necessary approvals, licences, and permissions to donate any finds recovered from the Site to the project archive repository, to enable that body to carry out its obligations to curate the finds, in perpetuity, as part of the archaeological archive from this site.

3.8.2 These approvals, licences and permissions shall be either confirmed in the agreement and contract regulating the archaeological works and/or confirmed by the completion of the relevant Deed of Transfer form.

3.8.3 Notwithstanding the above, subsequent arrangements may be made if required between the landowner, the Applicant, and the project archive repository for the conservation, display, provision of access to or loan of selected finds in or near their original location.

3.8.4 Specialist reports will be added as necessary, with acknowledgements, bibliography and contents included. The PCRG and SGRP A Standard for Pottery Studies in Archaeology[14] will be adhered to.

3.8.5 Any bulk soil samples taken for environmental purposes will be sieved and scanned (if appropriate).

[14] Historic England (2016). SGRP A Standard for Pottery Studies in Archaeology

4 Further Archaeological Mitigation (Stage 2)

4.1 Introduction

4.1.1 Depending on the outcome of the Stage 1 work investigations, this will determine whether any further mitigation is required. This section sets out what will be produced to mitigate effects on archaeological receptors, if required.

4.1.2 Further archaeological mitigation comprises three strategies based on varied archaeological potential around the Site and results of the Stage 1 investigations. These are:

- Non-intrusive design alternatives and/or exclusion zones to enable preservation 'in situ' should receptors of national importance be found during Stage 1.
- Archaeological watching brief in the parts of the Site highlighted in the Stage 1 investigations. This will monitor relevant ground works and record receptors exposed, in an area of likely low potential.
- Archaeological SMS in the parts of the Site highlighted in the Stage 1 investigations. This strategy will mitigate the impact where complex/deep archaeological receptors are not anticipated, without causing significant delays to the construction programme. If complex receptors are encountered as the topsoil is stripped back, sufficient time will be allowed for recording.

4.1.3 The strategies above or anything else deemed required by the Council's Archaeological Advisor would be agreed and established in an updated AMS/WSI, with design and construction works to occur in accordance with what is agreed.

4.1.4 If no remains of archaeological interest are found in Stage 1 then it will be agreed with the Council's Archaeological Advisor that no further archaeological or geo-archaeological fieldwork is necessary. If no further mitigation is required as a result of Stage 1, the CEMP would include a Discovery Strategy.

4.2 Research Aims and Objectives

4.2.1 The research objectives for any further work will be informed by the fieldwork undertaken in Stage 1 (see previous section of this document).

4.3 Design Mitigation

4.3.1 As the nature of the majority of the Proposed Development has a limited subsurface impact, and the layout and design options for elements with below-ground impacts are adaptable, should the Stage 1 evaluation identify archaeological receptors of national importance, the Applicant will provide sufficient design mitigation including, but not limited to, the use of above ground cables, a ballasted solution for solar arrays, no-dig access tracks, or other means to avoid any impact on archaeological deposits if required.

4.4 Archaeological Watching Brief

4.4.1 One method that may be required, based on Stage 1, as mitigation would be an archaeological watching brief. This section outlines what this would comprise.

4.4.2 It is possible that to mitigate the impact on possible archaeological receptors a strategy of preservation 'by record' is proposed in the form of an archaeological watching brief within the Area C may be required. Any areas of watching brief will be informed by the results of the geophysical survey showed lower potential for receptors and the additional knowledge gained as a result of the Stage 1 investigations.

4.4.3 An archaeological watching brief, as defined by CIfA guidelines, is *'…a formal programme of observation and investigation conducted during any operation carried out for non-archaeological reasons'*. The objective is *' …to establish and make available information about the archaeological resource existing on a site.'*

4.4.4 The guidelines further state that the purpose of a watching brief is:

'to allow… …the preservation by record of archaeological deposits, the presence and nature of which could not be established… …in advance of development or other potentially disruptive works' and *'to provide an opportunity, if needed, for the watching archaeologist to signal to all interested parties, before the destruction of the material in question, that an archaeological find has been made for which the resources allocated to the watching brief itself are not sufficient to support treatment to a satisfactory and proper standard'.*

4.4.5 The archaeological watching brief will involve the project archaeologist in attendance for those parts of the Principal Contractors' construction activities in the applicable parts of the Site to which the watching brief relates, to monitor those works and make records as may be possible without significantly interrupting the progress of the Principal Contractors' activities. This typically includes taking photographs, making sketches or written records, retrieval of finds, and taking levels on observations. The primary purpose of watching briefs will normally be the identification of the limits of features - size, depth, and alignment. Bulk finds will not be recovered in the watching brief areas, though finds of specific and unique intrinsic interest may be.

4.4.6 The project archaeologist will monitor relevant groundworks and direct the machining if necessary. In areas where a watching brief is required the removal of the topsoil should be undertaken using a flat bladed bucket and preferably in a single direction to enable archaeological receptors to be recorded. If possible, archaeological receptors are encountered, machine excavation will cease to allow the receptors to be investigated further.

4.4.7 The project archaeologist will inspect the surfaces revealed. Any archaeological structures or features revealed will be recorded in plan and section as appropriate. The Principal Contractor will allow the project archaeologist reasonable time and resources to undertake any inspection or recording required to an appropriate level, with the necessary conditions to facilitate the aims and objectives of the AMS.

4.4.8 If significant receptors are unexpectedly encountered the project archaeologist will agree what further mitigation measures may be required with the Council's Archaeological Advisor, and what measures would be feasible with the Applicant and Principal Contractor.

4.4.9 Standard archaeological recording methods comprise a written record (both description and interpretation with annotated sketches where appropriate), scaled drawings both in plan and in section, photographic record, and retrieval and annotation of archaeological finds and samples.

4.5 Archaeological Strip, Map and Sample

4.5.1 Archaeological SMS (also known as 'strip, map and record') is proposed within the areas where preliminary site strip is required by the Proposed Development, in areas that were open fields and undeveloped prior to the establishment of generating station infrastructure. This strategy is for greenfield sites, where archaeological receptors are potentially directly beneath the topsoil. In this case, in light of the lack of previous development, such receptors are expected directly below the topsoil.

4.5.2 SMS are usually reserved for larger areas to capture an overall plan of receptors, the different phases present, and the activity represented. It involves rapid archaeological excavation, recording and sampling and is suitable for large areas of impact where complex/deep archaeological receptors are not anticipated.

4.5.3 The strategy aims to record receptors without causing significant delays to the construction programme. If complex receptors are encountered, sufficient time will be allowed for recording, with topsoil stripping continuing elsewhere, to minimise the risk of delays.

4.6 Geoarchaeological Assessment and Analysis

4.6.1 Should any further geoarchaeological or paleoenvironmental assessment be deemed necessary following the Stage 1 fieldwork, the scope of this would be outlined in a subsequent WSI. While not anticipated due to the low quality of surviving peat with the identified areas of the Site, the nature of any further geoarchaeological or paleoenvironmental assessment will depend on the results of the Stage 1 fieldwork and consultation with the Council's Archaeological Advisor. If deemed necessary, any further geoarchaeological or paleoenvironmental assessment may be included within Post-Excavation Assessment ('PXA') work as detailed in section 5 of this AMS.

5 Publication and Dissemination (Stage 3)

5.1 Publication and Dissemination

5.1.1 The results of the archaeological fieldwork investigations would be reported on and published and disseminated at a level that is appropriate to the significance of the remains found and recorded.

5.1.2 The report on the fieldwork will form part of the project archive. It will include a statement of the quantity and perceived quality of the data in the Site archive, a statement of the archaeological potential of the data to answer the project research aims.

5.1.3 A single digital copy would be deposited with the Cumbria HER, on the understanding that it will be made available as a public document after an appropriate period (not exceeding six months from the completion of fieldwork).

5.1.4 A summary account of the fieldwork should be submitted to the editor of the local archaeological journal Archaeology Round-up and any relevant period journals (e.g. Medieval Archaeology, Proceedings of the Prehistoric Society) no later than 31st March of the year following completion of fieldwork.

5.1.5 Further publication may range from a 'grey literature' archaeological report to a short journal article in local and period-based archaeological journals as appropriate (as above), to a full monograph (in the event that the evaluation resulted in further excavation). The level of dissemination would be determined in consultation with the Council.

5.1.6 In all cases a concise summary of the results of the fieldwork would be submitted to the HER, and NRHE, as maintained by Historic England, via a standard archaeological report form.

6 Programme and Staffing

6.1 Timetable and Staffing

6.1.1 The archaeological mitigation strategy timetable is still to be decided but will most likely occur in the pre-commencement phase after the completion of further studies such a geotechnical survey that will inform a final layout to be approved under the detailed design DCO Requirement. This will, in turn, inform a final WSI to be agreed between the Applicant and Council via the project archaeologist. This will include exact details of time, areas, and numbers of staff to be involved.

6.1.2 If significant archaeological remains are revealed which cannot be satisfactorily sampled in the period initially defined, there should be sufficient flexibility within the programme and resources to enable the remains in question to be investigated to the satisfaction of the project archaeologist and the Council's Archaeological Advisor.

6.2 Project Team

6.2.1 The investigative work will be undertaken by an archaeological fieldwork contractor that is a Registered Organisation with the CIfA. CVs of the members of staff will be made available upon request.

6.2.2 Details of the Archaeological Contractor staff including post-excavation specialists will be provided once the fieldwork contractor has been appointed.

6.3 Post-Excavation Programming

6.3.1 The time required to complete the PXA Report and any further work, will very much depend on the volume of records generated during the mitigation work. The results of the previous work on the Site will be combined in the PXA programme.

Figures

Trial Trenches and targeting geophysical anomaly U2

Trial Trenches and pits targeting edge of peat deposits

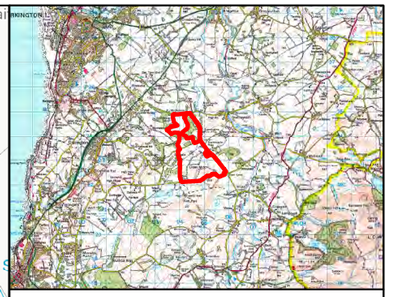
Trial Trenches and targeting geophysical anomalies U3, U4, and U5

Trial Trenches and targeting geophysical anomaly U6

Trial Trenches and targeting geophysical anomaly U1 and site of HER 16630

Trial Trench targeting building associated with the mine HER 45801

Trial Trenches and targeting geophysical anomalies U8 and U9



Legend

- Order Limits
- Trial Trench Location (30m x 1.8m)
- Solar Development Area

Project Title: Dean Moor Solar Farm

Client: FVS Dean Moor Limited

Title: DEAN MOOR SOLAR FARM DEVELOPMENT CONSENT ORDER Proposed Areas of Archaeological Investigation Trenches

Scale: 1:6,500 @ A3	Date: 21/02/2025
Drawn: TL	Checked: HC
Figure: 01	Rev: A

Stantec

0 125 250 375 500 m

Path: C:\Users\tletendrie\Documents\ArcGIS\Projects\332511471\332511471.aprx