

# Moor House Wind Farm, Barmpton, Darlington

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## Archaeological Evaluation

Planning Ref: 12/00751/FUL

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## **EXECUTIVE SUMMARY**

*This report details the results of a programme of evaluation trenching undertaken on land north-east of Barmpton, Darlington as a condition of planning permission in advance of the construction of a six-turbine wind farm. The trenching was undertaken in order to characterise the potential effects of the proposed development on the archaeological resource, with the trenches targeted to areas of ground impact.*

*Eight trenches of 30 m x 2 m were excavated by machine under archaeological supervision and any features were further investigated and excavated with hand tools. All recording was undertaken to standards as set out in the relevant Chartered Institute for Archaeologists guidance and in accordance with an agreed Written Scheme of Investigation (WSI), included as Appendix 2 below.*

*Anthropogenic features observed were restricted entirely to the truncated basal remains of plough furrows of a likely post-medieval or modern date. No other anthropogenic features, deposits or artefacts were identified.*

*The results of the evaluation indicate that the potential direct impact of the proposed development on the archaeological resource is likely to be negligible.*



## 1. INTRODUCTION

### 1.1 PROJECT BACKGROUND

This report has been prepared by Solstice Heritage on behalf of AECOM to outline the results of a programme of archaeological evaluation. The evaluation was undertaken to address a condition of planning permission in advance of the construction of a six-turbine wind farm on land north-east of the village of Barmpton, Darlington.

### 1.2 SITE LOCATION

The proposed development is situated over several fields totalling c. 312 ha between Barmpton and Little Stainton; to the west side of Bishopton Lane (Figure 1). The locations of the eight evaluation trenches are shown on Figure 2 below; given the distance between trenches due to the overall scale of the development site, coordinates are also given for the centre points of each trench end in Table 1 below.

Trench	Centrepoint of Trench End 1		Centrepoint of Trench End 2	
	E	N	E	N
1	432096.536	519554.255	432115.731	519531.199
2	432236.378	519211.203	432258.000	519232.000
3	432469.725	518990.530	432479.000	518962.000
4	432922.163	519284.593	432911.414	519256.585
5	432667.000	519618.000	432688.007	519596.583
6	432335.237	519993.950	432347.747	519966.683
7	432161.000	519366.269	432178.229	519341.710
8	433682.829	518884.615	433693.414	518856.544

Table 1 Coordinates of trench locations

### 1.3 AIMS AND OBJECTIVES

Archaeological field evaluation is defined 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 on land, inter-tidal zone or underwater. 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” (Cifa 2014, 2).

The overarching aim of the evaluation was:

- To assess, through a programme of intrusive trenching, the potential physical impact of the proposed development on the archaeological resource.

The objectives of the evaluation were:

- To determine (where possible) the nature, depth, extent, significance and date of buried archaeological remains that may be located within the proposed development area
- To determine the condition or state of preservation of any archaeological deposits or features encountered
- To determine the likely range, quality and quantity of artefactual and environmental evidence present
- To answer any relevant research questions
- To inform the scope of archaeological mitigation works if required

- To produce a report on the findings at the site.



Figure 1 Site Location





Figure 2 Site plan showing trench layout

## 2. POLICY AND GUIDANCE FRAMEWORK

### 2.1 LEGISLATION

National legislation that applies to the consideration of cultural heritage within development and the wider planning process is set out in Table 2 below.

Title	Key Points
Ancient Monuments and Archaeological Areas Act 1979 (amended by the National Heritage Act 1983 and 2002)	Scheduled Monuments, as defined under the Ancient Monuments and Archaeological Areas Act (1979), are sites that have been selected by a set of non-statutory criteria to be of national significance. Where scheduled sites are affected by development proposals there is a presumption in favour of their physical preservation. Any works, other than activities receiving class consent under The Ancient Monuments (Class Consents) Order 1981, as amended by The Ancient Monuments (Class Consents) Order 1984, which would have the effect of demolishing, destroying, damaging, removing, repairing, altering, adding to, flooding or covering-up a Scheduled Monument require consent from the Secretary of State for the Department of Culture, Media and Sport.
Planning (Listed Building and Conservation Areas) Act 1990	Buildings of national, regional or local historical and architectural importance are protected under the Planning (Listed Buildings and Conservation Areas) Act 1990. Buildings designated as 'Listed' are afforded protection from physical alteration or effects on their historical setting.
Hedgerows Regulations 1997	The Hedgerow Regulations (1997) include criteria by which hedgerows can be regarded as historically important (Schedule 1 Part III).

Table 2 Legislation relating to cultural heritage in planning

### 2.2 POLICY

#### 2.2.1 NATIONAL

The principal instrument of national planning policy within England is the National Planning Policy Framework (NPPF) (CLG 2012) which outlines the following in relation to cultural heritage within planning and development:

Paragraph	Key Points
7	Contributing to protecting and enhancing the historic environment is specifically noted as being a part of what constitutes 'sustainable development' – the “golden thread” which, when met, can trigger presumption in favour.
17	A core planning principle is to “conserve heritage assets in a manner appropriate to their significance, so that they can be enjoyed for the contribution to the quality of life of this and future generations”.
128	During the determination of applications “local planning authorities should require an applicant to describe the significance of any heritage assets affected, including any contribution made by their setting”. This information should be proportionate to the significance of the asset and only enough to “understand the potential impact of the proposal on their significance”.
129	Paragraph 129 identifies that Local planning authorities should identify and assess the particular significance of any heritage asset that may be affected by a proposal (including by development affecting the setting of a heritage asset) taking account of the available evidence and any necessary expertise.
132	It is noted that significance – the principal measure of inherent overall heritage worth – can be harmed or lost through development within its setting. Heritage assets are an irreplaceable resource and any adverse effects require “clear and convincing justification” relative to the significance of the asset in question.
135	At paragraph 135 it states that the effect of an application on the significance of a non-designated heritage asset should be taken into account in determining the application. In

	weighing applications that affect directly or indirectly non designated heritage assets, a balanced judgement will be required having regard to the scale of any harm or loss and the significance of the heritage asset.
139	At paragraph 139 it states that non-designated heritage assets of archaeological interest that are demonstrably of equivalent significance to scheduled monuments, should be considered subject to the policies for designated heritage assets.
141	In paragraph 141 amongst other matters it states that planning authorities should require developers to record and advance understanding of the significance of any heritage assets to be lost (wholly or in part) in a manner proportionate to their importance and the impact, and to make this evidence (and any archive generated) publicly accessible. However, the ability to record evidence of our past should not be a factor in deciding whether such loss should be permitted.

Table 3 Key passages of NPPF in reference to cultural heritage (archaeology)

### 2.2.2 LOCAL

Under planning law, the determination of an application must be made, in the first instance, with reference to the policies of the local development plan. For the proposed development this is represented by the *Darlington Local Development Framework Core Strategy* (DBC 2011) and saved policies from the *Borough of Darlington Local Plan* (DBC 1997, amended 2001). With specific reference to this work, the most relevant local planning policy is included below:

Policy	Key Points
E34	'Where important archaeological sites are known or thought to exist within a potential development site, the developer will be required to carry out an archaeological field evaluation and to submit the results of the evaluation as part of the planning application. Proposals which could affect archaeological remains of local importance will be permitted provided that they allow for the preservation in situ of the remains or, where the council decides that such preservation is not justified, that appropriate and satisfactory arrangements are made for the excavation and recording of the remains and the publication of the results'.

Table 4 Local planning policy

## 2.3 GUIDANCE

### 2.3.1 NATIONAL

During the evaluation and preparation of this document, the following guidance documents have been referred to, where relevant:

Document	Key Points
National Planning Practice Guidance (NPPG) (CLG 2014)	The Department for Communities and Local Government (CLG) released the guidance to NPPF in March 2014 in a 'live' online format which, it is intended can be amended and responsive to comment, particular as case law develops in relation to the implementation of NPPF. In relation to cultural heritage the NPPG follows previous guidance in wording and 'keys in' with, in particular, extant English Heritage guidance documents. The NPPG references many similar terms to the previous PPS5 Practice Guidance.
Conservation Principles, Policies and Guidance (HE 2008)	This sets out the guiding principles of conservation as seen by Historic England and also provides a terminology for assessment of significance upon which much that has followed is based.
Standard and Guidance for Archaeological Field Evaluation (CIFA 2014)	This document represents non-statutory industry best practice as set out by the Chartered Institute for Archaeologists. The evaluation work has been undertaken to these standards, as subscribed to by Solstice Heritage.

Table 5 National guidance documentation consulted

### 2.3.2 REGIONAL

Archaeological work within County Durham is often required to comply with *Yorkshire, The Humber and The North East: A Regional Statement of Good Practice for Archaeology in the Development Process* (SYAS 2011). The key principles in relation to the evaluation undertaken are summarised in the table below:

Principle	Key Points
2	Archaeological work should be undertaken by professionally qualified and appropriately experienced archaeologists and organisations.
3	All archaeological work will have a scope agreed in advance with the archaeological curator (this document), and any changes to the scope or methodology will be agreed in writing with the archaeological curator.
4	Monitoring of archaeological work by the local archaeological curator will be the norm, and reasonable notice of commencement of fieldwork will be given.
5	Archaeological work will be undertaken in accordance with the best practice guidance of English Heritage and the IfA.
6	The local Historic Environment Record should be consulted prior to the commencement of fieldwork.
7	Archaeological work in the planning process should have regard to national and local published research agenda (see section 4.2 below)
9	Reports and required data will be submitted to the archaeological curator and local HER in a timely fashion and in accordance with the agreed WSI.
10	Any comments made by the archaeological curator on reports and outputs will be made within a reasonable timetable of receipt.
11	Where appropriate significant archaeological findings will be submitted for publication in a suitable journal or journals.
12	Any archive produced will be deposited in an ordered and acceptable fashion within a reasonable timetable, the details of which will be given in the report.
13	During the course of archaeological work arrangements will be made, where possible, for disseminating information about the site to the general public.

Table 6 Key principles of the Regional Statement of Good Practice

### 3. ARCHAEOLOGICAL AND HISTORICAL BACKGROUND

#### 3.1 LANDSCAPE AND GEOLOGY

The proposed development site sits within the 'Tees Lowlands' National Character Area (NCA). This landscape is defined as 'a broad, open plain dominated by the meandering lower reaches of the River Tees and its tributaries' (NE 2014, 3). In comparison to the dynamic coastline and large Teesside conurbation, the area around the proposed development site is typically rural: 'agricultural land is intensively farmed, with large fields and sparse woodland, and a settlement pattern influenced both by the river and by past agricultural practices' (*ibid.* 3).

The Tees Lowlands, as with the Vale of Mowbray to the south, sits on a bedrock geology which straddles the divide between the Carboniferous, Permian and Triassic periods. The proposed development area for the most part sits on the uppermost Permian limestone of the Seaham Formation, with parts of the site located over the mudstone of the Roxby and Edlington formations (BGS 2016).

In terms of determinant factors on the archaeological remains of the site, however, the more dominant geological influence is that of the overlying superficial deposits. All of the trenches sit on glacially derived till and are in areas of noticeably poor drainage, given the clay-dominated substrata.

Online mapping provided by the UK Soil Observatory (2016) characterises the soils across the development site as 'slowly permeable, seasonally wet, slightly acid but base-rich loamy and clayey soils'.

#### 3.2 PREVIOUS WORK

The archaeological evaluation follows a desk-based assessment that was undertaken by ASWYAS in 2008 (ASWYAS 2008) which supported the ES chapter (Banks Group 2015) submitted for planning. The desk-based assessment identified evidence for early prehistoric activity within the study area, consisting of large numbers of flint implements discovered near Newton Ketton and Catkill Lane, dating in range from the Mesolithic to the Bronze Age. Aerial photographic analysis has also identified a number of cropmark enclosures and features that may represent late Iron Age and/or Roman period activity within the study area. It is probable that the site has remained in agricultural use since at least the medieval period; earthwork remains of medieval ridge and furrow survive to the north of Moor House and have been recorded as cropmarks on the northern side of the proposed development site. Other activities, such as brick making, may also have been carried out within the proposed development site on a small scale. The existing landscape of the study area is largely a product of 18<sup>th</sup>- and 19<sup>th</sup>-century enclosure, and the farmstead at Moor House may date to this time, although only two small 19<sup>th</sup>-century buildings now survive on the site.

A first stage of evaluation at the site has involved geophysical survey (ASWYAS 2009). This survey did not reveal any specific or well-defined potential archaeological remains present within the areas of impact, or within the wider site area.

#### 3.3 POTENTIAL SIGNIFICANCE

Based upon the desk-based assessment, an Environmental Statement accompanying the planning application summarised the potential significance of the proposed development site. It highlighted the known remains of ridge and furrow as being of low significance and therefore sensitivity. There is a low potential for archaeological remains of other periods – from the late prehistoric to the post-medieval period – to survive within the site.

Given that the trenches were located so as to target areas of potential impact rather than potential or known archaeological features, there were no specific research agenda priority areas upon which this work focused.



## 4. METHODOLOGY

### 4.1 FIELDWORK

The eight trenches were laid out in the locations agreed in the Written Scheme of Investigation (WSI) (AECOM 2016) and excavations were undertaken and completed between the 17<sup>th</sup> and the 19<sup>th</sup> August 2016. The work was undertaken by Chris Scott and Jim Brightman of Solstice Heritage.

All mechanical excavation (through overburden and non-anthropogenic levelling layers) was undertaken with a back-acting, toothless ditching bucket under constant supervision of a suitably qualified archaeologist. The trenches consisted of 8 no. 30 m x 2 m trenches.

Where archaeological features and deposits were encountered, these were recorded to the standards outlined in the agreed WSI and the relevant Cifa Standard and Guidance. All features and deposits were recorded on *pro forma* record sheets, drawn in plan and section at a suitable scale, and photographed. In addition to any specific features or deposits, a general record of the trench stratigraphy was made on *pro forma* record sheets, a plan and section of each trench was made at a suitable scale and photography was completed. Detailed methodology was outlined in the agreed WSI, and this has been included as Appendix 3 below.

Constraints on the fieldwork were minimal. It is not considered that any particular factor affected the value or diminished the accuracy of the results of the evaluation.

### 4.2 POST-FIELDWORK

The primary site archive comprises site records, black and white photographic prints and digital photography on CD. This has been used to compile this report, all of which will be deposited with a local repository museum in digital and paper format as the principal record of the evaluation work. The physical archive comprises primary field records (no artefactual material was recovered), and advice will be sought on the detailed requirements for retention and deposition. An OASIS record has been completed for this work, including a digital version of this report, the reference for which is **solstice1-261191**. Deposition of the physical archive will be undertaken following acceptance of the final project report.

### 4.3 CHRONOLOGY

Where chronological and archaeological periods are referred to in the text, the relevant date ranges are broadly defined in calendar years as follows:

- Palaeolithic (Old Stone Age): 1 million – 12,000 BP (Before present)
- Mesolithic (Middle Stone Age): 10000 – 4000 BC
- Neolithic (New Stone Age): 4000 – 2400 BC
- Chalcolithic/Beaker Period: 2400 – 2000 BC
- Bronze Age: 2000 – 700 BC
- Iron Age: 700 BC – AD 70
- Roman/Romano-British: AD 70 – 410
- Anglo-Saxon/Anglo-Scandinavian: AD 410 – 1066
- Medieval: AD 1066 – 1540
- Post-medieval: AD 1540 – 1750
- Industrial: AD 1750 – 1900
- Modern: AD 1900 – Present

#### **4.4 QUALITY ASSURANCE**

Solstice Heritage commits all fieldwork and post-fieldwork assessment, analysis, reporting and dissemination to be undertaken to the standards stipulated by the Chartered Institute for Archaeologists (Cifa) as is outlined in Appendix 2 below. The project has been managed by Chris Scott, who is a fully accredited member of the Cifa (MCifa level).

#### **4.5 ASSUMPTIONS AND LIMITATIONS**

Data and information obtained and consulted in the compilation of this report has been derived from a number of secondary sources. Where it has not been practicable to verify the accuracy of secondary information, its accuracy has been assumed in good faith. All statements and opinions arising from the works undertaken are provided in good faith and compiled according to professional standards. No responsibility can be accepted by the author/s of this report for any errors of fact or opinion resulting from data supplied by any third party, or for loss or other consequence arising from decisions or actions made upon the basis of facts or opinions expressed in any such report(s), howsoever such facts and opinions may have been derived.

#### **4.6 COPYRIGHT**

Solstice Heritage will retain the copyright of all documentary and photographic material under the Copyright, Designs and Patent Act (1988).





## 5. RESULTS

### 5.1 TRENCH 1

Trench 1 was excavated c. 350 m to the west of the agricultural buildings at Moor House Farm (Figure 3). The trench was excavated through a mid-brown clayey topsoil (001), with an average thickness of 0.36 m. Below the topsoil, a more complex series of natural deposits was encountered than was noted in any of the other trenches excavated. The dominant substrate beneath the topsoil was characterised as a series of distinct deposits of flow till laid down at the melting edge of a glacier. The deposits include a sandy lens towards the high point of the trench, a characteristic occasionally seen in flow till (Bennett and Glasser 1996, 183). The ice-edge character of the substrata was confirmed by the presence of a small meltwater channel (F004) which cut the underlying clays and contained a sandy, fluviually derived fill.



Figure 3 Trench 1 after excavation facing south-east (scale = 1 m and 2 m)

## 5.2 TRENCH 2

Trench 2 was excavated c. 350 m to the south-west of the agricultural buildings at Moor House Farm (Figure 4). The trench was excavated through a mid-brown clayey topsoil (001), with an average depth of 0.35 m. Below the topsoil the mottled red-grey fine clay till substrate (002) was encountered. No anthropogenic deposits, finds or features of any kind were noted within the trench.



Figure 4 Trench 2 after excavation facing south-west (scale = 1 m and 2 m)

Figure 5 Plan and section of Trench 1

Figure 6 Plan and section of Trench 2

### 5.3 TRENCH 3

Trench 3 was excavated c. 500m to the south of the agricultural buildings at Moor House Farm (Figure 7). The trench measured 30 m x 2 m in plan and was excavated through a mid-brown clayey topsoil (001) of an average 0.41 m thickness, identified as the same or similar to that in Trench 2.

Below the topsoil the mottled red-orange fine clay till substrate (002) was encountered. Some basal remains of E-W aligned plough furrows were present within the substrate. No other anthropogenic deposits, finds or features of any kind were noted within the trench.



Figure 7 Trench 3 after excavation facing south-east (scale = 1 m and 2 m)

### 5.4 TRENCH 4

Trench 4 was excavated c. 450 m to the south-east of the agricultural buildings at Moor House Farm (Figure 8). The trench measured 30 m x 2 m in plan and was excavated through a mid-brown clayey

topsoil (001) of an average 0.46 m thickness, identified as the same or similar to that in the other trenches.

Below the topsoil the mottled red-brown fine clay till substrate (002) was encountered. No anthropogenic deposits, finds or features of any kind were noted within the trench.



Figure 8 Trench 4 after excavation facing south-west (scale = 1 m and 2 m)

Figure 9 Plan and section of Trench 3

Figure 10 Plan and section of Trench 4



## 5.5 TRENCH 5

Trench 5 was excavated c. 175 m to the north-east of the agricultural buildings at Moor House Farm (Figure 11). The trench measured 30 m x 2 m in plan and was excavated through a mid-brown clayey topsoil (001) of an average 0.37 m thickness, identified as the same or similar to that in the other trenches.

Below the topsoil the mottled red-brown fine clay till substrate (002) was encountered. No anthropogenic deposits, finds or features of any kind were noted within the trench.



Figure 11 Trench 5 after excavation facing west (scale = 1 m and 2 m)

## 5.6 TRENCH 6

Trench 6 was excavated c. 450 m to the north-west of the agricultural buildings at Moor House Farm (Figure 12) The trench measured 30 m x 2 m in plan and was excavated through a mid-brown clayey topsoil (001) of an average 0.32 m thickness, identified as the same or similar to that in the other trenches.

Below the topsoil the mottled red-orange fine clay till substrate (002) was encountered. No anthropogenic deposits, finds or features of any kind were noted within the trench.



Figure 12 Trench 6 after excavation facing north-west (scale = 1 m and 2 m)

Figure 13 Plan and sections of Trench 5

Figure 14 Plan and section of Trench 6

## 5.7 TRENCH 7

Trench 7 was excavated c. 325 m to the south-west of the agricultural buildings at Moor House Farm (Figure 15). The trench measured 30 m x 2 m in plan and was excavated through a mid-brown clayey topsoil (001) of an average 0.39 m thickness, identified as the same or similar to that in the other trenches.

Below the topsoil the mottled red-orange fine clay till substrate (002) was encountered. Within the substrate were truncated remains of plough scars running in alignment with the field's southern boundary. No other anthropogenic deposits, finds or features of any kind were noted within the trench.



Figure 15 Trench 7 after excavation facing north-west (scale = 1 m and 2 m)

## 5.8 TRENCH 8

Trench 8 was excavated c. 250 m to the north-east of the agricultural buildings at Dales House Farm (Figure 16). The trench measured 30 m x 2 m in plan and was excavated through a mid-brown clayey topsoil (001) of an average 0.39 m thickness, identified as the same or similar to that in the other trenches.

Below the topsoil the mottled red fine clay till substrate (002) was encountered. No anthropogenic deposits, finds or features of any kind were noted within the trench.



Figure 16 Trench 8 after excavation facing south-east (scale = 1 m and 2 m)

Figure 17 Plan and section of Trench 7

Figure 18 Plan and section of Trench 8



## 6. DISCUSSION

### 6.1 GEOLOGY AND GEOMORPHOLOGY

In addition to characterising the principal underlying substrate as being typical of the local area and in line with the extant BGS mapping (lodgement till), the evaluation identified an area of more unusual superficial geological deposits in Trench 1. In this locale, a series of relatively distinct flow tills were identified – including a sandy lens – cut by a later meltwater channel, with the whole sequence representing deposition and reworking of late Devensian/early Holocene ice-margin features.

### 6.2 POST-MEDIEVAL TO MODERN

No anthropogenic features, deposits or artefacts were recovered through the evaluation trenching other than the truncated remains of plough furrows. Where encountered, such furrows were shallow, narrowly spaced and contained no material culture. It is considered that the features represent post-medieval or even modern agricultural practices.



## **7. CONCLUSIONS**

### **7.1 CONFIDENCE, CONSTRAINTS AND LIMITATIONS**

Constraints on the fieldwork were minimal. It is not considered that any particular factor affected the value or diminished the accuracy of the results of the evaluation.

### **7.2 RESEARCH POTENTIAL**

No features, deposits or artefacts were recovered with which to address any research agenda questions or priorities.

### **7.3 POTENTIAL IMPACTS ON THE ARCHAEOLOGICAL RESOURCE**

The results of the evaluation indicate that the potential direct impact of the proposed development on the archaeological resource is likely to be negligible.

### **7.4 PROJECT ARCHIVE**

The physical and digital archive for this project is currently held by Solstice Heritage pending acceptance of the final evaluation report. Following this, the archive will be prepared and deposited in line with the agreed WSI and Cifa Standards and Guidance.

## 8. SOURCES

### 8.1 BIBLIOGRAPHY

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## APPENDIX 1 – CONTEXT REGISTER

Context Number	Type	Description	Probable Date
001	Deposit	Topsoil in Trenches	Post-medieval to Modern
002	Deposit	Natural diamicton (lodgement till) substrate in Trenches 2-8	Devensian
003	Deposit	Fill of meltwater channel in Trench 1	Devensian/Holocene
004	Cut	Meltwater channel in Trench 1	Devensian/Holocene
005	Deposit	Interbedded glacial clays in Trench 1	Devensian/Holocene
006	Deposit	Weathered bedrock in Trench 1	Permian

Table 7 Context Register

## APPENDIX 2 – WRITTEN SCHEME OF INVESTIGATION

