

# Springwell Solar Farm

## Outline Written Scheme of Investigation (oWSI)

[Tracked]

EN010149/APP/7.15 2

Deadline 3

August 2025 ~~November 2024~~

Springwell Energyfarm Ltd

APFP Regulation 5(2)(q)

Planning Act 2008

Infrastructure Planning

(Applications: Prescribed Forms  
and Procedure) Regulations 2009

## Table of Contents

<b>1. Introduction .....</b>	<b>4</b>
Purpose of document .....	4
<b>2. DESCRIPTION OF THE SITE .....</b>	<b>7</b>
<b>3. ARCHAEOLOGICAL AND HISTORICAL BACKGROUND .....</b>	<b>9</b>
Designated heritage assets .....	9
Non-designated heritage assets .....	9
<b>4. AIMS AND OBJECTIVES OF THE EVALUATION .....</b>	<b>31</b>
<b>5. OUTLINE SCOPE OF WORK .....</b>	<b>34</b>
Roles and Responsibilities .....	34
Further evaluation .....	35
Updates to Archaeological Mitigation Strategy .....	39
<b>6. REFERENCES .....</b>	<b>55</b>
Task Specific or Location Specific WSI (TSWSIs / LSWSIs) .....	62
Programme .....	62
Access and Setting Out .....	63
Machine and Hand Excavation .....	63
Recording and Sampling .....	64
WWII Crash Sites .....	64
Health, Safety and Environment .....	64
Artefacts .....	65
Environmental remains .....	65
Treasure .....	66
Human Remains .....	66
Post-Excavation Analysis .....	67
Reporting (academic and public dissemination) .....	67
Archive Preparation and Deposition .....	67
Selection strategy .....	68
Digital archive and Data Management .....	68
Monitoring .....	69
<b>Appendix 3: General requirements for reporting and archiving .....</b>	<b>70</b>
Archive Preparation and Deposition .....	70
<b>3. Description of the Proposed Development .....</b>	<b>77</b>



<b>The Development Consent Order for Springwell Solar Farm comprises .....</b>	<b>77</b>
<b>4. Archaeological and Historical Background.....</b>	<b>77</b>
<b>5. Overarching Aim .....</b>	<b>77</b>
<b>6. Mitigation Strategies .....</b>	<b>7877</b>
<b>7. Control of works.....</b>	<b>8382</b>
<b>Figure 2 – Currently known archaeological baseline.....</b>	<b>31</b>
<b>1. Introduction .....</b>	<b>3</b>
<b>2. DESCRIPTION OF THE SITE .....</b>	<b>5</b>
<b>3. ARCHAEOLOGICAL AND HISTORICAL BACKGROUND .....</b>	<b>7</b>
Geophysical survey .....	7
Trial trenching .....	8
<b>4. OUTLINE SCOPE OF WORK .....</b>	<b>10</b>
Roles and Responsibilities .....	10
Further archaeological trial trenching .....	10
Archaeological mitigation .....	11
<b>5. STRATEGY FOR DEFINING TRIAL TRENCHING AREAS .....</b>	<b>13</b>
<b>6. ARCHAEOLOGICAL MITIGATION .....</b>	<b>14</b>
Preservation in situ .....	15
Archaeological excavation .....	17
<b>7. GENERAL METHODOLOGIES .....</b>	<b>19</b>
Site Specific WSIs .....	19
Programme .....	19
Access and Setting Out .....	20
Machine and Hand Excavation .....	20
Recording and Sampling .....	21
WWII Crash Sites .....	21
Health, Safety and Environment .....	21
Artefacts .....	22
Environmental remains .....	22
Treasure .....	23
Human Remains .....	23
Post-Excavation Analysis .....	24
Reporting (academic and public dissemination) .....	24
Archive Preparation and Deposition .....	24

<b>Selection strategy .....</b>	<b>25</b>
<b>Digital archive and Data Management .....</b>	<b>26</b>
<b>Monitoring.....</b>	<b>26</b>
<b>8. REFERENCES .....</b>	<b>27</b>
<b>Figure 1 – Order Limits .....</b>	<b>29</b>
<b>Figure 2 – Known Heritage Assets in Springwell East .....</b>	<b>31</b>
<b>Figure 3 – Known Heritage Assets in Springwell Central.....</b>	<b>33</b>
<b>Figure 4 – Known Heritage Assets in Springwell West.....</b>	<b>35</b>
<b>Figure 5 – Areas of Previous Trenching.....</b>	<b>37</b>
<b>Figure 6 – Outline Mitigation Areas .....</b>	<b>39</b>
<b>Figure 7 – Outline Areas for Further Trenching.....</b>	<b>41</b>

# 1. Introduction

## Introduction

### 1.1. Purpose of document

- 1.1. ~~This document~~This document is an outline Written Scheme of Investigation (oWSI) produced ~~by Headland Archaeology~~ on behalf of Springwell Energyfarm Ltd (~~hereafter “the Client”~~) for the Springwell Solar Farm (~~hereafter “the~~ Proposed Development Scheme) located in North Kesteven, Lincolnshire (Figure 1).

~~1.2.1.1. This oWSI presents the framework for a programme of archaeological evaluation to be carried out following consent of the Development Consent Order (DCO) (henceforth “post-consent evaluation”).~~ Desk-based assessment, aerial investigation and mapping, geophysical survey and targeted trial trenching (comprising a 2% sample of the option areas for the Project Substation, Battery Energy Storage System and Collector Compounds) have been carried out to inform the baseline of an ES Chapter in support of a Development Consent Order (DCO) application under the Nationally Significant Infrastructure Projects (NSIP) process.

~~1.3. This document sets out the outline scope of a proposed programme of further trial trenching evaluation for the Scheme to inform the detailed design and which will be secured as a DCO Requirement.~~

~~1.4. This document sets out the aims and objectives of the trial trenching, as well as the methodologies and standards to be used in undertaking the proposed works. It also sets out the potential for further archaeological investigations in advance of or during construction and the options for preservation in situ.~~

~~1.5.1.2.~~ The oWSI document seeks to conform with current best practice, and to the guidance outlined in the following documents:

- Management of Research Projects in the Historic Environment (MoRPHE) [Ref. 1]
- Chartered Institute for Archaeologists (CIfA) Standards for Excavation [Ref. 2] Field Evaluation [Ref. 3] and Archaeological Monitoring and Recording [Ref. 4]
- CIfA Guidance for Excavation [Ref. 5], Field Evaluation [Ref. 6] and Archaeological Monitoring and Recording [Ref. 7] ; and
- The Lincolnshire Archaeology Handbook [Ref. 8]

~~1.6.1.3. It~~ This oWSI sets out a proportionate approach to evaluation following engagement Lincolnshire County Council’s archaeological advisor and Historic England in line with:

- CIfA Standards and Guidance [Ref. 2], [Ref. 3], [Ref.4], [Ref. 5], [Ref. 6], [Ref. 7]
- The National Planning Policy Framework (NPPF) [Ref. 89]

- the Overarching National Policy Statement for Energy EN-1 (NPS EN-1) [Ref. 910]
- the National Policy Statement for Renewable Energy Infrastructure (NPS EN-3) [Ref. 1011]

4.7.1.4. This document should be read alongside the **Outline Construction Environment Management Plan (oCEMP) [EN010149/APP/7.7]**, which also sets out various measures that will ensure any potential effects on buried archaeology will be appropriately mitigated.

1.5. A professional, appropriately accredited and competent ~~a~~Archaeological ~~e~~Contractor will be appointed to deliver the work described within this ~~Outline~~ oWSI.

1.6. This document sets out the outline scope of a proposed programme of further ~~evaluation for the Proposed Development Scheme to inform the detailed design and which will be secured as a DCO Requirement.~~

1.7. As agreed with Historic England and the Lincolnshire County Council archaeological advisor, it is not intended that the further evaluation seek to identify all archaeological features. Instead, a “question-led” approach will be followed in order to ensure that intrusion to archaeological remains is proportionate and only as much as is needed to gather sufficient information to inform the detailed design and mitigation.

1.8. This document therefore sets out a synthesis of the previous archaeological investigations of the Order Limits, the aims and objectives of the post-consent evaluation, as well as the methodologies and standards to be used in undertaking the proposed works.

1.9. This document also sets out Key Questions; the answers to which will guide the detailed design and mitigation for the –Proposed Development. **Appendix 4: Draft Archaeological Mitigation Strategy (AMS)** sets out a draft mitigation strategy based on the current understanding of the archaeological resource, the parameters of the Proposed Development and the commitments set out in the Design Commitments [EN010149/APP/7.4]. The draft mitigation strategy includes the currently understood areas for archaeological mitigation by preservation in situ, ~~and~~ and the areas and general methodologies for archaeological mitigation by recording. The draft AMS will be secured through and will be subject to refinement following the completion of the further evaluation at which point it will become the final Archaeological Mitigation Strategy. This will be secured through a DCO Requirement for agreement of the final Archaeological Mitigation Strategy with Lincolnshire County Council and Historic England.

1.10. The purpose of this oWSI is to provide a framework for the further evaluation, the full scope of which will be detailed in Task Specific Written Schemes of Investigation (TSWSIs) or Location Specific Written Schemes of Investigation (LSWSIs) as appropriate for each phase of evaluation. Noting that ~~elements of the detailed design of the Proposed Development Scheme are~~ not yet finalised; in particular, elements such as trackways and routing of internal cabling will be subject to detailed design ~~further refinement post-consent and are currently presented as broad corridors.~~ Preferred options within the corridors for these may emerge during the post-consent phase of the Proposed Development based on

other environmental or engineering considerations, and therefore the scope of evaluation may need to be refined accordingly at that time through the TSWSI / LSWSI. adjust to these refined parameters.

1.1. The phased programme of archaeological evaluation and TSWSIs / LSWSIs which will be produced for each stage of evaluation and part of the development will ensure compliance with DCO Requirement 11:

**“Archaeology**

11.—(1) No part of the authorised development may commence until for that part:

(a) a written scheme of investigation for that part has been submitted to and approved by the relevant planning authority in consultation with Historic England;

(b) any archaeological evaluation as required pursuant to the approved written scheme of investigation to inform the approach to mitigation has been carried out in accordance with the approved written scheme of investigation;

(c) updates are made to the draft archaeological mitigation strategy to account for the results of the additional archaeological evaluation carried out and such updated draft archaeological mitigation strategy has been submitted to and approved by the relevant planning authority in consultation with Historic England (at which time, such document shall become the archaeological mitigation strategy);

(2) The written scheme of investigation under sub-paragraph (1)(a) must be substantially in accordance with the outline written scheme of investigation.

(3) For the purposes of sub-paragraph (1), “commence” includes parts (a) to (h) inclusive of the permitted preliminary works.

(4) Any approved written scheme of investigation or archaeological mitigation strategy must be implemented as approved and maintained throughout the construction of the authorised development and any archaeological works or watching brief must be carried out in accordance with the approved scheme.”

1.1.1.2.

## DESCRIPTION OF THE SITE

~~4.2.1.3.~~ The 1,280ha area ("the Site") is located c.1 km to the south of the village of Metherringham in the north and runs south-west to the village of Scopwick and over the A15. In total the Site measures c.19.9 km from its north-eastern tip at NGR TF 08641 60671 to the south-western end point at NGR TF 02905 52346. The Site sits entirely within Lincolnshire, 15 km south of Lincoln (NGR TF 05470 56654), post code LN4 3JE (Figure 1).

~~4.3.1.4.~~ The Site is divided into three areas: Springwell East, Springwell Central and Springwell West, all of which are largely agricultural fields. The area is generally flat with a slight incline to the south-west; Springwell West lies approximately 48m above Ordnance datum (AOD), Springwell Central lies approximately 21m AOD and Springwell East lies approximately 19m AOD.

~~4.4.1.5.~~ Springwell West is bounded to the north, west, south and east by agricultural fields it is traversed north-south by the A15 road. The north is also bounded by RAF Digby. To the south-west of the site sits Brauncewell Quarry, an active limestone, sand and gravel quarry. Surrounded by Springwell West is the curtilage of Slate House, which is not included within the Site.

~~4.5.1.6.~~ Springwell Central is bounded on all sides by agricultural fields but encircles the village of Scopwick. This area also contains the farm of Rowston Top and a water treatment plant which are excluded from the Site.

~~4.6.1.7.~~ Springwell East is also bounded on all sides by agricultural fields but also by the villages of Blankney to the north and Scopwick and Kirkby Green to the south, as well as the Peterborough to Lincoln trainline to the east. There are numerous parts of this area which have been excluded, including woodland and Scopwick Low Field Farm.

~~4.7.1.8.~~ There are a number of areas of woodland within the Site along with numerous hedges and other field boundaries. There is one watercourse that runs through the Site in Springwell Central to the water treatment plant. Scopwick Beck is the closest other watercourse that runs c.175m south of Springwell East.

~~4.8.1.9.~~ At a wider topographic scale, the Site is located on relatively flat ground that is largely of agricultural use, with small nucleated villages dotted across the landscape.

~~4.9.1.10.~~ The underlying solid geology is recorded by the British Geological Survey (BGS). There are 8 different bedrock geologies listed within the Site: Oxford Clay Formation, Kellaways Formation, Cornbrash Formation, Blisworth Clay Formation, Blisworth Limestone Formation, Rutland Formation, Upper Lincolnshire Limestone Member, Lower Lincolnshire Limestone Member. Superficial deposits are recorded in the south-western corner of the Site. These are listed as Sleaford Sand and Gravel – sand and gravel and Head – clay, silt, sand and gravel. Both are sedimentary superficial deposits formed up to 2.588 million years ago, during the Quaternary period.

~~4.10.1.11.~~ There are 13 boreholes recorded by the BGS within or in close proximity to the Site. 12 of these have publicly accessible records which show a stratigraphy of soil and gravel overlaying blue rock and limestone in places. A deposit model for the ~~s~~Site ~~is in preparation~~ was prepared utilising information from ground investigations carried out for the ~~–~~ Proposed Development (ES

**Volume 3, Appendix 9.2 Geoarchaeological Deposit Modelling Report  
[EN010149/APP/6.3]). Scheme.**

## ARCHAEOLOGICAL AND HISTORICAL BACKGROUND

~~4.11.1.12.~~ A full description of the archaeological and historical background to the ~~site~~ Site is presented in the **Desk-Based Assessment (ES Volume 3, Appendix 9.1 [EN010149/APP/6.3])**. ~~The Environmental Statement was further supported by the Geoarchaeological Deposit Modelling Report (ES Volume 3, Appendix 9.2 [EN010149/APP/6.3]), Aerial Investigation and Mapping Report (ES Volume 3, Appendix 9.3 [EN010149/APP/6.3]), Geophysical Survey Report (ES Volume 3, Appendix 9.4 [EN010149/APP/6.3]) and Trial Trenching Report (ES Volume 3, Appendix 9.5 [EN010149/APP/6.3]).~~ The known archaeological heritage assets within the Site are shown on Figures 2-4.

### Designated heritage assets

~~4.12.1.13.~~ In summary there are three designated heritage assets, ~~71 previously recorded non-designated heritage assets and eight newly identified non-designated heritage assets~~ within the Site.

~~4.13.1.14.~~ The Brauncwell medieval village scheduled monument (NHLE 1018397) is partly within the Site at the southern edge where a permissive path is proposed. It is of high importance for its archaeological interest.

~~4.14.1.15.~~ The Blankney Conservation Area includes a portion around St Oswald's Church that extends south of Oswald's Lane into the Site. The Site overlaps with the mapped extent of Scopwick Conservation Area, however this is considered to be due to differences in the map scale at which this was digitised as ~~it~~ the Conservation Area boundary follows property boundaries for buildings which are not part of the Site.

~~4.15.1.16.~~ The Grade II listed milepost on the A15 (NHLE1061824) lies within the Site and is of medium importance for its architectural and historic interest. It appears to have been relocated at some point in the past as the listed building description notes that the inscriptions detailing the distances between Sleaford and Lincoln are on the opposite sides of the milepost to the corresponding directions.

### Non-designated heritage assets

~~4.16.1.17.~~ ~~With the exception of two~~ There are two World War II era aeroplane crash sites (Avro Lancaster crash site (Lincolnshire County Council HER "LHER" Ref: MLI25416) and Hawker Hurricane crash site (LHER Ref: MLI25417)), ~~within Field By22, which b~~Being protected by legislation, ~~these are considered to be~~ are of high importance, ~~although they are non-designated heritage assets, the non-designated heritage assets within the Site are generally considered to be of low importance.~~

~~4.17.1.18.~~ The Historic Environment Record (HER) contained information on ~~71 previously recorded heritage assets within the Site, the Desk-Based Assessment (ES Volume 3, Appendix 9.1 [EN010149/APP/6.3]) and aerial~~ The aerial investigation and mapping (ES Volume 3, Appendix 9.3 [EN010149/APP/6.3]) identified eight further heritage assets. ~~The results of the geophysical survey (ES~~



Volume 3, Appendix 9.4 [EN010149/APP/6.3]) greatly expanded on the results of the desk-top studies, two previously unrecorded heritage assets within the Site. These were a possible barrow and an undated square enclosure. Within the areas proposed for the Project Substation, Battery Energy Storage System and Collector Compounds, trial trenching was carried out which corroborated the results of the geophysical survey (ES Volume 3, Appendix 9.5 [EN010149/APP/6.3]).

~~1.18. Geophysical survey~~

~~1.19. The results of the survey largely corroborated, but also greatly expanded, the results of the Desk-Based Assessment. It is evident from the survey results and information contained within the LHER, that there were significant levels of prehistoric activity within different areas of the geophysical survey area (GSA) from at least the Bronze Age, likely continuing through into the Iron Age, before the two Roman roads that theoretically bisect the site were constructed.~~

~~1.20. The main findings of the survey indicate several foci of archaeological activity ranging from ring ditches and likely round barrows, pit alignments and extended series and/or concentrations of ditches, enclosures and pit-like anomalies. These are located:~~

~~1.21. at the southern extent of the GSA near Brauncewell Quarry;~~

~~1.22. to the north and south of Hall Farm (Bloxholm);~~

~~1.23. surrounding RAF Digby to the south, east and north-east;~~

~~1.24. north of Ashby de la Launde and Scopwick and~~

~~1.25. west of Brickyard Farm, where the archaeological potential must be considered very high.~~

~~1.26. The only findings of note from the subsequent survey for the cable route option were two possible pit alignments, one located adjacent to the A15 and the other south-west of RAF Digby which marked a continuation of a much longer pit alignment recorded in the original survey.~~

~~1.27. A regular gridded pattern of weakly magnetically enhanced, linear trend anomalies aligned north-west/south-east was identified in almost every field west of the B1191. Subsequent trial trenching confirmed that these were geological features.~~

~~1.28. Elsewhere, magnetic anomalies indicated:~~

~~1.29. former ponds, buildings, pits and extraction sites;~~

~~1.30. agricultural trends including ridge and furrow and modern cultivation patterns;~~

~~1.31. former boundaries;~~

~~1.32. These are considered to represent heritage assets of at most low importance and in some cases of negligible importance. Other anomalies widely recorded across the GSA are interpreted as field drains, buried services and natural/geological variations.~~

~~1.33. Trial trenching~~

1.34. The work was undertaken to determine the presence, character and condition of previously identified or indicated features and the and potential for further sub-surface archaeological remains.

1.19. A total of 196 trenches were excavated across four separate locations within the Site (Figure 5). The trenches equated to around 2% of the sampled areas. The majority of features were recorded as ditches and pits, with periods from prehistoric to post medieval represented. The main archaeological features identified were a pit alignment recorded in Area 7 of probable later prehistoric date, a series of ditches, post holes and pits excavated in Area 4 which appear to represent part of an Iron Age or Romano-British settlement and a series of probable Roman ditches in Area 3 which formed the edge of a settlement identified by the geophysical survey to the west. Post medieval field boundaries were identified in all areas trenched. In Area 4 finds likely to be associated with an aircraft crash on 11th March 1945 were recovered. Figure 2 combines the data from all previous desk-based, non-intrusive and intrusive evaluation carried out for the Proposed Development. Scheme. Table 1 details the potential for each field.

1.20. The archaeological potential varies within the Order Limits, with areas of known archaeological potential evident in the existing data and areas where the existing data and professional judgement indicate that high sensitivity features may not be detectable except by intrusive means. The archaeological potential of the Order Limits is summarised below by area.

## Springwell East

1.21. Six discrete areas of geophysical anomalies relating to likely late Iron Age or Romano-British settlement are visible in the geophysical survey. Two are within the Order Limits (in the northeast corner of Field C6 and across Fields C8 and C9) and four beyond the Order Limits (two areas in Field By12, and others in Lf12 and C7). The area in Fields C8 / C9 was recorded as a cropmark, whilst that in By12 is recorded as the site of Roman finds. Extending south of the area of the possible settlement in C7 is a line of other geophysical anomalies of possible archaeological origin. If archaeological these would represent a series of enclosures.

1.22. Field By22 was the site of two WWII aircraft crashes. The trial trenching confirmed that fragmentary remains of the aircraft may still be present within this field.

1.23. The geophysical survey has also identified enclosures and linear features within Fields Md04 and Md05, a square enclosure and linear feature in Field By24 and a possible barrow in Field Lf08. The geophysical survey did not detect any features associated with the previously recorded cropmark linear feature in this field.

1.24. Bronze Age cremations were discovered at the Blankney Brickyard north of Field By20, there are no possible barrows recorded in By20 which is crossed by a large number of drains. The HER records a possible barrow site west of Md05 (HER ref: MLI86755) and the discovery of human remains in the west of Md05 during groundworks in the 1980s (MLI87383). Fields By20 and Md05 therefore

have increased potential for further burials or cremations which may not be visible to geophysical survey.

- 1.25. An area of ridge and furrow earthworks visible in the Lidar between C6 and By22 extends as below ground features in the geophysical survey within these fields.

## Springwell Central

- 1.26. The cable route corridor between Springwell East and Springwell Central (Fields B1, Bcd148, Bcd066, Bcd068, Bcd067 and Bk03) contains seven possible barrows (two groups of three and a single outlying feature). As noted above, the HER also records a possible barrow site north of B1 (HER ref: MLI86755) and another possible barrow cemetery north of Bcd148 (HER Ref: MLI87416). These fields also contain linear features and pit alignments visible as cropmarks, geophysical anomalies or both which form large enclosures. There are also some geophysical anomalies of less certain archaeological origin in Bcd066 and Bcd068 which may relate to other barrows or small enclosures. The projected line of a Roman road which forms a continuation of Mareham Lane, north of Sleaford, along Bloxholm Lane, runs northwest-southeast through Springwell Central. The projected line of the road crosses a slightly elevated plateau that sits partly outside the Site. There are previous examples of Saxon burials co-located with barrows on areas of higher ground crossed by Roman roads, and as such areas of Springwell Central in proximity to the Roman road and the identified barrows are considered to have high potential for other burials which may not be visible to geophysical survey.
- 1.27. The geophysical survey has revealed that the areas of cropmarks previously recorded (HER Refs: MLI87411, MLI90987 and MLI86753) represent parts of an extensive area of enclosures and probable round houses that extends through Bk07, Bk06, Bk04 and Bk02. These are also associated with a probable drove way extending to the north-northeast through Field Bk15 and beyond the Order Limits to Bk08 and Bk09 where the existing field boundary is recorded as another cropmark (HER Ref: MLI87413). Limited evidence of the cropmark in Bk08 (HER Ref: MLI87412) is apparent in the geophysical survey as this area was subject to magnetic disturbance. Only a short section of pit alignment was visible to the southeast, though it extends into Bk05.
- 1.28. Further extensive areas of enclosures have been detected by geophysical survey within Fields Rw01, Rw02 and Bcd079 and beyond the Order Limits within Fields Rw11 and Rw10. Other areas of probable settlement enclosures are also present beyond the Order Limits within Fields Rw04 and Rw06. The projected line of the Roman road passes through Rw07, Rw08, Rw12 and Rw01. Reviewing the geophysical survey evidence and the current field boundaries, it is possible that this route is preserved within the line of a parish boundary (HER Ref: MLI89154) which forms the southwestern boundaries of Rw07 and Rw08, and can be traced along the north-eastern boundary of Rw11 and is visible as a geophysical anomaly of a former field boundary within Rw12 (this possible route is indicated on Figure 2).
- 1.29. Field Bcd079 also contains a group of possible barrows or round houses recorded as cropmarks (HER Refs: MLI90995, MLI90994 and MLI90998) and two further barrows are visible in the geophysical survey north of MLI90995. This

area of barrows is west of the area of enclosures described above and is situated either side of a northwest-southeast linear also recorded as a cropmark (HER Ref: MLI90993) and east of a second linear cropmark (HER Ref: MLI90997) which the geophysics records continuing to the south into Bcd088.

- 1.30. Approximately parallel to this feature c.450 m to the west is a pit alignment that passes through Bcd079 outside the Order Limits and into Bcd086, and a second pit alignment c. 770 m further west again that passes through Bcd084 and extends further south into Springwell West.

## Springwell West

- 1.31. The known archaeological resource of this part of the Site is characterised by an extensive enclosure system formed of pit alignments visible in the geophysical survey. Some of the pit alignments are also visible as cropmarks and previously recorded by the HER. These include the continuation of the pit alignment from Bcd084 which continues into Bcd093, Bcd096, Bcd100 (beyond the Order Limits), Bcd104 (beyond the Order Limits), Bcd105, Bcd108, Bcd107 and Bcd115 (within Fields Bcd093, Bcd096, Bcd100, Bcd104, Bcd105, Bcd107 and Bcd115 this feature is recorded as cropmarks – HER Refs: MLI84452 and MLI88357). Within Field Bcd096 this pit alignment is also associated with a findspot of a Roman oil lamp (HER Ref: MLI84520). In Bcd107 this pit alignment crosses a paleochannel and in Bcd115 it runs adjacent to a paleochannel.
- 1.32. Another pit alignment, perpendicular to the A15, was confirmed through trial trenching in Field Tb02. Further pit alignments, apparently forming large enclosures, are visible in the geophysical survey in Fields Tb5, Tb4, Bcd127, Bcd128 and Bcd138.
- 1.33. Pit alignments are largely found in river valleys in central and northern England, but they are also common on the Yorkshire Wolds and are found in smaller numbers on other light, freely draining soils. They are currently understood to be typically of prehistoric date, though some have been dated to the Roman period.
- 1.34. Two curvi-linear features possibly formed of other pit alignments or ditches and visible as cropmarks (HER Ref: MLI81837) as well as geophysical anomalies are present within Fields W1, Bcd138 and E1. They form a possible drove way extending from an area of Romano-British settlement and activity excavated at Brauncewell Quarry to the south (HER Ref: MLI81843). The possible droveway is abutted by other linear features extending south in Field E1 and northwest in Field W1. The southwest end of the curvi-linear features is abutted by possible enclosures which may represent an extension of the Romano-British settlement activity recorded to the south.
- 1.35. Two possible barrows are visible in the geophysical survey in the east and northwest of Field Bcd123. Other barrows in Field Bcd120 to the east of the Order Limits (including one recorded as a cropmark HER Ref: MLI84453) indicate increased potential within this field for further barrows.
- 1.36. Possible prehistoric cropmarks and Bronze Age finds are recorded south of the Order Limits in Field W2 (HER Refs: MLI60845 and MLI83186), indicating increased potential for further prehistoric remains in the south of W1 which may not be visible to geophysical survey.

- 1.37. As noted above, this part of the Site also contains a system of palaeochannels (former watercourses) visible in the LiDAR as recorded in ES Volume 3, Appendix 9.3 Aerial Investigation and Mapping Report and shown on Figure 1. There is potential for the palaeochannels to contain deposits of archaeological or palaeo-environmental interest, and they may have formed a focus of prehistoric activity. The physical relationship between the pit alignments and the deposits within the palaeochannels may assist with dating these features and understanding the function of the pit alignments.
- 1.38. The geophysical survey results for this part of the Site also revealed an extensive recti-linear pattern of features, which the trial trenching in Field Tb02 found to be natural fracturing of the limestone geology.
- 1.39. Table 1 below also details the works proposed for each field based on the **Works Plans [EN010149/APP/2.3]** and the Green Infrastructure Parameters set out in Appendix 1 of the **outline Landscape and Ecology Management Plan (oLEMP) [EN010149/APP/7.9.2]**.

Table 1: Current understanding of archaeological potential by field

<u>Field Number</u>	<u>Known assets and archaeological potential</u>	<u>Works proposed within field as part of Proposed Development</u>
<i><u>Springwell East</u></i>		
<u>Lf11</u>	<u>The geophysical survey shows only land drains, whilst the LiDAR shows ridge and furrow to east partly recorded by HER but none within Field Lf11. The nearest geophysical anomalies of archaeological interest are over 500 m to west.</u>	<u>Ground-mounted Solar PV Generating Station</u>
<u>Field Lf04</u>	<u>The geophysical survey shows only land drains and single uncertain curvi-linear feature, field is over 250 m from nearest archaeological anomalies</u>	<u>Ground-mounted Solar PV Generating Station</u>
<u>Field By28 –</u>	<u>The geophysical survey shows only land drains, and field is over 250 m from nearest archaeological anomalies, no further work</u>	<u>Ground-mounted Solar PV Generating Station</u>
<u>Field By20</u>	<u>Beyond the Order Limits to the east the geophysical survey shows an area of likely settlement</u>	<u>Green Infrastructure – grassland open fields and margins with wildflower</u>
<u>Field By18</u>	<u>Beyond the Order Limits to the north the geophysical survey shows an area of likely settlement.</u>	<u>Cables – retained as agricultural land post-construction</u>

<b><u>Field By27</u></b>	<u>The aerial investigation and mapping report confirmed the presence of cropmarks recorded in the HER within this field.</u>	<u>Cables – retained as agricultural land post-construction</u>
<b><u>Field Lf03</u></b>	<u>No evidence for archaeological remains within this field or adjacent fields</u>	<u>Temporary construction compound, Cables</u>
<b><u>Field Lf02</u></b>	<u>The geophysical survey shows only drainage and two possible archaeological linear features (associated with a very faint trace of a north-south ridge visible in LiDAR which may be a continuation of the linear visible in the geophysical survey to the north and of a cropmark to the south), LiDAR also shows a second north-south ridge which may be a former field boundary. The adjacent field to the east contains a HER record of cropmarks.</u>	<u>Cables – retained as agricultural land post-construction</u>
<b><u>Field By24</u></b>	<u>The geophysical survey shows a rectangular enclosure and other possible archaeological anomalies which correlate with cropmarks identified in the aerial investigation and mapping report and previously recorded by HER. The geophysical survey shows that these remains cover larger area than previously recorded and include a possible barrow / roundhouse feature.</u>	<u>Ground-mounted Solar PV Generating Station</u>
<b><u>Field By11</u></b>	<u>The geophysical survey shows only drainage and a post-medieval field boundary but LiDAR shows the continuation of the north-south ridge visible in By04 and Field By11 is adjacent to</u>	<u>Ground-mounted Solar PV Generating Station</u>



	<u>area of geophysical anomalies of likely settlement.</u>	
<b><u>Field By04</u></b>	<u>The geophysical survey shows only land drains within this field but adjacent field beyond the Order Limits contains an area of geophysical anomalies of likely settlement. The LiDAR shows a faint north-south ridge running through Field By04 and to the south.</u>	<u>Ground-mounted Solar PV Generating Station</u>
<b><u>Field By03</u></b>	<u>The geophysical survey shows a possible enclosure</u>	<u>Ground-mounted Solar PV Generating Station</u>
<b><u>Field By10</u></b>	<u>The geophysical survey shows only drainage and traces of ridge and furrow which are not visible in LiDAR. The nearest archaeological anomalies are c. 300m to east.</u>	<u>Ground-mounted Solar PV Generating Station</u>
<b><u>Field By23</u></b>	<u>The geophysical survey shows only drainage and natural features, the nearest archaeological anomalies are over 300 m to east and over 200 m to west.</u>	<u>Ground-mounted Solar PV Generating Station</u>
<b><u>Field By22</u></b>	<u>Field is area of WWII crash sites and geophysical survey shows archaeological remains in SW corner– confirmed through trenching</u>	<u>Ground-mounted Solar PV Generating Station and Satellite Collector Compound</u>
<b><u>Field Lf05</u></b>	<u>The geophysical survey shows the continuation into the northwest corner of this field of the rectangular enclosure located in Field By22. Otherwise, drainage features, faint traces of ridge and furrow (not visible in LiDAR) and natural anomalies are recorded</u>	<u>Ground-mounted Solar PV Generating Station</u>



<b><u>Field Lf07</u></b>	<u>The geophysical survey shows only drainage. The nearest archaeology is the barrow in Field Lf08 c.150m to southeast. Increased potential for further burials not visible to geophysical survey.</u>	<u>Ground-mounted Solar PV Generating Station</u>
<b><u>Field Lf08</u></b>	<u>The HER records a possible barrow and north-south aligned linear cropmarks. The barrow is visible in the geophysical survey but the linear features are not and nothing is visible in Lidar.</u>	<u>Ground-mounted Solar PV Generating Station</u>
<b><u>Field Md01</u></b>	<u>The geophysical survey shows that the enclosure in Fields By22 and Lf05 extends into the northeast corner of this field, otherwise the geophysical survey shows only drainage, natural features and possible archaeology in the southeast corner and probable enclosures in the field immediately south which lies outside Order Limits.</u>	<u>Ground-mounted Solar PV Generating Station</u>
<b><u>Md02</u></b>	<u>The geophysical survey recorded possible archaeological anomalies that may represent enclosures.</u>	<u>Cables – retained as agricultural land post-construction</u>
<b><u>Field Md06</u></b>	<u>LiDAR shows traces of ridge and furrow in this field. Potential for this to mask remains beneath that may not be visible to geophysical survey.</u>	<u>Green Infrastructure - community growing area</u>
<b><u>Field C9</u></b>	<u>The geophysical survey shows an enclosure in this field that extends north in Field C8.</u>	<u>Ground-mounted Solar PV Generating Station</u>
<b><u>Field C8</u></b>	<u>The geophysical survey shows two linked enclosures with other features internal to them and extending out to the northwest.</u>	<u>Ground-mounted Solar PV Generating Station</u>

### **Field C6**

The geophysical survey shows an area of archaeological anomalies likely representing settlement in the north east of this field

Ground-mounted Solar PV Generating Station

### **Field C7**

The geophysical survey shows an area of anomalies likely representing settlement in the southwest corner of this field (mainly outside Order Limits) and a linear feature extending south of this which correlates with a cropmark of a linear feature recorded in HER. The geophysical survey also shows traces of ridge and furrow not visible in the LiDAR. The LiDAR shows a faint north-south ridge to the east of these anomalies.

Cables – retained as agricultural land post-construction, Highway works

### **Field Md03**

The geophysical survey shows drainage features, traces of ridge and furrow not visible in the LiDAR and two discrete areas of possible archaeology in the centre west of this field.

Cables – retained as agricultural land post-construction

### **Field Md04**

The geophysical survey shows possible enclosures or remains of settlement and the continuation of the linear feature from Field C7. The geophysical survey also shows further traces of ridge and furrow not visible in LiDAR. The LiDAR shows the continuation of a north-south ridge along the field boundary with Md03.

Cables – retained as agricultural land post-construction

### **Field Md05**

The geophysical survey shows an area of enclosures and possible archaeological remains associated with it, the continuation of the linear feature from Field Md03, and further ridge and furrow not visible in LiDAR. The

Cables – retained as agricultural land post-construction

LiDAR shows the continuation of the north-south ridge from Field Md03. The HER records that human remains were found at depth of c. 60 cm below surface to the southwest of this field in 1983. There is increased potential for further burials.

Springwell Central (including internal cable connection corridors)

**Field B1**

Field is former quarry – no archaeological potential

Cables – retained as agricultural land post-construction

**Field Bcd148**

The HER records cropmark of possible a barrow and linear feature of possible field system. The geophysical survey confirmed the possible barrow and identified three additional probable barrows as well as a field system comprised of pit alignments. Potential for additional burials not visible to the geophysical survey

Cables – retained as agricultural land post-construction

**Field Bcd066**

The HER records a possible prehistoric settlement outside the Order Limits which extends into the southeast corner of this field. The geophysical survey indicates a pit alignment in the southwest corner, and possible enclosures in the southwest and east of the field. The field to the east contains barrows and there is increased potential for additional burials not visible to the geophysical survey.

Cables – retained as agricultural land post-construction

### **Field Bcd068**

The HER records a cropmark of a linear feature in the north and east of this field which geophysical survey shows as pit alignment. The geophysical survey also identified another pit alignment in the south and west of this field and other features in south. The LiDAR shows a ditch running parallel with the southeastern boundary.

Cables – retained as agricultural land post-construction

### **Field Bcd067**

The geophysical survey shows only drainage and agriculture features, traces of ridge and furrow not visible in LiDAR and part of a pit alignment in the northeast of the field. The field to the south contains probable barrows, the field to the west contains cropmarks of possible prehistoric enclosures. There is increased potential for this field to contain further remains not visible to the geophysical survey.

Cables – retained as agricultural land post-construction

### **Field Bk03**

The geophysical survey has identified three possible barrows within this field, there is increased potential for other burials not visible to the geophysical survey.

Cables – retained as agricultural land post-construction

### **Field Bk07**

The HER records cropmarks of enclosures in the centre and south of this field. The geophysical survey identified the form of these enclosures and additional areas of likely settlement including potential barrows / round houses.

Cables and Green Infrastructure – strategic planting (tree belt)

<b><u>Field Bk06</u></b>	<u>The geophysical survey shows an area of archaeological anomalies in the northern part of the field. Adjacent fields contain barrows.</u>	<u>Ground-mounted Solar PV Generating Station and Green Infrastructure</u>
<b><u>Field Bk15</u></b>	<u>The geophysical survey shows a rectangular enclosure and probable trackway in the north of the field.</u>	<u>Ground-mounted Solar PV Generating Station and Green Infrastructure</u>
<b><u>Bk08</u></b>	<u>The geophysical survey revealed only the southeastern limit of a pit alignment which is recorded as a cropmark by HER.</u>	<u>Ground-mounted Solar PV Generating Station</u>
<b><u>Bk09</u></b>	<u>The geophysical survey shows only drainage. The nearest archaeological evidence is a cropmark of a possible pit alignment in the field to the west.</u>	<u>Ground-mounted Solar PV Generating Station</u>
<b><u>Bk11</u></b>	<u>The geophysical survey shows only drainage. The nearest archaeological evidence is over 150 m away.</u>	<u>Ground-mounted Solar PV Generating Station</u>
<b><u>Bk10</u></b>	<u>The geophysical survey shows only drainage and traces of ridge and furrow not visible in the LiDAR. The HER records ridge and furrow to the south and two areas of Romano-British pottery scatters to the south indicating possible foci of activity outside the Order Limits.</u>	<u>Ground-mounted Solar PV Generating Station and Green Infrastructure – strategic planting (tree belt)</u>
<b><u>Bk05</u></b>	<u>The geophysical survey shows drainage, post-medieval field boundaries and traces of ridge and furrow not visible in the LiDAR, along with the continuation of a pit alignment from Field Bk09 in the northeast corner.</u>	<u>Ground-mounted Solar PV Generating Station</u>

## **Field Rw02**

The geophysical survey shows only drainage, agricultural features and traces of ridge and furrow not visible in LiDAR. The projected line of a Roman road runs c.100m to southwest of this field.

Ground-mounted Solar PV Generating Station

## **Bk04**

The geophysical survey identified the likely extent of an enclosure recorded by the HER as a cropmark which extends into Field Bk07. The main focus of activity within the enclosure appears to be within Field Bk07.

Secondary Temporary Construction Compound, Satellite Collector Compound and Ground-mounted Solar PV Generating Station

## **Bk02**

The projected line of a Roman road passes through the southwest corner of this field. The geophysical survey has identified an area of archaeological anomalies likely representing settlement.

Ground-mounted Solar PV Generating Station

## **Field Rw01**

The projected line of a Roman road runs through this field. The geophysical survey shows two linear possible archaeological features parallel with this line which may be the remains of the road. The geophysical survey also shows a possible barrow or round house to the west of these linear features which is associated with other linears and possible features. There is increased potential for later burials associated with the barrow in proximity to the Roman road.

Ground-mounted Solar PV Generating Station and Green Infrastructure – strategic planting (tree belt)

## **Field Rw12**

The geophysical survey shows several enclosures with possible barrows or round houses within or adjacent to them. The

Internal cable route corridor – retained as agricultural land post-construction

projected line of a Roman road crosses the eastern side of the field. There is an increased potential for later burials associated with the barrows in proximity to the Roman road.

#### **Field Bcd079**

The geophysical survey shows possible barrows and enclosures some of which were identified in HER as cropmarks. There is increased potential for other burials not visible to the geophysical survey.

Cables and Green Infrastructure - – grassland open fields and margins with wildflower

#### **Field Bcd088**

The geophysical survey shows only a possibly archaeological linear feature running north-south which correlates with a faint ridge visible on LiDAR.

Cables – retained as agricultural land post-construction

#### **Field Bcd086**

The geophysical survey shows only drainage, traces of ridge and furrow not visible in LiDAR and an area of natural anomalies

Cables – retained as agricultural land post-construction

#### **Field Bcd084**

The geophysical survey shows only drainage, traces of ridge and furrow not visible in LiDAR, an area of natural anomalies and a pit alignment running north-south and extending beyond the Order Limits to north.

Cables – retained as agricultural land post-construction

### **Springwell West (including cable route corridor to National Grid Substation)**

#### **Field Bcd093**

The geophysical survey shows a pit alignment running north-south which was previously recorded as cropmark by the HER. Otherwise,

Ground-mounted Solar PV Generating Station

	<u>the geophysical survey shows only drainage and natural anomalies.</u>	
<b><u>Field Bcd096</u></b>	<u>The geophysical survey shows a north-south aligned pit alignment (also recorded by the HER) continuing from the adjacent fields, and otherwise only natural features.</u>	<u>Ground-mounted Solar PV Generating Station and Highway Works</u>
<b><u>Field Bcd097</u></b>	<u>The geophysical survey shows only natural features, traces of ridge and furrow in the south which are not visible in LiDAR, field boundaries and a possible circular feature within the area of grassland habitat creation</u>	<u>Ground-mounted Solar PV Generating Station and Green Infrastructure - – grassland open fields and margins with wildflower</u>
<b><u>Field Bcd105</u></b>	<u>The geophysical survey shows the north-south pit alignment (also recorded by the HER) continuing from the adjacent fields and otherwise only natural features. The LiDAR shows a pond identified in the aerial investigation and mapping report</u>	<u>Ground-mounted Solar PV Generating Station</u>
<b><u>Field Bcd108</u></b>	<u>The geophysical survey shows that the pit alignment that extends from the north turns to west in the northwest corner of this field. Otherwise only natural features, traces of ridge and furrow not visible in LiDAR and field boundaries are identified. The LiDAR shows probable palaeochannels of former watercourses.</u>	<u>Ground-mounted Solar PV Generating Station and Green Infrastructure - grassland open fields and margins with wildflower</u>
<b><u>Field Bcd118</u></b>	<u>An area of uncertain anomalies in is visible in the geophysical survey data in the south east of this field. A possible barrow is present in the</u>	<u>Cables – retained as agricultural land post-construction</u>



	<u>southeast of the field and a second in the southwest. Further possible barrows are visible in the geophysical survey of Field Bcd120 to the east beyond the Order Limits.</u>	
<b><u>Field Bcd123</u></b>	<u>The geophysical survey shows possible barrows (one in west and one in east of this field. There are further possible barrows in Field Bcd120 to the east beyond the Order Limits.</u>	<u>Ground-mounted Solar PV Generating Station</u>
<b><u>Field Bcd129</u></b>	<u>The geophysical survey shows only drainage and natural features.</u>	<u>Ground-mounted Solar PV Generating Station</u>
<b><u>Field Bcd128</u></b>	<u>The geophysical survey shows natural features and linear features forming large enclosures which straddle the line of the Roman road to the west. A second linear feature is present in the north of this field. The LiDAR shows a possible paleochannel.</u>	<u>Primary Temporary Construction Compound, Ground-mounted Solar PV Generating Station and Green Infrastructure - grassland open fields and margins with wildflower</u>
<b><u>Field Bcd138-</u></b>	<u>The geophysical survey shows the continuation of the pit alignment from Field Bcd128, ridge and furrow traces just visible in the LiDAR and a substantial east-west ditch recorded by the HER which extends into adjacent fields.</u>	<u>Ground-mounted Solar PV Generating Station</u>
<b><u>Field Bcd139</u></b>	<u>The geophysical survey shows only traces of ridge and furrow, drainage and natural features.</u>	<u>Ground-mounted Solar PV Generating Station</u>

<b><u>Field Bcd140</u></b>	<u>The geophysical survey shows further detail of an area of cropmarks recorded by the HER.</u>	<u>Green Infrastructure - grassland open fields and margins with wildflower</u>
<b><u>Field Bcd141</u></b>	<u>The geophysical survey shows further detail of an area of cropmarks recorded by the HER.</u>	<u>Green Infrastructure - grassland open fields and margins with wildflower</u>
<b><u>Field E2</u></b>	<u>The HER records an area of cropmarks from the fields to the north extending into this field. The geophysical survey did not detect any archaeological anomalies within this field as it did to the north.</u>	<u>Green Infrastructure - grassland open fields and margins with wildflower</u>
<b><u>Field E1</u></b>	<u>The geophysical survey of the west of this field shows natural features, traces of ridge and furrow not visible in LiDAR and the continuation of the east-west ditch from Field Bcd138. The geophysical survey also shows a second north-south ditch joining the east-west ditch.</u>	<u>Ground-mounted Solar PV Generating Station and Green Infrastructure - grassland open fields and margins with wildflower</u>
<b><u>Field Bcd115</u></b>	<u>The geophysical survey records only a pit alignment (recorded by the HER as a cropmark), a small possible enclosure and natural features / drainage. The LiDAR shows a possible paleochannel is crossed by the pit alignment.</u>	<u>Ground-mounted Solar PV Generating Station</u>

<b><u>Field Bcd107</u></b>	<u>The geophysical survey shows the pit alignment continuing from Field Bcd105, otherwise only natural features, traces of ridge and furrow not visible in LiDAR and field boundaries have been identified. The LiDAR shows probable palaeochannels of former watercourses which are also visible in the geophysical survey.</u>	<u>Ground-mounted Solar PV Generating Station and Green Infrastructure - grassland open fields and margins with wildflower</u>
<b><u>Field Bcd099</u></b>	<u>The geophysical survey shows only natural features and drainage. This field is adjacent to the projected line of a Roman road but no other evidence of activity is nearby.</u>	<u>Secondary Temporary Construction Compound, Ground-mounted Solar PV Generating Station</u>
<b><u>Field Tb2</u></b>	<u>Trial trenching confirmed the results of the geophysical survey. The only archaeological feature is a short pit alignment in the northeast corner.</u>	<u>Primary Temporary Construction Compound, Springwell Substation Compound, Battery Energy Storage System (BESS), Green Infrastructure – strategic planning (tree belt) and earthwork bund</u>
<b><u>Field Bcd082</u></b>	<u>The geophysical survey shows only natural features.</u>	<u>Cables – retained as agricultural land post-construction</u>
<b><u>Field Bcd094</u></b>	<u>The geophysical survey shows only natural features.</u>	<u>Ground-mounted Solar PV Generating Station and Green Infrastructure - grassland open fields and margins with wildflower</u>
<b><u>Field Bcd098</u></b>	<u>The geophysical survey shows only natural features including a possible paleochannel also visible in the LiDAR</u>	<u>Ground-mounted Solar PV Generating Station and Green Infrastructure - grassland open fields and margins with wildflower</u>

### Field Bcd102

The geophysical survey shows only natural features including a possible paleochannel also visible in the LiDAR.

Ground-mounted Solar PV Generating Station and Green Infrastructure - grassland open fields and margins with wildflower

### Field Bcd106

The geophysical survey shows only natural features including a possible paleochannel also visible in the LiDAR.

Ground-mounted Solar PV Generating Station and Green Infrastructure - grassland open fields and margins with wildflower

### Field Bcd114

The geophysical survey shows only natural features and drainage, the nearest archaeological features are the pit alignment in Field Bcd115 and the Roman road which runs along the A15 to east.

Ground-mounted Solar PV Generating Station and Green Infrastructure - grassland open fields and margins with wildflower

### Field Bcd127

The geophysical survey shows large enclosures in the south of the field, otherwise only natural features and drainage are present. The pit alignment in Bcd115 may continue into this field as a linear feature identified in the geophysical survey as natural follows the projected line of the pit alignment.

Ground-mounted Solar PV Generating Station and Green Infrastructure - grassland open fields and margins with wildflower

### Field W1

The geophysical survey shows a double ditch curving across western side of field and across the northern part of the field (and continues east as a single ditch within Field Bcd138) with associated enclosures and other ditches abutting it. Otherwise only natural features, drains and traces of ridge and furrow not visible on LiDAR are recorded.

Ground-mounted Solar PV Generating Station

<b><u>Field Tb5</u></b>	<u>The geophysical survey shows ditches / pit alignments forming large enclosures and the LiDAR shows a probable palaeochannel.</u>	<u>Ground-mounted Solar PV Generating Station</u>
<b><u>Field Tb4</u></b>	<u>The geophysical survey shows ditches forming large enclosures in the south of this field, but only natural features and drainage in north. the The LiDAR shows a probable palaeochannel.</u>	<u>Ground-mounted Solar PV Generating Station</u>
<b><u>Field Tb3</u></b>	<u>The geophysical survey shows only natural features and drainage, and the LiDAR shows probable palaeochannels.</u>	<u>Ground-mounted Solar PV Generating Station</u>

## AIMS AND OBJECTIVES OF THE EVALUATION

### Aims

1.40. An archaeological evaluation is defined by the Chartered Institute for Archaeologists (CIfA) as follows:

*‘...a limited programme of non-intrusive and/or intrusive fieldwork which determines the presence or absence of archaeological features, structures, deposits, artefacts or ecofacts and their research potential, within a specified area or site on land, in an inter-tidal zone or underwater. If such archaeological remains are present, field evaluation defines their character, extent, quality and preservation, reports on them and enables an assessment of their significance in a local, regional, national or international context as appropriate.’ [Ref. 3]*

1.41. The CIFA Standards further define the purpose of field evaluation as:

*‘...to determine, record and report on the nature, extent, preservation and significance of archaeological remains within a defined area.’*

1.42. The overarching aim of the further evaluation is to inform the detailed design of the Proposed Development Scheme by refining the draft AMS (**Appendix 4**) into a final agreed form. The detailed design for the Proposed Development Scheme has not yet been developed and thus the exact locations for cabling, Inverter Transformer Stations (ITS), temporary or permanent access roads or other substantive earthwork operations has not been determined. The **Works Plans [EN010149/APP/2.3]** show the areas where these may occur as well as areas which will be used for ecological enhancements. Any changes to these parameters could be subject to a revised programme of archaeological evaluation to inform mitigation. Any such revised programme of archaeological evaluation would be secured through an agreed TSWSI or LSWSI.

### Objectives

1.43. The overall objective of the post-consent evaluation is to provide information to inform the detailed design and mitigation of the Proposed Development Scheme. It will do this by understanding the significance of the known and potential archaeological remains within the Order Limits. Specifically, the post-consent evaluation will seek to answer the following Key Questions (KQs). The Key Questions are bespoke to the development as proposed and based on the currently understood archaeological potential of the Site and the likely impacts based on the **Works Plans [EN010149/APP/2.3]**. Should any parameters change then the objectives and scope of evaluation may also need to change. Any such changes would be agreed with the relevant planning authority and Historic England. Additional or amended Key Questions may become relevant during the phases of the post-consent DCO, where this is the case these will be captured within the TSWSI / LSWSI for the subsequent phase(s) and agreed with Lincolnshire County Council (LCC) in consultation with Historic England.

1.44. The answers to the Key Questions below may also contribute to the research agenda set out in the East Midlands Historic Environment Research Framework [Ref 12], in particular in relation to the late Bronze Age and Iron Age, Romano-British and Early Medieval periods and to the overarching themes of the environment, settlement, the rural landscape, and communications. Other periods and themes may also be relevant to specific locations and these will be captured within the TSWSIs / LSWSIs.

## Key Questions

### **Springwell East**

KQ1 What is the extent, date, state of preservation and depth below ground level of the identified areas of possible Iron Age / Romano-British settlement within Field C6, Field C8 and Field C9?

KQ2 What is the nature of the archaeological remains within the access and cable routes within Field Md04, Field Md03 and Field Md05?

KQ3 Does the area of Iron Age / Romano-British settlement outside the Order Limits in Field By12 extend into Field By11 and Field By18.?

KQ4 Are any further Bronze Age cremations (as recorded in Field By13) present within Field By20?

KQ5 What is the nature, extent, date, state of preservation and depth below ground level of the rectangular enclosure and linear feature within Field By24?

### **Springwell Central**

KQ6 Are there other burials associated with the barrows in Field Bcd148 and Field Bk03?

KQ7 Does the possible prehistoric settlement (HER Ref: 87414) recorded south of Field Bcd148 and Field Bcd066 extend into these fields?

KQ8 What is the extent, date, state of preservation and depth below ground level of the identified areas of possible Iron Age / Romano-British settlement within Field Bk07, Field Bk06, Field Bk15, Field Bk04, Field Bk02, Field Rw01, Field Rw12 and Field Bcd079?

KQ9 Do below ground remains of the Roman road survive within Field Rw01? Or within Field Rw12?

KQ10 Are there burials associated with the possible barrows in Field Rw12, Field Rw01 and Field Bcd079?

KQ11 Is the linear feature in Field Bcd088 another pit alignment?

KQ12 Can the parallel pit alignments tell us anything about their date and function?

### **Springwell West**

KQ13 What is the physical and temporal relationship between the pit alignments that appear to form large enclosures?

KQ14 Is there potential for waterlogged deposits in association with the palaeochannels?

KQ15 Can the relationship between the long north-south pit alignment identified in the geophysical survey and the faint earthwork ridge visible on Lidar tell us about the purpose of the pit alignment?

KQ16 Are there any archaeological remains associated with the findspot of the Roman oil lamp in Field Bcd096 (HER Ref: MLI84520)?

KQ17 Can the relationship between the north-south pit alignment and the palaeochannel in Field Bcd107 assist in understanding the date and function of the pit alignment?

KQ18 Can the relationship between the pit alignment and the palaeochannel in Field Tb4 assist in understanding the date and function of the pit alignment?

KQ19 What is the date and function of the possible drove way that crosses Field W1, Field Bcd138 and Field E1?

KQ20 What is the temporal and physical relationship between the possible drove way and the other linear features in Field W1 and Field E1?

KQ21 What is the nature, date, extent, state of preservation and depth below ground level of the possible enclosures abutting the drove way in Field W1?

KQ22 Do prehistoric features identified outside the Order Limits in Field W2 extend into the Order Limits in Field W1?

?



## OUTLINE SCOPE OF WORK

### Roles and Responsibilities

~~4.35.~~ 1.45. A number of different individuals / organisations will be involved in the project in different ways. A list of the key terminology is provided below.

Term used in this document	Individual Organisation	/ Role / Responsibility
Client / Applicant	Springwell Energyfarm Ltd	<u>Delivery of the Proposed Development as a whole</u>
Principal Contractor	TBC	<u>Construction of the Proposed Development in accordance with Requirements</u>
Archaeological Contractor	TBC	<u>Provision of TSWSIs / LSWSIs and delivery of the archaeological work(s) specified therein.</u>
Curator	<del>NKDC</del> / <del>LCC</del> archaeological advisors <u>and Historic England</u>	<u>Monitoring of archaeological works to ensure compliance with TSWSIs / LSWSIs</u>
Determining Authority	<del>Secretary of State for Energy Security and Net Zero (unless delegated to the LPALCC)</del>	<u>Discharge of Requirements</u>
<u>Archaeological Clerk of Works</u>	<u>TBC</u>	<u>Monitoring works of the Principal Contractor (and any subcontractors) to ensure compliance with the Archaeological Mitigation Strategy (AMS), monitoring of Archaeological</u>

Contractor(s) work(s) to ensure compliance with the TSWSI / LSWSI and liaison between the Client/Applicant, Principal Contractor, Curator and Archaeological Contractor regarding any changes to scope.

## Further evaluation

1.46. A phased programme of archaeological evaluation is proposed to be carried out comprising:

- targeted, systematic metal detecting survey and field walking
- targeted geoarchaeological survey
- targeted archaeological trial trenching

1.47. The scope of the evaluation will be informed by the key questions detailed in Section 4 above and in the case of trial trenching by the results of the earlier phases. Trial trenching will only be undertaken where it remains necessary to answer a KQ, following the use of metal detecting, field walking and/or geoarchaeological survey. The scope of evaluation will be set out within TSWSIs / LSWSIs which will be agreed with and approved by the Local Planning Authority's (LPA's) archaeological advisor in consultation with Historic England. The content of TSWIs / LSWSIs will follow the requirements set out in Appendix 1.

1.48. Areas proposed for grassland habitat only are not ~~proposed for~~ subject to further evaluation ~~on the understanding that~~ where there will be no soil inversion, and that there will be no ponds, scrapes or drainage features within these fields. Should the ~~emerging~~ detailed design alter to include such activities within areas not included in this oWSI, the scope of work will be revisited and agreed with Lincolnshire County Council's archaeological advisor and Historic England in a TSWSI / LSWI.

1.49. Outline scopes for the proposed phases of evaluation are provided below.

## Metal detecting survey

### **Aims and Objectives**

1.50. In order to answer Key Questions KQ4, KQ6, KQ7, KQ10, and KQ16 a programme of targeted systematic metal detecting survey is proposed.

## **Extent**

1.51. The initial extent would be Fields By20, Bcd148, Bk03, Rw01, Rw12, Bcd096 and Bcd079. If results from these fields indicate that the potential for burials extends beyond these fields then survey would be extended to adjacent fields as appropriate to answer the Key Questions. Any extension of the survey area would be agreed with LCC in consultation with Historic England through an addendum to the TSWSI.

## **Method**

1.52. The archaeological metal detection survey work will be carried out in accordance with ClfA Standards for the collection and documentation of archaeological materials [Ref. 13], Historic England's Our Portable Past [Ref. 14] and the ClfA Standard [Ref. 3] and Guidance [Ref. 6] for archaeological field evaluation.

1.53. A survey grade GPS tied to the OS National Grid will be used to plot each transect within the field targeted for survey. Each transect will be spaced at 5m intervals and plotted on the ground to an accuracy of +/-10cm (as a minimum). Plastic orange pegs, wooden canes with hazard tape attached (or similar) will be used to mark out the cable route and each transect. All location information will be fully georeferenced.

1.54. All artefacts identified will have their location plotted using GPS, bagged individually, and have a unique identifying number assigned to them. Items clearly of no archaeological significance, such as pieces of modern farm machinery, will be discarded. When the date and function of an object is unknown or uncertain it will be recorded and collected.

1.55. Details of each field subject to metal detecting will be recorded on pro-forma recording sheets. In addition, details of field conditions, equipment used, discriminator level, operator and comments about any discarded material will also be recorded.

1.56. The recovery of archaeological objects located by metal detector will be restricted to the ploughsoil depth. Surveyors will attempt the recovery of all metal detection targets. If an artefact has not been located within a minimal amount of time or before the plough soil depth is reached the target will be abandoned and the surveyor will move to the next target. Any such abandoned targets will be noted and recorded for potential further evaluation.

1.57. Finds will be collected, processed and packaged for long term storage in accordance with professional guidelines ([Ref. 12] and [Ref. 15]). The finds will be each assessed and recorded by appropriate specialists. The resultant data will then be drawn together into one MS Access database which will form part of the archive.

1.58. Metal detecting will be restricted to the topsoil and plough horizon in line with best practice. Any deep signals will be geo-located, recorded as of potential interest and left unretrieved.

1.59. Metal detecting and field walking may be carried out at the same time, such co-located surveys would be defined with the TSWSI / LSWSI.

### **Proposed Development Reporting and archiving**

- 1.60. On completion of the survey, a report will be produced containing all relevant information. The content of the report will follow the requirements within Appendix 2.
- 1.61. The report will also include a response to the Key Questions, noting any unanswered aspects of the KQs and proposed methodology to seek answers relevant to the detailed design and mitigationthe.

## **Field walking survey**

### **Aims and Objectives**

- 1.62. In order to answer Key Questions KQ4, KQ6, KQ7, KQ10, KQ3, KQ7, KQ16, and KQ22 a targeted programme of systematic field walking is proposed.

### **Extent**

- 1.63. The initial extent would be Fields By20, Bk03, Rw01, Rw12, Bcd079, By11, By18, Bcd148, Bcd066, Bcd096, and W1. If the results from these fields indicate potential for archaeological remains to extends beyond these fields then surveys would be extended to adjacent fields as appropriate to answer the Key Questions. Any extension of the survey area would be agreed with LCC in consultation with Historic England through an addendum to the TSWSI.

### **Reporting and archiving**

- 1.64. On completion of the survey, a report will be produced containing all relevant information. The content of the report will follow the requirements in Appendix 2.
- 1.65. The report will also include a response to the Key Questions, noting any unanswered aspects of the KQs and proposed methodology to seek answers relevant to the detailed design

## **Geoarchaeological investigation**

### **Aims and Objectives**

- 1.66. In order to answer Key Question KQ14 a targeted programme of geoarchaeological investigation is proposed

### **Extent and Method**

- 1.67. Auger transects across the palaeochannels will be carried out. The location of auger transects will avoid areas where the geophysical survey indicates an intersection between archaeological features so as not to interfere with potential further phases of evaluation. The final locations will be specified within a Task Specific WSI prepared in consultation with the Historic England Regional Science Advisor and LCC.

1.68. Cores retrieved from the survey will be analysed off site for their palaeoenvironmental potential. Suitable material would be sent for scientific dating where this would achieve the research aims set out above.

### **Reporting and archiving**

1.69. On completion of the survey, a report will be produced containing all relevant information. The content of the report will follow the requirements in Appendix 2.

1.70. The report will also include a response to the Key Questions, noting any unanswered aspects of the KQs and proposed methodology to seek answers relevant to the detailed design.

## **Trial trenching**

### **Aims and Objectives**

1.71. In order to answer Key Questions KQ1, KQ2, KQ5, KQ8, KQ9, KQ11, KQ12, KQ13, KQ15, KQ17, KQ18, KQ19, KQ20 and KQ21 a programme of targeted trial trenching is proposed. This programme may be extended to answer additional Key Questions that may become relevant following the completion of the earlier phases of evaluation. E.g if the metal detecting and / or field walking identify areas of increased archaeological potential these may need intrusive investigation to confirm the nature, date, extent and state of preservation of any remains before the appropriate mitigation measures can be agreed.

### **Extent and Method**

1.72. Trenches will be located in order to gain the maximum information relevant to the Key Questions to inform the detailed design and mitigation whilst minimizing the intrusion into the archaeological remains.

1.73. A blanket approach of fixed trench lengths / widths and set percentage samples per field will not be taken.

1.74. The location and size of trenches will be set out in a TSWSI agreed with the LPA's archaeological advisor in consultation with Historic England and will relate to the Key Questions.

~~4.36. Detailed methodology will be set out in the TSWIs and will follow the general methodology set out in Appendix 2. The trial trenching undertaken for the Scheme to date has found a strong correlation between the geophysical survey results, sites recorded from aerial photography and the identified below ground archaeological resource.~~

~~4.37. It is possible, although relatively unlikely, that further trial trenching work could reveal important buried archaeological remains. Therefore, where necessary and appropriate, further archaeological trial trenching will take place in advance of construction as part of the detailed design phase of the Scheme. Figure 7 identifies the areas where further trenching may be required (subject to the potential impacts of the Proposed Development).~~

1.75. This oWSI sets out the strategy for determining areas requiring further archaeological trial trenching to inform the detailed design and to determine

~~appropriate mitigation measures for the solar array areas. In line with the approved methodology for the pre-determination trenching a 2% sample with a contingency for additional trenching is considered to be appropriate for the areas identified in Figure 7 as requiring additional trenching.~~

### **Reporting and archiving**

1.76. On completion of the fieldwork a report will be produced. This report will follow the general methodology set out in Appendix 2 and will include a summary conclusion on the Key Questions.

### **Updates to Archaeological Mitigation Strategy**

~~4.38.~~1.77. Following completion of the further evaluation the **draft Archaeological Mitigation Strategy** presented at **Appendix 4** will be updated to form the final Archaeological Mitigation Strategy for the Proposed Development Scheme. Archaeological mitigation measures will be agreed with the LPA's archaeological advisor in consultation with Historic England and will be added to the Construction Environmental Management Plan for approval by the LPA.



~~1.1. The overarching aim of the further archaeological trial trenching is to inform the detailed design of the Scheme by~~

- ~~• refining the indicative archaeological mitigation areas (Figure 6);~~
- ~~• minimizing the impact of the Scheme on the archaeological resource;~~
- ~~• preserving important archaeological remains; and~~
- ~~• securing measures to record archaeological features where preservation in situ is not necessary or feasible.~~

~~1.1. The detailed design for the Scheme has not yet been developed and thus the exact locations for cabling, Inverter Transformer Stations (ITS), temporary or permanent access roads or other substantive earthwork operations has not been determined. The Project Parameter Plans show the areas where these may occur as well as areas which will be used for ecological enhancements. The ecological enhancements proposed do not involve substantive earthworks or tree planting with the exception of hedgerows and therefore are not included in the scope of further archaeological trenching. If this parameter changes and earthworks (such as ponds, scrapes) or large areas of tree planting are proposed as part of the ecological enhancements this outline WSI will be updated to include proportionate evaluation of these areas.~~

~~1.1. Task specific WSIs will prepared in consultation with the Local Planning Authority's (LPA's) archaeological advisor prior to the carrying out of any archaeological trenching or investigation, which must take place prior to the commencement (as defined by the DCO) of the authorised development (as defined by the DCO).~~

~~1.1. This work will be instigated sufficiently in advance of the planned construction work to ensure the outcomes (i.e., the possible discovery of important buried archaeological remains) are appropriately considered and provided for in the detailed design for the Scheme. Thus, the results of the trial trenching will determine the scope of any further archaeological work and / or opportunities to minimise and avoid disturbance to any discovered remains via 'no-dig' construction methods or archaeological excavation (as described below).~~

~~1.1. Further details on the general methodological approach to the trial trenching and excavation is set out in Section 8 of this document, below.~~

## **Archaeological mitigation**

~~1.1. The assessment work completed for the Proposed Development to date has identified 31 particular and discrete locations where important buried~~

~~archaeological remains survive within the Site. Where these are located within areas of Solar PV development embedded mitigation in the design of the Scheme includes preservation in situ through the use of concrete feet or similar non-intrusive panel supports and routing of cables between arrays and Inverter Transformer Stations (ITS) above ground.~~

- ~~1.1. Where preservation in situ is not necessary (e.g. where impacts will be negligible) or is not feasible (e.g. where archaeological remains are present within the cable routes between Springwell West, Springwell Central and Springwell East and between the Springwell Substation and the National Grid Navenby Substation) targeted areas of archaeological excavation will form the mitigation.~~
- ~~1.1. The rationale for the selection of the types of archaeological remains that may be selected for specific mitigation measures is described below (Section 6).~~



## STRATEGY FOR DEFINING TRIAL TRENCHING AREAS

1.1. The previous trial trenching has shown a strong correlation between the below ground archaeological remains and the evidence from the geophysical survey, aerial investigation and mapping and heritage assets identified through the desk-based assessment.

1.1. The following approach to defining the scope of trial trenching for task specific WSIs is considered proportionate — these areas are shown on Figure 7:

- Within cable route corridors where geophysical survey has identified archaeological remains — mitigation through targeted excavation (see Section 6)
- Within cable route corridors where no geophysical anomalies have been identified — trial trenching along route of cable
- Within solar array areas, where geophysical survey has identified archaeological remains — limited trial trenching to confirm: depth of archaeological remains below ground in order to determine if concrete feet (or similar) will be appropriate mitigation
- Within solar array areas, where geophysical survey has not identified archaeological remains — targeted trenching focused on areas where excavation below 0.3 m will occur (e.g. ITS or where cables cannot be routed above ground)

## ARCHAEOLOGICAL MITIGATION

1.1. The assessment work completed for the Proposed Development to-date has identified 31 particular and discrete locations where important buried archaeological remains survive within the Site. These are as follows:

- WWII aeroplane crash sites (non-designated heritage assets MLI25416 and MLI25417)
- Probable prehistoric enclosure cropmarks north of Scopwick (non-designated heritage asset Lincolnshire County Council HER Ref: MLI87423)
- Possible prehistoric cropmark enclosure (non-designated heritage asset Lincolnshire County Council HER Ref: MLI87412);
- Probable prehistoric enclosures and trackway east of Heath Farm (non-designated heritage asset Lincolnshire County Council HER Ref: MLI86753);
- Cropmark undated rectangular enclosure, Scopwick (non-designated heritage asset Lincolnshire County Council HER Ref: MLI90987);
- Potential undated cropmark boundary ditch north of Scopwick Low Field Farm (non-designated heritage asset Lincolnshire County Council HER Ref: MLI87449);
- Probable prehistoric enclosure cropmarks north of Scopwick (non-designated heritage asset Lincolnshire County Council HER Ref: MLI87423);
- Possible prehistoric cropmarks north of Kirkby Green (non-designated heritage asset Lincolnshire County Council HER Ref: MLI87443);
- Possible undated cropmark north of Kirkby Green (non-designated heritage asset Lincolnshire County Council HER Ref: MLI87444);
- Human remains, north of Scopwick – found in 1983, undated (non-designated heritage asset Lincolnshire County Council HER Ref: 87383)
- Possible undated cropmark north of Kirkby Green (non-designated heritage asset Lincolnshire County Council HER Ref: MLI87445);
- Un-named farmstead (non-designated heritage asset Lincolnshire County Council HER Ref: MLI120843);
- Brauncewell deserted settlement (Lincolnshire County Council HER Ref: MLI 60733; associated with Scheduled Monument NHLE Ref: 1018397);
- Possible prehistoric cropmark enclosure, Scopwick (non-designated heritage asset Lincolnshire County Council HER Ref: 87411)
- Possible prehistoric settlement, Scopwick (non-designated heritage asset Lincolnshire County Council HER Ref: 87414)
- Prehistoric cropmark field system, north west of Scopwick (non-designated heritage asset Lincolnshire County Council HER Ref: 87417)

- ~~Cropmark pit alignment, Ashby de la Launde and Bloxholm (non-designated heritage asset Lincolnshire County Council HER Ref: MLI84452)~~
- ~~Prehistoric cropmarks near Long Plantation (non-designated heritage asset Lincolnshire County Council HER Ref: MLI83188);~~
- ~~Linear ditch system west of A15 (non-designated heritage asset Lincolnshire County Council HER Ref: MLI81837)~~
- ~~Cropmark undated linear features (non-designated heritage asset Lincolnshire County Council HER Ref: MLI90983 and MLI90986);~~
- ~~Areas of high density archaeological remains in geophysical survey (HA31, HA36, HA42, HA44, HA51, HA55, HA56, HA60, HA638)~~

~~1.1. Of these, 13 are within areas of cable route corridor, the remaining 18 are within the solar array areas, areas of BESS, or substations.~~

~~1.1. During the detailed design process, any important remains identified during the trial trenching would be treated in the same manner as those 31 locations highlighted above. To avoid harm to heritage significance, two alternative mitigation solutions are available to be deployed in those areas of known or discovered buried archaeological remains: i) preservation in situ; or ii) archaeological excavation in advance of / during construction.~~

### ~~Preservation in situ~~

~~1.1. As recognised within EN-3, “solar PV developments may have a positive effect, for example archaeological assets may be protected by a solar PV farm as the site is removed from regular ploughing”.~~

~~1.1. For some especially rare and sensitive buried archaeological remains, the disturbance of piling could have a material effect. Particularly sensitive buried archaeological remains comprise:~~

- ~~waterlogged remains, whereby the soil chemistry and conditions could be affected;~~
- ~~human remains, whereby even minimal disturbance could result in a potentially disproportionate loss of archaeological evidence, alongside the ethical considerations; and~~
- ~~complex structured deposits, such as those associated with burials but also structural remains such as floor surfaces.~~

~~1.1. For the avoidance of doubt, with the exception of two possible barrows, no evidence of remains like this has been identified in the work carried out to date. It is understood that the crew of the two WWII aircraft crashes were recovered at the time.~~

- 1.1. While the known buried archaeological remains within the Site are predominantly the remnants of prehistoric and Roman period settlements, our understanding of these asset types would suggest that human remains could be interred nearby. Therefore, additional means of mitigation can be employed as the nature of the Development allows for the detailed design process to avoid important archaeological remains. This can be achieved either by exclusion of development entirely or by limiting activities that would disturb the remains.
- 1.1. The first option is the simple exclusion of discrete, identified area(s) of buried archaeological remains (and an appropriate protective 'buffer') from the Solar PV Development. Associated with the specific exclusion of these areas from the erection of solar panels (and excavation of any cable routes), other proximate construction activities may need to be avoided, limited and/or controlled. These other activities could include construction of temporary access routes or haul roads, temporary storage areas and vehicle set down areas (compounds). The protection of these areas are detailed in the **Outline Construction Environment Management Plan (oCEMP) [EN010149/APP/7.7]**, with physical measures such as fencing and signposts, set out on the ground in advance of any construction activities. The measures to protect these areas, and the reasoning for them, will be communicated to the relevant staff via induction briefings and 'toolbox talks'.
- 1.1. The second option is the use of 'concrete shoes' (or other non-piling, surface ballast techniques) for discrete areas within the areas of Solar PV Development. This option would be deployed on the assumption that the ground conditions are suitable, and compaction or vertical movement would be avoided. These 'no dig' construction solutions would also necessitate the burying of cables only as deep as the ploughsoils i.e., outside (above) the horizons where buried archaeological remains survive or, avoiding trenching excavations altogether. Further to this, construction activities would be designed and implemented in such a way to avoid or greatly minimise ground disturbance from vehicular (plant) movements (i.e., avoiding rutting). These specific measures are set out in the **oCEMP [EN010149/APP/7.7]** which will be secured in the draft DCO as a requirement, following detailed design. It is feasible and potentially desirable, for both options ('exclusion areas' and 'no dig construction') to be deployed separately or in combination as appropriate.

## Archaeological excavation

- 1.1. At the 13 locations of known buried archaeological remains within the cable route corridors described above (paragraph 5.1.1) targeted archaeological excavations could take place. Excavation will also take place of the other 11 locations where the detailed design cannot avoid

~~impacts and where the further trial trenching indicates a high potential for important archaeological remains.~~

~~1.1. These archaeological excavations would be directed and designed to achieve two interrelated objectives: (i) furthering our understanding of the past through expert investigation; and (ii) the communication of the findings to a wide audience.~~

~~1.1. Task specific WSIs would be developed for each area of archaeological mitigation. These will set out the particular research objectives for each programme of work. The research themes will be drafted in the context of the local / regional archaeological research frameworks (East Midlands Historic Environment Research Framework 2022 [Ref. 11]), and emerging ideas and theories presented by the work completed to date.~~

~~1.1. The task specific WSIs will also set out if/how the public will be given the opportunity to engage in the archaeological on-site work and the post-excavation process, alongside the means of communicating the findings of the work (via social media platforms, publications, community events and lectures, etc. as appropriate).~~

~~1.1. Further details on the general methodological approach to archaeological excavation is set out in Section 6 of this document, below. However, the methods deployed will be bespoke to each location and would be heavily influenced by the research objectives and community engagement programmes and any new information revealed by the further trial trenching and mitigation works.~~

~~1.1. The extent of areas requiring targeted archaeological excavation will be agreed by the Client, the determining authority and statutory consultees including the NKDC and LCC Archaeological Advisors and Historic England (as appropriate) in advance of construction following a review of the trial trench evaluation results and detailed design.~~

~~1.1. Task specific WSIs for the area of targeted excavation will be prepared by the Archaeological Contractor and submitted to the determining authority. The following areas may be suitable for excavation:~~

- ~~• Temporary construction compounds;~~
- ~~• Collector Compound within Field By22 (due to presence of WWII crash sites in vicinity);~~
- ~~• BESS areas;~~
- ~~• Springwell Substation area; and~~
- ~~• Targeted areas within Solar PV development, where evaluation indicates archaeological remains of high sensitivity that cannot be avoided through design.~~

## GENERAL METHODOLOGIES

1.1. The following methodologies will be applicable to all archaeological excavation, including trenching, and will be agreed upon and reflected in any task specific WSI(s) submitted.

### Site Specific WSIs

1.1. Task specific WSIs will be agreed for each location or phase of archaeological trial trenching or excavation. The WSIs will follow the ClfA guidance document(s) referred to above and will conform to the requirements of the Lincolnshire Archaeological Handbook [Ref. 12]. These WSIs will set out any site-specific objectives and methodologies. They will contain the following as a minimum:

- Aims and objectives for each element of the archaeological works;
- A summary of the archaeological and historical background, including the results of the work undertaken to date (insofar as it is relevant to the works set out in the specific WSI);
- Detail the methodologies that will be implemented and form the central basis by which the investigation can be measured against its aims and objectives;
- Details on the provision of site welfare, plant equipment, in accordance with archaeological requirements and relevant Health and Safety legislation as appropriate;
- Details of a proposed timetable/programme to archaeological works, post-excavation and reporting following completion of works;
- Details of proposed archiving methods and repositories;
- Details of company Health and Safety Policy, evidence of insurance and a health and safety risk assessment and method statement (RAMS) for the project; and
- Details of any external specialists and other third parties to be used in the preparation of the fieldwork reports.

### Programme

1.1. Prior to commencement of the archaeological works, a programme will be agreed between the Client / Principal Contractor, Curator and Archaeological Contractor. This programme will detail proposed start and end dates for on-site works. The programme will also account for any post-excavation assessment and reporting, as required to discharge any archaeological requirements of the DCO.

### Access and Setting Out

~~1.1. Access will be arranged by the Applicant/ Principal Contractor in advance of all site works.~~

~~1.1. The location of each area subject to the relevant task specific WSI will be accurately set out by instrument survey and tied into the Ordnance Survey National Grid and Ordnance datum.~~

### ~~Machine and Hand Excavation~~

~~1.1. Machine excavation will be under the instruction of a sufficiently experienced and qualified archaeologist. Mechanical excavators will be equipped with a toothless ditching bucket and under constant archaeological supervision.~~

~~1.1. The archaeological features and deposits encountered will be excavated by hand.~~

~~1.1. All archaeological features will be investigated in accordance with the strategy set out in the relevant task specific WSI.~~

~~1.1. The current outline proposals for excavation are detailed below:~~

- ~~• 100% of discrete features such as hearths, kilns and pits;~~
- ~~• 100% of funerary features such as graves and cremations;~~
- ~~• 50% of each discrete features of other types by area;~~
- ~~• 15% of any linear features which form part of settlement activities or enclosure systems;~~
- ~~• 10% of each simple linear feature within the whole stripped area; and~~
- ~~• All terminals of linear features, as well as intersections between features.~~

~~1.1. In addition to all stratigraphic relationships, and where appropriate and necessary, sufficient soil samples for dating evidence and ecofactual analysis will be taken.~~

~~1.1. The depth and complexity of archaeological features and deposits within each area exposed will be ascertained, unless HS&E constraints deem otherwise. Where features cannot be hand excavated the Applicant and Curator will be consulted.~~

~~1.1. The full proposals will be detailed in consultation with the Applicant, Curator and may be subject to change. These works would be subject to the relevant ClfA Standard [Ref. 2], [Ref. 3], [Ref.4] and Universal Guidance [Ref.5], [Ref. 6], [Ref. 7] for archaeological excavation.~~

### ~~Recording and Sampling~~



- ~~1.1. All excavated archaeological contexts will be recorded in full through provision of a detailed written context records, which will include details of extent, location, relationships, samples, finds, and cross-references to any relevant contexts.~~
- ~~1.1. All features will be planned at an appropriate scale, either digitally or by hand, as well as feature cross sections, and photographed accordingly. These plans and the photographic record will be presented in any final reporting.~~
- ~~1.1. In addition, all finds and environmental samples will be retained and recorded in order to provide dates and assist in the interpretation of form and function of any archaeological features or deposits identified.~~
- ~~1.1. All finds and samples will be collected and treated in accordance with the relevant guidance, including:~~
- ~~• ClfA's Guidance for the collection, documentation, conservation and research of archaeological materials [Ref. 13],~~
  - ~~• Museums and Galleries Commission's Standards in the Museum Care of Archaeological Collections [Ref. 14], and~~
  - ~~• Environmental Archaeology: a guide to theory and practice of methods, from sampling and recovery to post-excavation [Ref. 15].~~

## WWII Crash Sites

- ~~1.1. Two WWII crash sites are recorded within the Site. Any archaeological work or other excavation (including development) within the area of the crash sites will require a licence from the MOD. This will be applied for by Archaeological Contractor and all conditions of the licence will be adhered to. Licences will be granted to a named individual (not to a group of individuals), who may ask other people to assist, but who themselves must be present during the entire excavation.~~

## Health, Safety and Environment

- ~~1.1. The archaeological contractor will conduct all works in accordance with the Health and Safety at Work etc. Act 1974 and the Management of Health and Safety Regulations 1992, and all other relevant Health and Safety legislation, regulations and codes of practice in force at the time for the fieldwork. Any client/developer/Principal Contractor policies and/or procedures will also be followed.~~
- ~~1.1. Prior to commencement, a health and safety Risk Assessment and Method Statement (RAMS) for the work will be prepared by the Archaeological Contractor and submitted to the Applicant for review and acceptance.~~



## Artefacts

- ~~1.1. Finds will be routinely recorded by context and recorded 3-dimensionally where appropriate (i.e. where their position within a context can provide further significant information or the find is of particular significance). Any artefacts retrieved during the evaluation will be cleaned using appropriate techniques and packaged and stored in accordance with First Aid for Finds [Ref. 16].~~
- ~~1.1. All artefacts recovered during the evaluation will be cleaned, marked and catalogued.~~
- ~~1.1. Artefacts will be properly conserved and will be stabilised for storage where required. If necessary, a conservator will visit the site to undertake initial conservation treatment. If any of the trenches result in the recovery of unstable artefactual remains (e.g. metallic objects or preserved wood/leather), the Archaeological Contractor will seek the advice of the Historic England Regional Science Advisor regarding appropriate conservation measures.~~
- ~~1.1. All finds and samples will be processed (cleaned and marked), as appropriate. Each category of find will be examined by a suitably qualified archaeologist or specialist and the results incorporated into the post-excavation assessment report.~~
- ~~1.1. The analysis of ceramic finds will be carried out with reference to the Finds Type Series for Roman and Post-Roman ceramics (held at Lincoln City and County Museum) and the Rural Kesteven Type Series held by Heritage Lincolnshire.~~

## Environmental remains

- ~~1.1. Archaeological deposits will be sampled where appropriate for environmental material and other finds (e.g. bone, pottery etc.). Bulk samples will be taken from selected deposits for wet sieving and floatation in order to recover any environmental material. A bulk sample will typically be 40 litres. However, where large deposits are encountered more than one bulk sample may be taken. Similarly, small deposits such as the fill of postholes may contain less than 10 litres of sediment and will be fully sampled. A representative proportion of samples taken on-site will be processed and assessed with the results and recommendations for any further work included in the evaluation report.~~
- ~~1.1. Where waterlogged deposits are encountered (such as peat), appropriate sampling techniques will be employed so as to maximise the environmental information gained from such deposits. This may include the taking of monolith or core samples for pollen and non-pollen~~

~~palynomorphs (e.g. testates and fungal spores) and large samples for plant macrofossil, wood (including waterlogged wood) and insect analyses.~~

- ~~1.1. As part of the task specific WSI the Historic England Regional Science Advisor (Matt Nicholson) will be consulted with regard to developing an appropriate strategy for the recovery and sampling of environmental remains.~~

## **Treasure**

- ~~1.1. In the event of discovery of artefacts covered or potentially covered by Treasure Act 1996 [Ref. 17], these will be removed and reported to the Client / Principal Contractor, NKDC, LCC and the Finds Liaison Officer and the Landowner. The local Coroner will be informed according to the procedures relating to the Treasure Act of 1996.~~

## **Human Remains**

- ~~1.1. Any discovered human remains should, in the first instance be left in-situ, covered and protected. The Applicant / Principal Contractor should be informed immediately of such a discovery. The Curator and the local Coroner will also be informed immediately.~~
- ~~1.1. As excavation of all human remains requires a Ministry of Justice licence, in compliance with section 25 of the Burial Act 1857 and local environmental health regulations and the Disused Burial Grounds (Amendment) Act 1981, buried human remains will not be excavated unless removal is deemed necessary by either the Coroner or the Curator.~~
- ~~1.1. Although not anticipated (as it is understood that all remains were removed from the site at the time) any human remains associated with the two WWII crash sites shall additionally be subject to the requirements of the Protection of Military Remains Act licence (see below).~~
- ~~1.1. Any excavation of human remains will be carried out in accordance with the following guidance:~~
- ~~● APABE 2017 Guidance for Best Practice for the Treatment of Human Remains Excavated from Christian Burial Grounds in England (2nd edn) [Ref. 18]~~
  - ~~● Mitchell P & Brickley M (eds) 2017 Updated guidelines to the standards for recording human remains [Ref 19].~~

## **Post-Excavation Analysis**

~~1.1. Post excavation analysis and specialist reporting will be undertaken in accordance with the requirements of the ClfA's Standard for archaeological excavation [Ref. 2], Universal Guidance for archaeological excavation [Ref. 5] and Standard and guidance for the collection, documentation, conservation and research of archaeological materials [Ref. 12].~~

### ~~Reporting (academic and public dissemination)~~

~~1.1. Detailed reporting methods will be set out for each WSI. As a minimum, this is expected to include:~~

- ~~• Interim updates (site diary, weekly progress update during fieldwork, fortnightly during post excavation phase)~~
- ~~• Fieldwork summary (basic results summing up the interim updates)~~
- ~~• Reporting (list of headings including updated project design if further detailed analysis is recommended by the arch contractor)~~

~~1.1. The draft report will be submitted in the first instance for review/comment to the Applicant and the archaeological advisors to NKDC and LCC and Historic England as required. In finalising the report, the Archaeological Contractor will take into account any comments made and remedy any faults identified prior to the finalised report being submitted for discharge of the DCO Requirement.~~

~~1.1. A note on the results will be produced for inclusion within an appropriate local archaeological journal(s).~~

~~1.1. Subject to any contractual constraints, a summary of information from the project will be entered onto the OASIS online database of archaeological projects in Britain. This will include a digital (pdf) copy of the final report, which will also appear on the Archaeology Data Service (ADS) website once the OASIS record has been verified.~~

### ~~Archive Preparation and Deposition~~

~~1.1. Adequate resources will be provided during fieldwork to ensure that records adhere to the ClfA's Standard and guidance for the creation, compilation, transfer and deposition of archaeological archives [Ref. 13].~~

~~1.1. All artefacts and environmental samples will be processed, assessed, conserved and packaged in accordance with the archaeological contractors technical manuals and the relevant recipient museum guidelines.~~

~~1.1. As part of the development of the SSWSIs, the archaeological contractor will make arrangements with Lincolnshire County Council Heritage Service~~

~~for the deposition of the site archive and, subject to agreement with the legal landowner(s), the artefact collection.~~

- ~~1.1. Immediately upon completion of the finalised report, the report and any data or other documentation produced during the post-excavation assessment process will be integrated into the site archive.~~
- ~~1.1. An ordered, indexed, and internally consistent site archive will be prepared in accordance with the ClfA Standard and guidance for the creation, compilation, transfer and deposition of archaeological archives [Ref. 13], the Archaeological Archives Forum guide to best practice [Ref. 20] and Europae Archaeologia Consilium (EAC) guidelines [Ref. 2], as well as the relevant recipient museum guidelines.~~
- ~~1.1. Depending on the nature and scope of any subsequent archaeological works required at the site, the project archive may be combined with that for any subsequent works and deposited as a single archive. Confirmation of this will be included in any further WSI(s).~~
- ~~1.1. The reports will be submitted to the Lincolnshire Historic Environment Record and uploaded to the archaeology data service via the online OASIS form at <http://oasis.ac.uk/> within 6 months of completion, subject to any privacy or security considerations. The Curator will validate the appropriate OASIS form.~~

### ~~Selection strategy~~

- ~~1.1. Artefacts from topsoil, subsoil and unstratified contexts will normally be noted but not retained unless they are of intrinsic interest (e.g. artefacts associated with the WWII aircraft crashes). All artefacts from stratified excavated contexts will be collected, except for large assemblages of post-industrial or modern material. Such material may be noted and not retained or, if appropriate, a representative sample may be collected and retained.~~
- ~~1.1. The material archive will be reviewed following analysis and reporting. Selection decisions will be based on the specialist reports and selection recommendations by the relevant museum and Curator. After discussion with the relevant museum curator and the archaeological contractor, it is possible that no material postdating AD 1800 will be retained for inclusion in the preserved archive.~~

### ~~Digital archive and Data Management~~

- ~~1.1. A digital archive will be deposited with the Archaeology Data Service (ADS). This archive will be compiled in accordance with the ADS Guidelines for Depositors.~~

~~1.1. All born-digital and digitally transferred project data created during fieldwork and post-excavation (other than duplicated files) will be stored by the archaeological contractor. Upon project completion and deposition, the data will be transferred to a secure external server. Data will be selected for inclusion in the final digital archive, as detailed below. It is proposed that data selection will occur following completion of post-excavation work. Selected digital files will be transferred to the ADS, in line with the relevant guidance and standards. Digital photographs will be selected for inclusion in the archive in line with Digital Image Capture and File Storage: Guidelines for Best Practice (Historic England 2015).~~

## Monitoring

~~1.1. Reasonable access will be afforded to the Curator for the purpose of monitoring the archaeological fieldwork. The client reserves the right to attend or nominate representatives for any such occurrence.~~

## REFERENCES

- Ref. 1** Historic England 2015 Management of Research Projects in the Historic Environment: The MoRPHE Project Managers' Guide (2015) [Online] Available at: <https://historicengland.org.uk/images-books/publications/morphe-project-managers-guide/heag024-morphe-managers-guide/> (Accessed 22/08/2024)
- Ref.2** Chartered Institute for Archaeologists 2023 Standard for archaeological excavation [Online] Available at: <https://www.archaeologists.net/sites/default/files/Standard%20for%20archaeological%20excavation.pdf> (Accessed 22/08/2024)
- Ref. 3** Chartered Institute for Archaeologists 2023 Standard for archaeological field evaluation [Online] Available at: <https://www.archaeologists.net/sites/default/files/Standard%20for%20archaeological%20field%20evaluation.pdf> (Accessed 22/08/2024)
- Ref. 4** Chartered Institute for Archaeologists 2023 Standard for archaeological monitoring and recording [Online] Available at: <https://www.archaeologists.net/sites/default/files/Standard%20for%20archaeological%20monitoring%20%26%20recording.pdf> (Accessed 22/08/2024)
- Ref. 5** Chartered Institute for Archaeologists 2023 Universal guidance for archaeological excavation [Online] Available at: <https://www.archaeologists.net/sites/default/files/Universal%20guidance%20for%20archaeological%20excavation.pdf> (Accessed 22/08/2024)
- Ref. 6** Chartered Institute for Archaeologists 2023 Universal guidance for archaeological field evaluation [Online] Available at: [https://www.archaeologists.net/sites/default/files/CIfAS%26GFieldevaluation\\_3.pdf](https://www.archaeologists.net/sites/default/files/CIfAS%26GFieldevaluation_3.pdf)  
<https://www.archaeologists.net/sites/default/files/Universal%20guidance%20for%20archaeological%20field%20evaluation.pdf> (Accessed 22/08/2024)
- Ref. 7** Chartered Institute for Archaeologists 2023 Universal guidance for archaeological monitoring and recording [Online] Available at: <https://www.archaeologists.net/sites/default/files/CIfASGWatchingbrief.pdf> (Accessed 22/08/2024)
- Ref. 8** [Lincolnshire County Council 2024 Archaeology Handbook](https://www.lincolnshire.gov.uk/downloads/file/2204/archaeology-handbook-pdf) [Online] Available at <https://www.lincolnshire.gov.uk/downloads/file/2204/archaeology-handbook-pdf> (Accessed 08/08/2025)
- Ref. 9** Ministry of Housing, Communities & Local Government National Planning Policy Framework [Online] Available at: [https://assets.publishing.service.gov.uk/media/669a25e9a3c2a28abb50d2b4/NPPF\\_December\\_2023.pdf](https://assets.publishing.service.gov.uk/media/669a25e9a3c2a28abb50d2b4/NPPF_December_2023.pdf) (Accessed 22/08/2024)
- Ref. 9-10** Department for Energy Security & Net Zero Overarching National Policy Statement for Energy (EN-1) <https://assets.publishing.service.gov.uk/media/65bbfbdc709fe1000f637052/overarching-nps-for-energy-en1.pdf> (Accessed 22/08/2024)

**Ref. 10–11** Department for Energy Security & Net Zero (2023) National Policy Statement for Renewable Energy Infrastructure (EN-3) [Online] Available at: <https://assets.publishing.service.gov.uk/media/655dc352d03a8d001207fe37/nps-renewable-energy-infrastructure-en3.pdf> (Accessed 22/08/2024)

**Ref. 11–12** East Midlands Historic Environment Research Strategy [Online] Available at: <https://researchframeworks.org/emherf/research-strategy/> (Accessed 10/10/2023)

~~**Ref. 12** Lincolnshire County Council (2019) Archaeological Handbook [Online] Available at: <https://www.lincolnshire.gov.uk/downloads/file/2204/archaeology-handbook-pdf> (Accessed 22/08/2024)~~

**Ref. 13** Chartered Institute for Archaeologists (CIfA) 2014 Standard and guidance for the collection, documentation, conservation and research of archaeological materials (updated October 2020) (Reading) [Online] Available at: [https://www.archaeologists.net/sites/default/files/CIfAS%26GFinds\\_2.pdf](https://www.archaeologists.net/sites/default/files/CIfAS%26GFinds_2.pdf) (Accessed 22/08/2024)

~~**Ref. 14** Historic England (2018) Our Portable Past: A guide to good practice (Swindon) [Online] Available at: <https://historicengland.org.uk/images-books/publications/ourportablepast/heag177-our-portable-past/> (Accessed 12/08/2025)~~

**Ref. 14–15** Museums & Galleries Commission (1992) Standards in the Museum Care of Archaeological Collections [Online] Available at: <https://collectiontrust.org.uk/wp-content/uploads/2016/11/Standards-in-the-museum-care-of-archaeological-collections.pdf> (Accessed 22/08/2024)

**Ref. 15** Campbell, G., Moffett, L. and Straker, V. (2011) A Guide to the Theory and Practice of Methods, from Sampling and Recovery to Post-excavation (second edition). Historic England [Online] Available at: <https://historicengland.org.uk/images-books/publications/environmental-archaeology-2nd/environmental-archaeology/> (Accessed on 22/08/2024)

**Ref. 16** Available at <https://www.icon.org.uk/groups-and-networks/archaeology/first-aid-for-finds.html> (Accessed 22/08/2024)

~~**Ref. 17** Health and Safety at Work Act 1974 [Online] Available at: <https://www.legislation.gov.uk/ukpga/1974/37/contents> (Accessed 12/08/2025)~~

~~**Ref. 18** Management of Health and Safety at Work Regulations 1999 [Online] Available at: <https://www.legislation.gov.uk/uksi/1999/3242/contents> (Accessed 12/08/2025)~~

~~**Ref. 19** Leigh, D. (1998) First Aid for Finds: A practical guide for archaeologists~~

**Ref. 17–20** DCMS 2023 Treasure Act 1996: Code of Practice (3rd Revision) [Online] Available at: [https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment\\_data/file/1138568/Treasure Act 1996 Code of Practice.pdf](https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/1138568/Treasure_Act_1996_Code_of_Practice.pdf) (Accessed 22/08/2024)



- Ref. ~~18-21~~** APABE 2017 Guidance for Best Practice for the Treatment of Human Remains Excavated from Christian Burial Grounds in England (2nd edn) ~~[Online]~~  
~~Available~~ ~~at:~~ ~~Available~~ ~~at:~~  
[https://apabe.archaeologyuk.org/pdf/APABE\\_ToHREfCBG\\_FINAL\\_WEB.pdf](https://apabe.archaeologyuk.org/pdf/APABE_ToHREfCBG_FINAL_WEB.pdf)  
~~(Accessed accessed 08/10/2024)~~
- Ref. ~~19-22~~** Mitchell P & Brickley M (eds) 2017 Updated guidelines to the standards for recording human remains. ~~[Online]~~ ~~Available~~ ~~at:~~ ~~Available~~ ~~at:~~  
<https://babao.org.uk/resources/guidelines-codes/> ~~(Accessed accessed 08/10/2024)~~
- Ref. ~~22-24~~** Archaeological Archives Forum (AAF) 2011 Archaeological Archives A guide to best practice in creation, compilation, transfer and curation (2nd edn) (ClfA: Reading) ~~[Online]~~ ~~Available~~ ~~at:~~ [http://www.archaeologyuk.org/archives/aaf\\_archaeological\\_archives\\_2011.pdf](http://www.archaeologyuk.org/archives/aaf_archaeological_archives_2011.pdf) ~~(Accessed accessed 14/08/2023)~~
- Ref. ~~24-25~~** Europae Archaeologia Consilium 2019 Standard and Guide to Best Practice for Archaeological Archiving in Europe: EAC Guidelines 1





## Appendix 1: REQUIREMENTS FOR TASK SPECIFIC / LOCATION SPECIFIC WRITTEN SCHEMES OF INVESTIGATION

1.1. Any Task Specific Written Scheme of Investigation (TSWSI) or Location Specific Written Scheme of Investigation (LSWSI) must follow the relevant Standards and Guidance of the Chartered Institute of Archaeologists. (CIfA). These state that the author [of the TSWSI or LSWSI] should be a Member (MCIFA) of CIfA, and that the [TSWSI / LSWSI] should be specific to the project, reflect the significance of the archaeological remains likely to be found and set out the proposed scheme of investigation in enough detail that all relevant parties can understand and agree what will be done, assess whether it is fit for purpose and check that it complies with any conditions or obligations by providing a benchmark against which the results of the work can be monitored and measured.

### 2. General requirements

2.1. Any TSWSI / LSWSI should include the following:

- a) non-technical summary
- b) site location (including map) and descriptions
- c) context of the project
- d) geological and topographical background
- e) archaeological and historical background
- f) a statement on the relevant technical, research and ethical competences of the organisation undertaking the work
- g) research aims of the project, including explicit reference to existing research frameworks and objectives, where appropriate, including the Key Questions and Overarching Questions detailed in this Outline Written Scheme of Investigation
- h) methods of investigation, including environmental sampling and scientific dating strategies, where appropriate
- i) methods of recording, including spatial data collection standards
- j) arrangements for immediate conservation and storage of artefacts in accordance with the Standard and guidance for the collection, documentation, conservation and research of archaeological materials
- k) methodology for producing a post-fieldwork assessment and analysis of project data
- l) archiving strategy, including reference to data management plans, selection strategy and local repository requirements – in accordance with the Standard and guidance for the creation, compilation, transfer and deposition of archaeological archives
- m) publication, dissemination and engagement proposals detailing how the needs of relevant audiences will be met, including how the results may be usable for subsequent research

- n) copyright
- o) staffing (including specialists, both external and in-house), resources (excluding financial) and consideration of timescale
- p) a statement on compliance with relevant professional, ethical and technical standards (including data standards), legislation and appropriate guidance
- q) a tailored statement and plan detailing how public benefit will be delivered, including consideration of the potential for engagement and participation proportionate to the project
- r) health and safety considerations
- s) reference to the environmental protection policy (including carbon reduction plan) applying to the project
- t) arrangements for monitoring progress and compliance by regulators, clients and their agents
- u) contingency arrangements

### 3. Project specific requirements

#### **Aims and Objectives**

3.1. TSWSIs / LSWSIs will detail how they will seek to answer the relevant Key Questions from this oWSI and any additional Key Questions that may have been agreed as relevant following earlier phases of evaluation. TSWSIs / LSWSIs will also link the Key Questions to relevant research agenda topics.

#### **Public Engagement**

3.2. It is recognised that metal detecting and fieldwalking surveys in particular can provide an opportunity for community engagement with archaeology in a practical way. It is also recognised that there is an existing local aircraft recovery group with interest in the WWII crash sites who have carried out previous excavations of these aircraft.

3.3. The public benefits of such community engagement are recognised and the potential for including local metal detecting societies and other interested groups within the fieldwork will be explored by the Archaeological Contractor in conjunction with the Proposed Development's Community Liaison Officer. Where there will be community involvement in the survey the TSWSI / LSWSI will detail how professional standards will be maintained.

3.4. The Archaeological Contractor will also consider any other opportunities for public engagement with the archaeological remains within the Order Limits. Such opportunities will be agreed with the Client/Applicant and Curator and will be detailed within the TSWSI / LSWSI.

### **Dissemination of results**

3.5. The TSWSI / LSWSI will detail how the results of the evaluation will be disseminated. This will include at a minimum a “grey literature” report for submission to the Lincolnshire Historic Environment Record. Further publication (as either an archaeological monograph or as publicly accessible publications or both) may be relevant depending on the results of the evaluation. The TSWSI / LSWSI will detail the expectations for that phase, and how results from earlier phases would be incorporated.

## APPENDIX 2: GENERAL METHODOLOGIES FOR INTRUSIVE ARCHAEOLOGICAL INVESTIGATION

1.1. The following methodologies will be applicable to all archaeological excavation, including trenching and archaeological mitigation, and will be agreed upon and reflected in any Task Specific or Location Specific Written Schemes of Investigation (TSWSI(s) / LSWSIs) submitted. TSWSIs / LSWSIs (collectively WSIs) will be produced for each phase of archaeological evaluation and for any archaeological mitigation for each part of the development in order to comply with DCO Requirement 11.

### Task Specific or Location Specific WSIs (TSWSIs / LSWSIs)

1.2. TSWSIs or LSWSIs will be agreed for each location or phase of archaeological trial trenching or excavation. The WSIs will follow the ClfA guidance document(s) referred to above and will conform to the requirements of the Lincolnshire Archaeological Handbook [Ref. 8] and ClfA Standards and Guidance ([Ref. 2], [Ref. 3], [Ref. 4], [Ref. 5], [Ref. 6] and [Ref.12]) as appropriate to the phase of work. These WSIs will set out any site-specific objectives and methodologies. They will contain the following as a minimum:

- Aims and objectives for each element of the archaeological works;
- A summary of the archaeological and historical background, including the results of the work undertaken to date (insofar as it is relevant to the works set out in the specific WSI);
- Detail the methodologies that will be implemented and form the central basis by which the investigation can be measured against its aims and objectives;
- Details on the provision of site welfare, plant equipment, in accordance with archaeological requirements and relevant Health and Safety legislation as appropriate;
- Details of a proposed timetable/programme to archaeological works, post-excavation and reporting following completion of works;
- Details of proposed archiving methods and repositories;
- Details of company Health and Safety Policy, evidence of insurance and a health and safety risk assessment and method statement (RAMS) for the project; and
- Details of any external specialists and other third parties to be used in the preparation of the fieldwork reports.

### Programme

1.3. The TSWSI / LSWSI will include details of the programme of archaeological work. This will be agreed between the Client / Principal Contractor, Curator

and Archaeological Contractor. The programme will detail proposed start and end dates for on-site works. The programme will also account for any post-excavation assessment and reporting, as required to discharge any archaeological requirements of the DCO.

### Access and Setting Out

1.4. Access will be arranged by the Applicant/ Principal Contractor in advance of all site works.

1.5. The location of each area subject to the relevant task specific WSI will be accurately set out by instrument survey and tied into the Ordnance Survey National Grid and Ordnance datum.

### Machine and Hand Excavation

1.6. Machine excavation will be under the instruction of a sufficiently experienced and qualified archaeologist. Mechanical excavators will be equipped with a toothless ditching bucket and under constant archaeological supervision.

1.7. The archaeological features and deposits encountered will be excavated by hand.

1.8. All archaeological features will be investigated in accordance with the strategy set out in the relevant task-specific WSI.

1.9. The current outline proposals for excavation are detailed below:

- 100% of discrete features such as hearths, kilns and pits;
- 100% of funerary features such as graves and cremations;
- 50% of each discrete features of other types by area;
- 15% of any linear features which form part of settlement activities or enclosure systems;
- 10% of each simple linear feature within the whole stripped area; and
- All terminals of linear features, as well as intersections between features.

1.10. In addition to all stratigraphic relationships, and where appropriate and necessary, sufficient soil samples for dating evidence and ecofactual analysis will be taken.

1.11. The depth and complexity of archaeological features and deposits within each area exposed will be ascertained, unless health and safety or environmental constraints deem otherwise. Where features cannot be hand excavated the Applicant and Curator will be consulted.

- 1.12. The full scope of work for excavation will be detailed TSWSIs / LSWSIs and may be subject to change following earlier phases of evaluation depending on their results. These works would be subject to the relevant ClfA Standard [Ref. 2], [Ref. 3], [Ref.4] and Universal Guidance [Ref.5], [Ref. 6], [Ref. 7] for archaeological excavation.

## Recording and Sampling

- 1.13. All excavated archaeological contexts will be recorded in full through provision of a detailed written context records, which will include details of extent, location, relationships, samples, finds, and cross-references to any relevant contexts.
- 1.14. All features will be planned at an appropriate scale, either digitally or by hand, as well as feature cross sections, and photographed accordingly. These plans and the photographic record will be presented in any final reporting.
- 1.15. In addition, all finds and environmental samples will be retained and recorded in order to provide dates and assist in the interpretation of form and function of any archaeological features or deposits identified.
- 1.16. All finds and samples will be collected and treated in accordance with the relevant guidance, including:
- ClfA's Guidance for the collection, documentation, conservation and research of archaeological materials [Ref. 12].
  - Museums and Galleries Commission's Standards in the Museum Care of Archaeological Collections [Ref. 14], and
  - Environmental Archaeology: a guide to theory and practice of methods, from sampling and recovery to post-excavation [Ref. 15].

## WWII Crash Sites

- 1.17. Two WWII crash sites are recorded within the Site. Any archaeological work or other excavation (including development) within the area of the crash sites will require a licence from the Ministry of Defence (MOD). This will be applied for by Archaeological Contractor and all conditions of the licence will be adhered to. Licences will be granted to a named individual (not to a group of individuals), who may ask other people to assist, but who themselves must be present during the entire excavation.

## Health, Safety and Environment

- 1.18. The Archaeological Contractor will conduct all works in accordance with the Health and Safety at Work Act 1974 [Ref. 16] and the Management of Health and Safety Regulations 1992 [Ref. 17], and all other relevant Health and Safety legislation, regulations and codes of practice in force at the time

for the fieldwork. Any client/developer/Principal Contractor policies and/or procedures will also be followed.

- 1.19. Prior to commencement, a health and safety Risk Assessment and Method Statement (RAMS) for the work will be prepared by the Archaeological Contractor and submitted to the Applicant for review and acceptance.

## Artefacts

- 1.20. Finds will be routinely recorded by context and recorded 3-dimensionally where appropriate (i.e. where their position within a context can provide further significant information or the find is of particular significance). Any artefacts retrieved during the evaluation will be cleaned using appropriate techniques and packaged and stored in accordance with First Aid for Finds [Ref. 18].
- 1.21. All artefacts recovered during the evaluation will be cleaned, marked and catalogued.
- 1.22. Artefacts will be properly conserved and will be stabilised for storage where required. If necessary, a conservator will visit the site to undertake initial conservation treatment. If any of the trenches result in the recovery of unstable artefactual remains (e.g. metallic objects or preserved wood/leather), the Archaeological Contractor will seek the advice of the Historic England Regional Science Advisor regarding appropriate conservation measures.
- 1.23. All finds and samples will be processed (cleaned and marked), as appropriate. Each category of find will be examined by a suitably qualified archaeologist or specialist and the results incorporated into the post-excavation assessment report.
- 1.24. The analysis of ceramic finds will be carried out with reference to the Finds Type Series for Roman and Post-Roman ceramics (held at Lincoln City and County Museum) and the Rural Kesteven Type Series held by Heritage Lincolnshire.

## Environmental remains

- 1.25. Archaeological deposits will be sampled where appropriate for environmental material and other finds (e.g. bone, pottery etc.). Bulk samples will be taken from selected deposits for wet sieving and floatation in order to recover any environmental material. A bulk sample will typically be 40 litres. However, where large deposits are encountered more than one bulk sample may be taken. Similarly, small deposits such as the fill of postholes may contain less than 10 litres of sediment and will be fully sampled. A representative proportion of samples taken on site will be processed and



assessed with the results and recommendations for any further work included in the evaluation report.

1.26. Where waterlogged deposits are encountered (such as peat), appropriate sampling techniques will be employed so as to maximise the environmental information gained from such deposits. This may include the taking of monolith or core samples for pollen and non-pollen palynomorphs (e.g. testates and fungal spores) and large samples for plant macrofossil, wood (including waterlogged wood) and insect analyses.

1.27. As part of the TWSIs / LSWSIs Historic England's Regional Science Advisor (Matt Nicholson) will be consulted with regard to developing an appropriate strategy for the recovery and sampling of environmental remains.

## Treasure

1.28. In the event of discovery of artefacts covered or potentially covered by Treasure Act 1996 [Ref. 19], these will be removed and reported to the Client / Principal Contractor, North Kesteven District Council (NKDC), LCC and the Finds Liaison Officer and the Landowner. The local Coroner will be informed according to the procedures relating to the Treasure Act.

## Human Remains

1.29. Any discovered human remains should, in the first instance be left in-situ, covered and protected. The Applicant / Principal Contractor should be informed immediately of such a discovery. The Curator and the local Coroner will also be informed immediately.

1.30. As excavation of all human remains, or their archaeological study in the ground, requires a Ministry of Justice licence, in the event of any discoveries of human remains the Archaeological Contractor will apply for such a licence.

1.31. Buried human remains will not be excavated unless removal is deemed necessary by either the Coroner or the Curator.

1.32. Although not anticipated (as it is understood that all remains were removed from the site at the time) any human remains associated with the two WWII crash sites shall additionally be subject to the requirements of the Protection of Military Remains Act licence (see below).

1.33. Any excavation of human remains will be carried out in accordance with the following guidance:

- APABE 2017 Guidance for Best Practice for the Treatment of Human Remains Excavated from Christian Burial Grounds in England (2nd edn) [Ref. 20]

- Mitchell P & Brickley M (eds) 2017 Updated guidelines to the standards for recording human remains [Ref 21].

## Post-Excavation Analysis

- 1.34. Post-excavation analysis and specialist reporting will be undertaken in accordance with the requirements of the ClfA's Standard for archaeological excavation [Ref. 2], Universal Guidance for archaeological excavation [Ref. 5], and Standard and guidance for the collection, documentation, conservation and research of archaeological materials [Ref. 12].

## Reporting (academic and public dissemination)

- 1.35. Detailed reporting methods will be set out for each WSI. As a minimum, this is expected to include:
- Interim updates (site diary, weekly progress update during fieldwork, fortnightly during post-excavation phase)
  - Fieldwork summary (basic results summing up the interim updates)
  - Reporting (list of headings including updated project design if further detailed analysis is recommended by the arch contractor)
- 1.36. The draft report will be submitted in the first instance for review/comment to the Applicant and the archaeological advisors to NKDC and LCC and Historic England as required. In finalising the report, the Archaeological Contractor will take into account any comments made and remedy any faults identified prior to the finalised report being submitted for discharge of the DCO Requirement.
- 1.37. A note on the results will be produced for inclusion within an appropriate local archaeological journal(s).
- 1.38. Subject to any contractual constraints, a summary of information from the project will be entered onto the OASIS online database of archaeological projects in Britain. This will include a digital (pdf) copy of the final report, which will also appear on the Archaeology Data Service (ADS) website once the OASIS record has been verified.

## Archive Preparation and Deposition

- 1.39. Adequate resources will be provided during fieldwork to ensure that records adhere to the ClfA's Standard and guidance for the creation, compilation, transfer and deposition of archaeological archives [Ref. 22].
- 1.40. All artefacts and environmental samples will be processed, assessed, conserved and packaged in accordance with the Archaeological Contractor's technical manuals and the relevant recipient museum guidelines.

- 1.41. As part of the development of the TSWSIs, the archaeological contractor will make arrangements with Lincolnshire County Council Heritage Service for the deposition of the site archive and, subject to agreement with the legal landowner(s), the artefact collection.
- 1.42. Immediately upon completion of the finalised report, the report and any data or other documentation produced during the post-excavation assessment process will be integrated into the site archive.
- 1.43. An ordered, indexed, and internally consistent site archive will be prepared in accordance with the ClfA Standard and guidance for the creation, compilation, transfer and deposition of archaeological archives [Ref. 22], the Archaeological Archives Forum guide to best practice [Ref. 23] and Europae Archaeologia Consilium (EAC) guidelines [Ref. 24], as well as the relevant recipient museum guidelines.
- 1.44. Depending on the nature and scope of any subsequent archaeological works required at the site, the project archive may be combined with that for any subsequent works and deposited as a single archive. Confirmation of this will be included in any further WSI(s).
- 1.45. The reports will be submitted to the Lincolnshire Historic Environment Record and uploaded to the archaeology data service via the online OASIS form at <http://oasis.ac.uk/> within 6 months of completion, subject to any privacy or security considerations. The Curator will validate the appropriate OASIS form.

### Selection strategy

- 1.46. Artefacts from topsoil, subsoil and unstratified contexts will normally be noted but not retained unless they are of intrinsic interest (e.g. artefacts associated with the WWII aircraft crashes). All artefacts from stratified excavated contexts will be collected, except for large assemblages of post-industrial or modern material. Such material may be noted and not retained or, if appropriate, a representative sample may be collected and retained.
- 1.47. The material archive will be reviewed following analysis and reporting. Selection decisions will be based on the specialist reports and selection recommendations by the relevant museum and Curator. After discussion with the relevant museum curator and the archaeological contractor, it is possible that no material postdating AD 1800 will be retained for inclusion in the preserved archive.

### Digital archive and Data Management

1.48. A digital archive will be deposited with the Archaeology Data Service (ADS). This archive will be compiled in accordance with the ADS Guidelines for Depositors.

1.49. All born-digital and digitally-transferred project data created during fieldwork and post-excavation (other than duplicated files) will be stored by the archaeological contractor. Upon project completion and deposition, the data will be transferred to a secure external server. Data will be selected for inclusion in the final digital archive, as detailed below. It is proposed that data selection will occur following completion of post-excavation work. Selected digital files will be transferred to the ADS, in line with the relevant guidance and standards. Digital photographs will be selected for inclusion in the archive in line with Digital Image Capture and File Storage: Guidelines for Best Practice [Ref. 25].

### Monitoring

1.50. Reasonable access will be afforded to the Curator for the purpose of monitoring the archaeological fieldwork. The client reserves the right to attend or nominate representatives for any such occurrence.

## Appendix 3: General requirements for reporting and archiving

1.1. The following sets out the general requirements for post-fieldwork reporting for all phases of the evaluation. Detailed requirements will be agreed upon and reflected in any task specific WSI(s) submitted.

1.2. All reports will include:

- a) site code/project number; dates for fieldwork visits; grid references; location plan, and a plan showing the limits of the survey area;
- b) a non-technical summary of the reason for, aims and main results of the survey;
- c) an introduction to outline the circumstances leading to the commission of the project and any restrictions;
- d) the aims and objectives of the survey;
- e) the methodology;
- f) a finds assessment of all of the artefacts recovered from specialists;
- g) a summary and synthesis of the archaeological results in relation to the methods used together with a confidence rating and the perceived importance in local, regional or national context.
- h) Appropriate illustrations, all plans/plots will have a bar scale and be accurately orientated north arrow;
- i) OASIS Data Collection Form;
- j) references to all primary and secondary sources consulted;

### Archive Preparation and Deposition

1.3. Adequate resources will be provided during fieldwork to ensure that records adhere to the ClfA's Standard and guidance for the creation, compilation, transfer and deposition of archaeological archives [Ref. 22].

1.4. All artefacts and environmental samples will be processed, assessed, conserved and packaged in accordance with the archaeological contractors technical manuals and the relevant recipient museum guidelines.

- 1.5. As part of the development of the TSWSIs, the archaeological contractor will make arrangements with Lincolnshire County Council Heritage Service for the deposition of the site archive and, subject to agreement with the legal landowner(s), the artefact collection.
- 1.6. Immediately upon completion of the finalised report, the report and any data or other documentation produced during the post-excavation assessment process will be integrated into the site archive.
- 1.7. An ordered, indexed, and internally consistent site archive will be prepared in accordance with the ClfA Standard and guidance for the creation, compilation, transfer and deposition of archaeological archives [Ref. 22], the Archaeological Archives Forum guide to best practice [Ref. 23] and Europae Archaeologia Consilium (EAC) guidelines [Ref. 24], as well as the relevant recipient museum guidelines.
- 1.8. Depending on the nature and scope of any subsequent archaeological works required at the site, the project archive may be combined with that for any subsequent works and deposited as a single archive. Confirmation of this will be included in any further WSI(s).
- 1.9. The reports will be submitted to the Lincolnshire Historic Environment Record and uploaded to the archaeology data service via the online OASIS form at <http://oasis.ac.uk/> within 6 months of completion, subject to any privacy or security considerations. The Curator will validate the appropriate OASIS form.

## Appendix 4: Draft Archaeological Mitigation Strategy

## Archaeological mitigation



The assessment work completed for the Proposed Development to date has identified 31 particular and discrete locations where important buried archaeological remains survive within the Site. Where these are located within areas of Solar PV development embedded mitigation in the design of the Scheme includes preservation in situ through the use of concrete feet or similar non-intrusive panel supports and routing of cables between arrays and Inverter Transformer Stations (ITS) above ground.

Where preservation in situ is not necessary (e.g. where impacts will be negligible) or is not feasible (e.g. where archaeological remains are present within the cable routes between Springwell West, Springwell Central and Springwell East and between the Springwell Substation and the National Grid Navenby Substation) targeted areas of archaeological excavation will form the mitigation.

## Introduction

- 1.1. This Draft Archaeological Mitigation Strategy has been produced by Headland Archaeology (UK) Ltd, part of the RSK Group, on behalf of Springwell Energyfarm Ltd, for Springwell Solar Farm, located in the North Kesteven District of Lincolnshire.
- 1.2. This document sets out the proposed archaeological mitigation strategy for Springwell Solar Farm its aims and objectives, as well as the methodologies and standards to be used in undertaking the proposed works. Its purpose is to provide sufficient information for the Lincolnshire County Council archaeological advisor (as the relevant planning authority) to comment on the proposed approach to addressing potential development impacts on archaeological remains during the post-consent phases of the project, as well as to provide information to archaeological contractors to tender for any required works.
- 1.3. The document seeks to conform with current best practice, and to the guidance outlined in Management of Research Projects in the Historic Environment (MoRPHE) [Ref. 1], and the Chartered Institute for Archaeologists (CIfA) Standards and Guidance [Refs. 2, 3, 4, 5, 6, 7, 12 and 22], as well as the guidance contained in the Lincolnshire Archaeology Handbook [Ref. 8]. It sets out a proportionate approach to post-determination mitigation. It is based on the current understanding of the archaeological potential of the Site and will be refined following a programme of post-consent archaeological evaluation.

## Description of the Site

- 1.1. The 1,280ha area ("the Site") is located c.1 km to the south of the village of Metheringham in the north and runs south-west to the village of Scopwick and over the A15. In total the Site measures c.19.9 km from its north-eastern tip at

NGR TF 08641 60671 to the south-western end point at NGR TF 02905 52346. The Site sits entirely within Lincolnshire, 15 km south of Lincoln (NGR TF 05470 56654), post code LN4 3JE (Figure 1).

- 1.2. The Site is divided into three areas: Springwell East, Springwell Central and Springwell West, all of which are largely agricultural fields. The area is generally flat with a slight incline to the south-west; Springwell West lies approximately 48m above Ordnance datum (AOD), Springwell Central lies approximately 21m AOD and Springwell East lies approximately 19m AOD.
- 1.3. Springwell West is bounded to the north, west, south and east by agricultural fields it is traversed north-south by the A15 road. The north is also bounded by RAF Digby. To the south-west of the site sits Brauncewell Quarry, an active limestone, sand and gravel quarry. Surrounded by Springwell West is the curtilage of Slate House, which is not included within the Site.
- 1.4. Springwell Central is bounded on all sides by agricultural fields but encircles the village of Scopwick. This area also contains the farm of Rowston Top and a water treatment plant which are excluded from the Site.
- 1.5. Springwell East is also bounded on all sides by agricultural fields but also by the villages of Blankney to the north and Scopwick and Kirkby Green to the south, as well as the Peterborough to Lincoln trainline to the east. There are numerous parts of this area which have been excluded, including woodland and Scopwick Low Field Farm.
- 1.6. There are a number of areas of woodland within the Site along with numerous hedges and other field boundaries. There is one watercourse that runs through the Site in Springwell Central to the water treatment plant. Scopwick Beck is the closest other watercourse that runs c.175m south of Springwell East.
- 1.7. At a wider topographic scale, the Site is located on relatively flat ground that is largely of agricultural use, with small nucleated villages dotted across the landscape.
- 1.8. The underlying solid geology is recorded by the British Geological Survey (BGS). There are 8 different bedrock geologies listed within the Site: Oxford Clay Formation, Kellaways Formation, Cornbrash Formation, Blisworth Clay Formation, Blisworth Limestone Formation, Rutland Formation, Upper Lincolnshire Limestone Member, Lower Lincolnshire Limestone Member. Superficial deposits are recorded in the south-western corner of the Site. These are listed as Sleaford Sand and Gravel – sand and gravel and Head – clay, silt, sand and gravel. Both are sedimentary superficial deposits formed up to 2.588 million years ago, during the Quaternary period.
- 1.9. There are 13 boreholes recorded by the BGS within or in close proximity to the Site. 12 of these have publicly accessible records which show a stratigraphy of

soil and gravel overlaying blue rock and limestone in places. A deposit model for the site is in preparation utilising information from ground investigations carried out for the Proposed Development Scheme.

## Description of the Proposed Development

1.10. Full details of the development are included in Schedule 1 (Authorised Development) of the Springwell Solar Farm Development Consent Order but in summary comprise:

- Work No. 1 – a ground mounted solar photovoltaic generating station including solar PV modules fitted to mounting structures; balance of solar system (BoSS) plant.
- and associated development comprising:
- Work No. 2 – an onsite substation compound
- Work No. 3 – satellite collector compounds
- Work No. 4 – an energy storage facility comprising a battery energy storage system compound
- Work No. 5 – works to lay high voltage electrical cables and access for the electrical cables
- Work No. 6 – works to lay electrical cables up to 132 kilovolt connecting Work Nos. 1, 2, 3, 4 and 5.
- Work No. 7 – temporary construction and decommissioning compounds in connection with Work Nos. 1 to 6 including—
- Work No. 8 – works to facilitate access to Work Nos. one to seven and nine
- Work No. 9 – works to create, enhance and maintain green infrastructure and mitigation

## Archaeological and Historical Background

3.6. A full description of the archaeological and historical background to the Site is presented in the Outline Written Scheme of Investigation. In summary there are three designated heritage assets within the Site, and the archaeological potential varies within the Order Limits, with areas of known archaeological potential evident in the existing data and areas where the existing data and professional judgement indicate that high sensitivity features may not be detectable except by intrusive means.

3.7. The designated heritage assets within the Order Limits comprise a Grade II listed milepost which will be preserved in situ, an area of Blankney Conservation Area where no works are proposed and part of the Scheduled Brauncewell medieval village where a permissive path is proposed.

## Overarching Aim

1.11. The overarching aim of the draft Archaeological Mitigation Strategy is to outline the archaeological mitigation measures that have either been agreed

as part of the Development Consent Order or will be agreed subject to the results of the post-consent evaluation. The draft Archaeological Mitigation Strategy will be updated to a final Archaeological Mitigation Strategy on completion of the post-consent evaluation to include all archaeological mitigation measures to be captured within the Construction Environmental Management Plan (CEMP).

## Mitigation Strategies

1.12. Archaeological mitigation takes the form of either preservation in situ, to avoid an impact to archaeological remains, or mitigation by recording of the archaeological remains. In this document these are referred to as “mitigation by design” and “mitigation by record” respectively. The appropriate method for any location within the Order Limits will be agreed during the post-consent detailed design. The below sets out the principles of each method of mitigation.

### **Mitigation by Design**

1.13. Mitigation by design may take the form of alterations to the layout of the proposed development, or in the case of solar farms, engineering solutions to avoid disturbance to below ground archaeological remains.

1.14. The **Design Commitments [EN010149/APP/7.4]** allow for either piled supports for the solar arrays or concrete footings which would sit on the surface rather than penetrate the ground.

1.15. Depending on the results of the post-consent archaeological evaluation, the design and/or location of the ground-mounted solar PV, cabling, access tracks and green infrastructure may be subject to minor amendment, depending on wider environmental or design constraints. Design changes to ensure preservation in situ of sensitive archaeological remains will be secured through and agreed with LCC in accordance with DCO Requirement 5 and may include:s

- the use of exclusion zones,
- The use of directional drilling to avoid excavating cables through areas of archaeological sensitivity,
- the use of concrete footings and/or trays which would lie on the ground surface, essentially capping any significant archaeological features (identified during trial trenching), and
- the implementation of planting and land management regimes that would prevent further disturbance via ploughing.

1.16. The following areas within the Order Limits are proposed for preservation in situ through the **Works Plans [EN010149/APP/2.3]** which show only grassland habitat creation

- Field Bcd140 – area of geophysical anomalies of likely settlement
- Field Bcd141 – area of geophysical anomalies of likely settlement

1.17. In addition, **Works Plans [EN010149/APP/2.3]** show that access into the Site will avoid the Grade II listed milepost on the A15.

1.18. The following areas may be suitable for preservation in situ (or partial preservation in situ) within fields proposed for solar arrays or within fields proposed for cabling depending on the results of the post-consent evaluation:

- Possible barrows within Fields Bcd079, Rw12, Rw01, Bk03, Bcd068, Bcd068, Bcd148, and Lf08
- Areas of likely settlement remains in Fields Rw12, C6, C8, C9, Bk02, Bk07, Bk06, and Bk15
- Currently unknown archaeological remains that may be identified within the post-consent evaluation that are either of sufficient importance or of particular sensitivity to piling and merit preservation in situ

1.19. Following completion of the post-consent evaluation, any areas of preservation in situ (including the listed milepost) will be agreed with the LPA and detailed in the final archaeological mitigation strategy and final Construction Environmental Management Plan (CEMP) and **Works Plans [EN010149/APP/2.3]**.

1.20. There may be cases where archaeological remains are sensitive to piling but not of sufficient importance to merit preservation in situ through complete exclusion of works. In these cases, the Works Plans will specify the use of non-intrusive supports for solar arrays but could allow for topsoil stripping or excavation for cabling, internal access roads, BoSS or ITS. Such areas would be detailed on the Works Plans and a programme of mitigation / preservation by record will be carried out as detailed below.

1.21. Where mitigation is through preservation in situ (either through full or partial exclusion of works) these areas will be clearly demarcated on site under the supervision of an Archaeological Clerk of Works (ACoW). Toolbox talks will be provided to all construction contractors regarding the archaeological mitigation measures and the ACoW will control access into any preservation in situ areas (e.g. where ballasted foundations have been approved by the LPA) through a “permit to work” process.

1.22. Where preservation in situ of archaeological remains is not required (because the archaeological remains are not of sufficient importance) and is not possible due to other project constraints, a programme of mitigation / preservation by record will be carried out as detailed below.

## **Archaeological mitigation**

### **Mitigation by Record/Preservation by Record**

- 1.23. This draft Archaeological Mitigation Strategy sets out the further archaeological investigation and mitigation by record which is known or believed to be required at the time of writing. Further requirements may be identified following the programme of post-consent evaluation trial trenching.
- 1.24. Following the completion of the archaeological works outlined in the oWSI and the agreement of the final Archeological Mitigation Strategy the next stage of the project would be to produce a Task Specific Written Scheme of Investigation (TSWSI) which will address all elements of the required post-determination mitigation.
- 1.25. The TSWSI will conform to the Standards and Universal Guidance of ClfA [Refs. 2, 3, 4, 5, 6, 12 and 22]. It will:
- Identify the aims and objectives for each element of the archaeological works;
  - Summarise the archaeological and historical background, including the results of the work undertaken to date;
  - Detail the proposed methodologies that will be implemented and form the central basis by which the investigation can be measured;
  - Provide details on the provision of site welfare, plant equipment, in accordance with archaeological requirements and relevant Health and Safety legislation as appropriate;
  - Include details of a proposed timetable/programme to archaeological works, post-excavation and reporting following completion of works;
  - Detail proposed archiving;
  - Detail the company Health and Safety Policy, evidence of insurance and a risk assessment for the project; and
  - Detail any external specialists and other third parties to be used in the preparation of the fieldwork reports.
- 1.26. There are several methods by which preservation by record can be achieved. These are:
- Archaeological Monitoring and Recording (Watching Brief); and / or
  - Strip Map and Sample / Archaeological Excavation.
- 1.27. These are discussed in more detail below.

### **Archaeological Monitoring and Recording (Watching Brief)**

- 1.28. Where groundworks involve visible movement or disturbance during construction, the areas may be suitable for monitoring by an appropriated qualified archaeologist. These areas for monitoring will be agreed in advance



with LCC and Historic England following a review of the post-consent evaluation results.

1.29. The following areas and activities are anticipated to be suitable for archaeological monitoring and recording:

- Installation of cables within Field By22 where remains of two WWII crash sites may be present

1.30. The following areas may be suitable for archaeological monitoring and recording depending on the results of the post-consent evaluation:

- Interconnecting cable routes between Springwell East and Springwell Central and between Springwell Central and Springwell West
- Grid connection cable route
- Internal access roads and cables if these cannot be routed to avoid archaeological remains not requiring preservation in situ within Fields By24, C6, C8, C9, C7, Md04, Md03, Md05, Bcd148, Bk07, Bk15, k06, Bk04, Bk02, Rw01, Rw12, Bcd079
- Internal access roads and cables in other fields where the post-consent evaluation identifies archaeological remains that do not require preservation in situ.

1.31. The installation of solar array foundations would not be suitable for archaeological monitoring and recording as these would either be piled or would use non-intrusive methods for construction.

1.32. In the event that an archaeological resource is encountered during monitoring, consultation with Lincolnshire County Council's archaeological advisor and Historic England would be required, and sufficient time allowed for proportionate excavation and recording of said resource prior to the recommencement of construction activity.

1.33. Following consultation and agreement with Lincolnshire County Council's archaeological advisor and Historic England it is proposed that, where monitoring has not identified any archaeological remains that the monitoring ceases and that an agreed area be handed directly to the Principal Contractor.

1.34. These works would be subject to the standards and guidance laid out in the ClfA Standard and Universal Guidance for archaeological monitoring and recording [Ref. 4 and 7].

### **Strip Map and Sample / Archaeological Excavation**

1.35. The extent of areas requiring a strip, map and sample or archaeological excavation will be agreed Lincolnshire County Council's archaeological advisor and Historic England in advance of construction, following a review of the post-consent evaluation results, and will be detailed in a TSWSI for Archaeological Mitigation submitted to Lincolnshire County Council.



1.36. The following areas and activities are anticipated to be suitable for archaeological excavation:

- Area of collector compound in Field By22 where remains of two WWII crash sites may be present (HER Refs: MLI25416 and MLI25417)
- Area of archaeological remains in southwest corner of Bk07 where mitigation planting is proposed.

1.37. The following areas may be suitable for excavation depending on the results of post-consent evaluation:

- Targeted areas within solar arrays where evaluation indicates archaeological remains that would be sensitive to piling but where preservation in situ is not used as mitigation
- Targeted areas within the Grid Connection Infrastructure where evaluation indicates archaeological remains of more than negligible importance and they cannot be avoided through detailed design

1.38. An outline of the methodology for strip, map and sample or archaeological excavation is set out below.

1.39. Where strip, map and sample and/or archaeological excavation is required, the locations of all areas will be accurately set out, surveyed and excavated and tied to the Ordnance Survey National Grid and Ordnance datum. Topsoil and any other overburden will be stripped from the agreed areas by suitable plant for mechanical excavation to expose any archaeological remains.

1.40. All mechanical excavation will be undertaken under the direct and continuous supervision of an experienced archaeologist. Mechanical excavation will cease when the first archaeologically significant horizon is encountered, or when the absence of any such horizon has been adequately demonstrated to the satisfaction of Lincolnshire County Council's archaeological advisor.

1.41. Following the removal of the topsoil and any other overburden, the area will be inspected for archaeological features, and in all areas containing and archaeological resource, particularly those with a significant concentration of features, will be manually cleaned by the Archaeological Contractor.

1.42. The need, and requirement to metal detect the spoil heaps and excavated areas, as well as collection of unstratified artefacts or small finds exposed during manual cleaning, will be reviewed and agreed in advance with the Lincolnshire County Council's archaeological advisor.

1.43. The current outline proposals for excavation are detailed below:

- 100% of discrete features such as hearths, kilns and pits;

- 100% of funerary features such as graves and cremations;
- 50% of each discrete features of other types by area;
- 15% of any linear features which form part of settlement activities or enclosure systems;
- 10% of each simple linear feature within the whole stripped area; and
- All terminals of linear features, as well as intersections between features.

1.44. In addition to all stratigraphic relationships, and where appropriate and necessary, sufficient soil samples for dating evidence and ecofactual analysis will be taken.

1.45. The full proposals will be detailed in consultation with the Lincolnshire County Council's archaeological advisor and Historic England and may be subject to change. These works would be subject to the ClfA Standard and Universal Guidance for archaeological excavation [Ref. 2 and 5].

1.46. Any areas of strip map and sample or archaeological monitoring and recording will also be agreed with the LPA, detailed in the final CEMP and TSWSIs / LSWSIs.

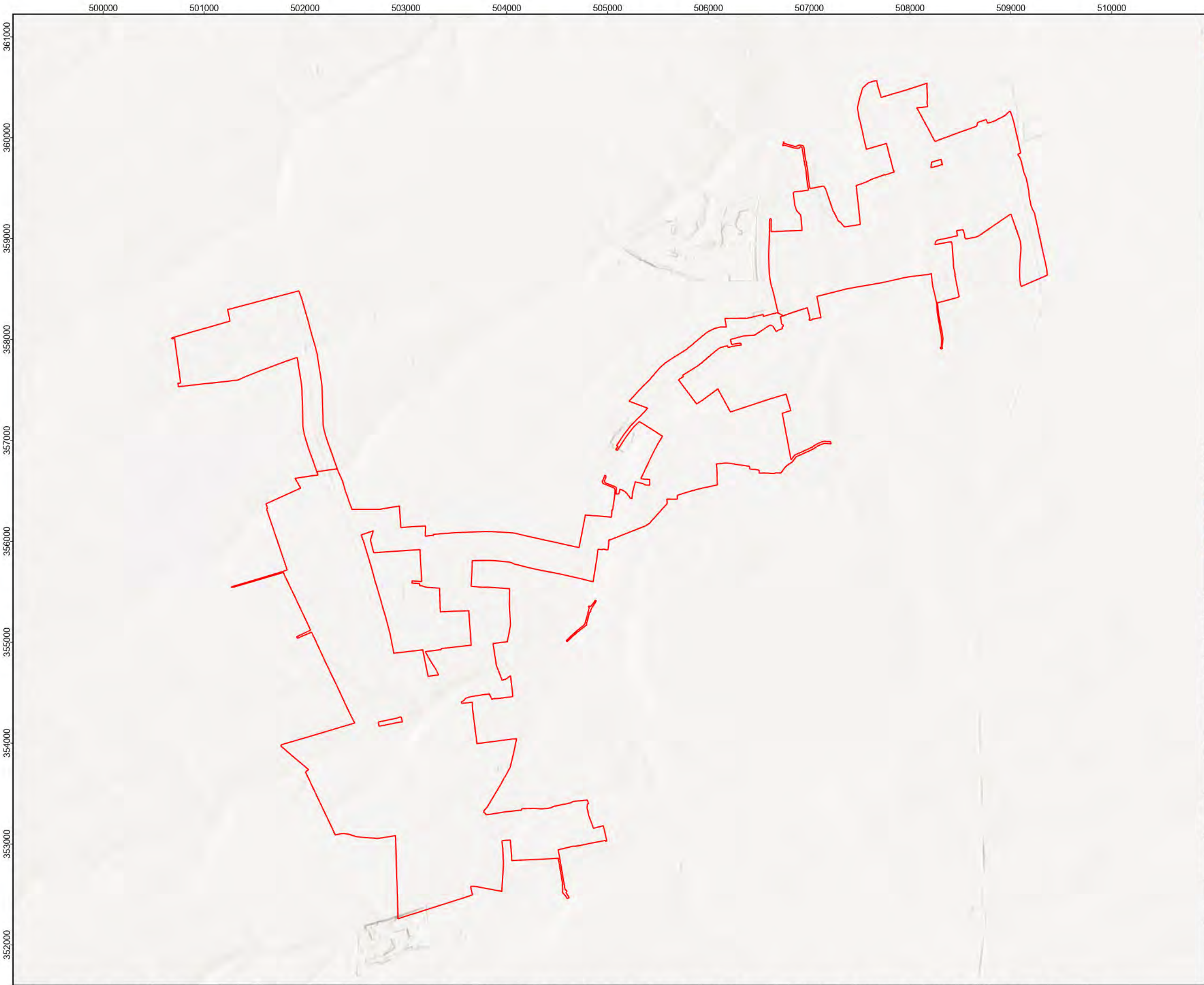
#### 4. Control of works

1.47. During construction an Archaeological Clerk of Works (ACoW) will ensure that the archaeological mitigation measures secured within the CEMP and WSIs are complied with. The ACoW will issue permits to work within any areas of archaeological sensitivity and will be available to provide advice and liaise with the Curator regarding any change of scope to the archaeological mitigation.

1.48. The ACoW will also be available during the operation (including maintenance) and decommissioning phases to ensure compliance with any archaeological mitigation measures detailed within the OEMP and DEMP.

# Figure 1 – Order Limits





LEGEND:

Order Limits

NOTES:

Coordinate System: British National Grid  
Projection: Transverse Mercator  
Datum: OSGB 1936  
Units: Meter

01	25/10/2024	DCO Submission	RSK	RSK	EDF
Rev	Date	Description	Drm	Chk	App

Springwell Solar Farm

DOCUMENT:  
outline Written Scheme of Investigation  
Regulation 5(2)(q)

TITLE:  
Figure 1: Order Limits

PINS REFERENCE NUMBER:  
EN010149/APP/7.15

0

0.5

1

Kilometers

Scale: 1:35,000 @ A3

REV 01

# Figure 2 – Currently known archaeological baseline







## Legend

Field Numbers

## HER

- Non-designated heritage asset
- Non-designated heritage asset
- Non-designated heritage asset

## Geophysics

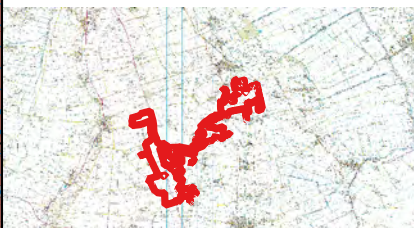
- Archaeology
- Magnetic Disturbance
- Possible Archaeology
- Uncertain
- Former Pond
- Geology
- Agriculture
- Field Boundary
- Possible Field Boundary
- Field Drain
- Natural
- Pipe
- Uncertain
- Ridge and Furrow
- Order Limits

## Lidar

- Band 1 (Gray)
- 70
- 5

## SpringwellIMDHS

CRS: EPSG:27700  
Projection: Transverse Mercator  
Ellipsoid: EPSG:7001  
Units: meters

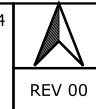
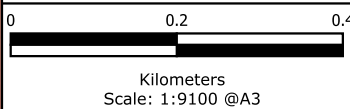


00	11/08/2025	Deadline 3	RSK	RSK	EDF
Rev	Date	Description	Drn	Chk	App

## Springwell Solar Farm

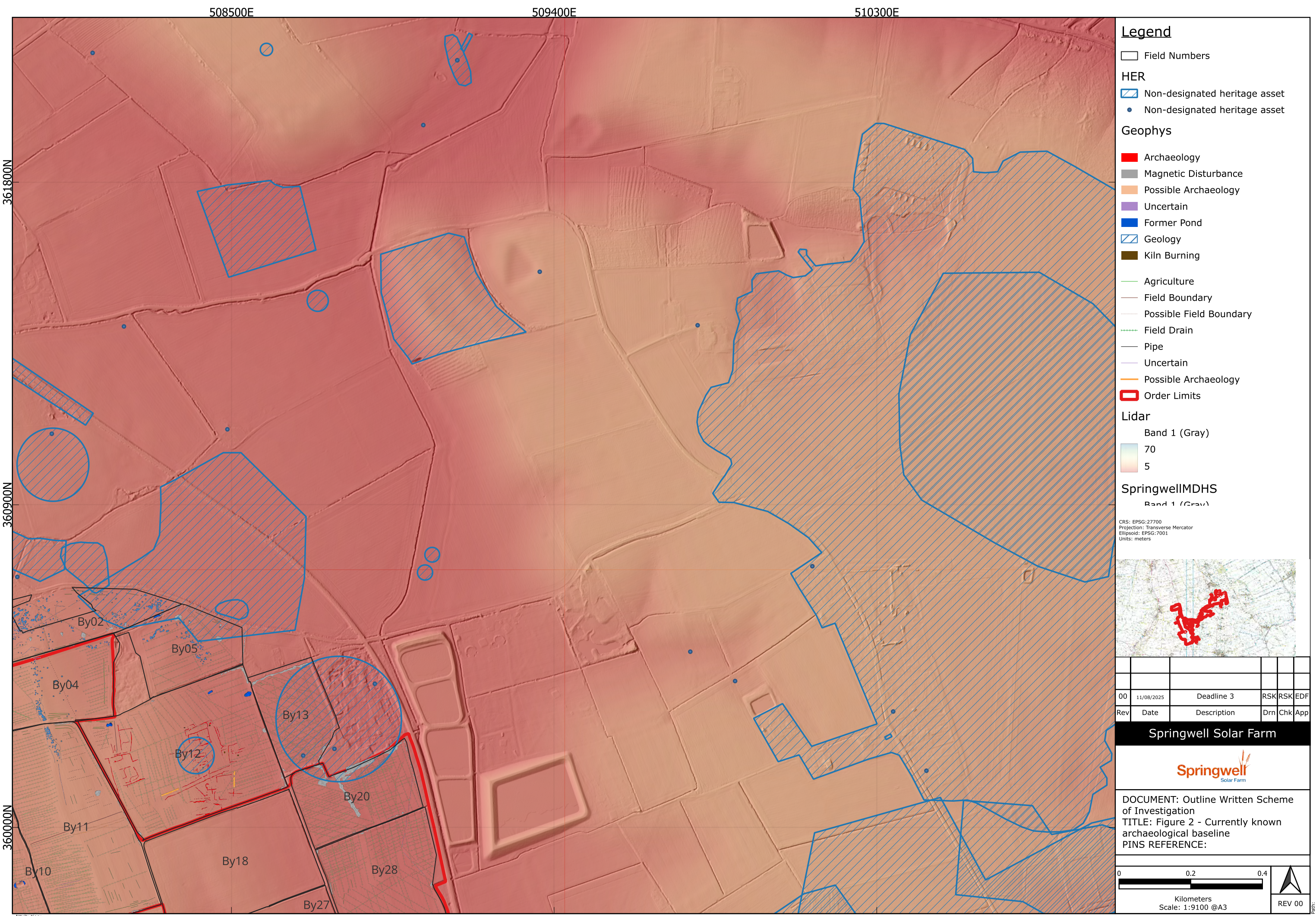


DOCUMENT: Outline Written Scheme of Investigation  
TITLE: Figure 2 - Currently known archaeological baseline  
PINS REFERENCE:



REV 00





Legend

Field Numbers

HER

Non-designated heritage asset

Non-designated heritage asset

Geophysics

Archaeology

Magnetic Disturbance

Possible Archaeology

Uncertain

Former Pond

Geology

Kiln Burning

Agriculture

Field Boundary

Possible Field Boundary

Field Drain

Pipe

Uncertain

Possible Archaeology

Order Limits

Lidar

Band 1 (Gray)

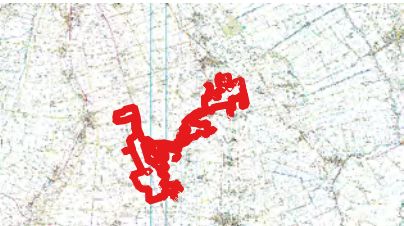
70

5

SpringwellMDHS

Band 1 (Gray)

CRS: EPSG:27700  
Projection: Transverse Mercator  
Ellipsoid: EPSG:7001  
Units: meters

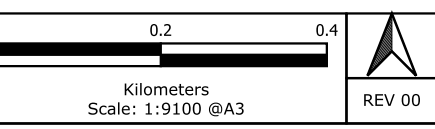


00	11/08/2025	Deadline 3	RSK	RSK	EDF
Rev	Date	Description	Drn	Chk	App

Springwell Solar Farm



DOCUMENT: Outline Written Scheme of Investigation  
TITLE: Figure 2 - Currently known archaeological baseline  
PINS REFERENCE:







Legend

HER

- Non-designated heritage asset
- Non-designated heritage asset
- Non-designated heritage asset

Geophys

- Magnetic Disturbance (Above Grou
- Magnetic Disturbance (Below Grou
- Possible Archaeology
- Quarry
- Uncertain
- Agriculture
- Field Drain
- Natural
- Order Limits

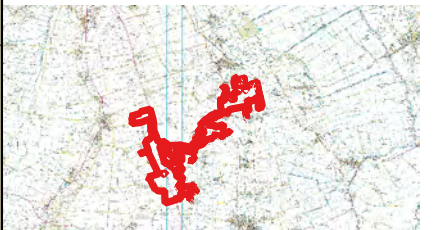
Lidar

- Band 1 (Gray)
- 70
- 5

SpringwellMDHS

- Band 1 (Gray)
- 237
- 5

CRS: EPSG:27700  
Projection: Transverse Mercator  
Ellipsoid: EPSG:7001  
Units: meters

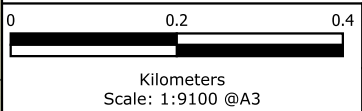


00	11/08/2025	Deadline 3	RSK	RSK	EDF
Rev	Date	Description	Drn	Chk	App

Springwell Solar Farm



DOCUMENT: Outline Written Scheme  
of Investigation  
TITLE: Figure 2 - Currently known  
archaeological baseline  
PINS REFERENCE:



REV 00





Legend

Field Numbers

HER

- Non-designated heritage asset
- Non-designated heritage asset
- Non-designated heritage asset

Geophysics

- Archaeology
- Magnetic Disturbance
- Possible Archaeology
- Uncertain
- Kiln Burning
- Agriculture
- Field Boundary
- Field Drain
- Natural
- Uncertain
- Ridge and Furrow
- Possible Archaeology
- Order Limits

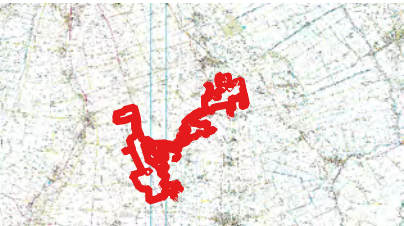
Lidar

- Band 1 (Gray)
- 70
- 5

SpringwellMDHS

- Band 1 (Gray)
- 227

CRS: EPSG:27700  
Projection: Transverse Mercator  
Ellipsoid: EPSG:7001  
Units: meters

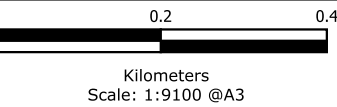


00	11/08/2025	Deadline 3	RSK	RSK	EDF
Rev	Date	Description	Drn	Chk	App

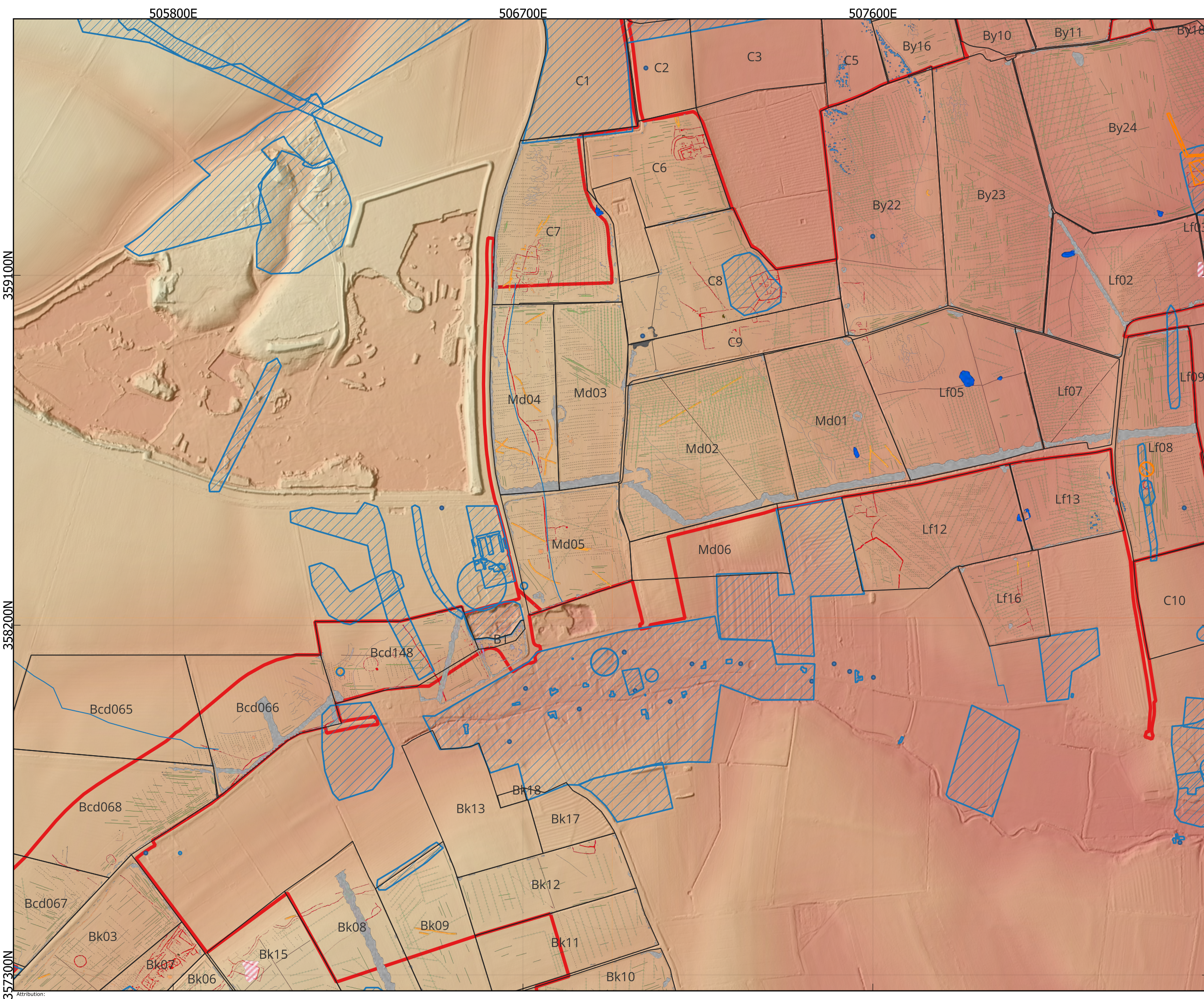
Springwell Solar Farm



DOCUMENT: Outline Written Scheme  
of Investigation  
TITLE: Figure 2 - Currently known  
archaeological baseline  
PINS REFERENCE:







- Legend**
- Field Numbers
  - HER**
    - Non-designated heritage asset
    - Non-designated heritage asset
    - Non-designated heritage asset
  - Geophysics**
    - Archaeology
    - Magnetic Disturbance
    - Possible Archaeology
    - Quarry
    - Uncertain
    - Former Building
    - Former Pond
    - Geology
    - Kiln Burning
    - Agriculture
    - Field Boundary
    - Possible Field Boundary
    - Field Drain
    - Natural
    - Pipe
    - Uncertain
    - Ridge and Furrow
    - Possible Archaeology
    - Order Limits

**Lidar**

CRS: EPSG:27700  
Projection: Transverse Mercator  
Ellipsoid: EPSG:7001  
Units: meters

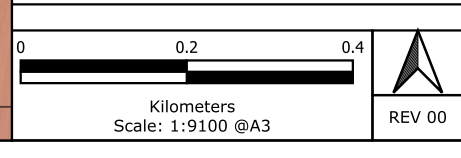


00	11/08/2025	Deadline 3	RSK	RSK	EDF
Rev	Date	Description	Drn	Chk	App

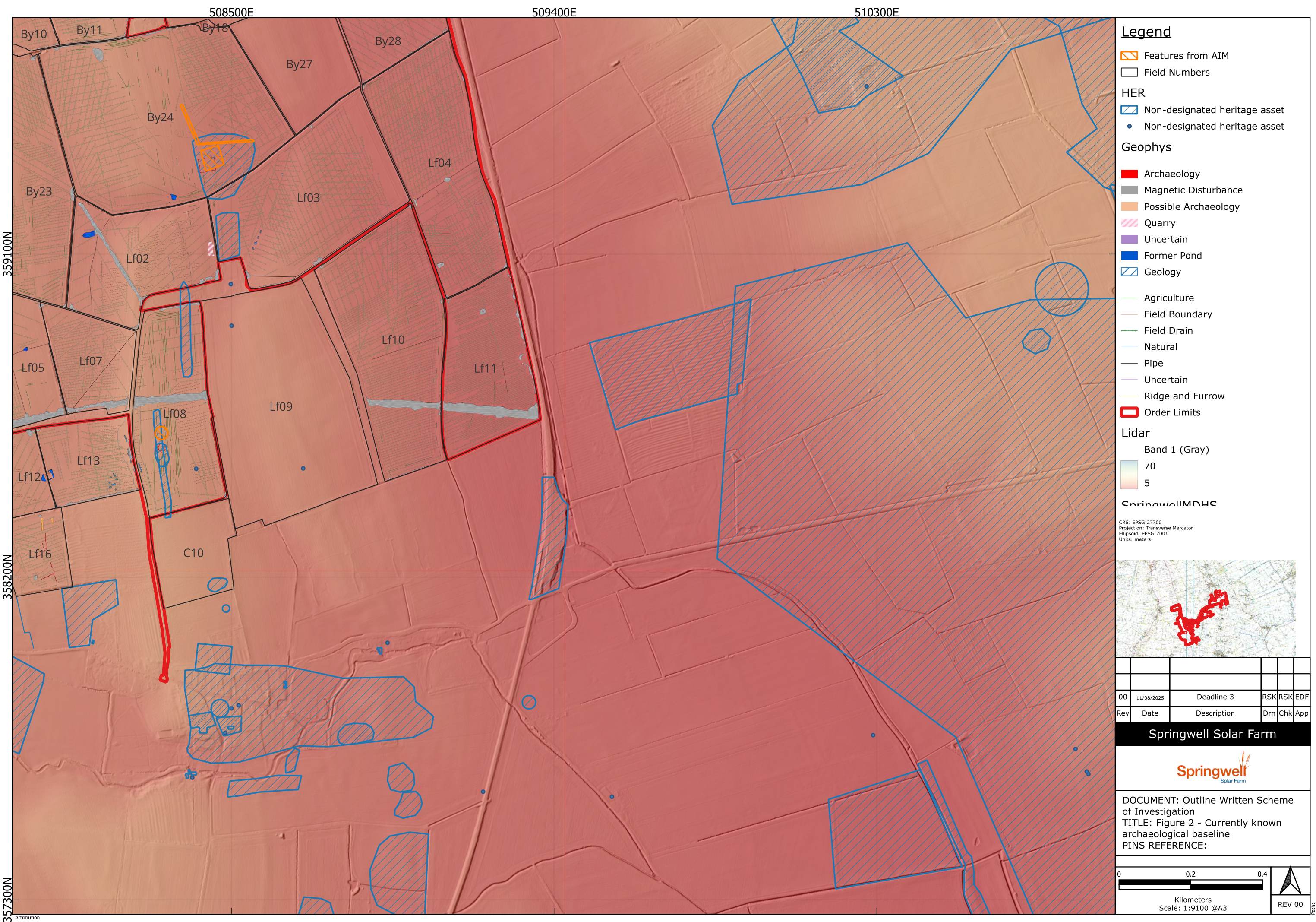
Springwell Solar Farm



DOCUMENT: Outline Written Scheme of Investigation  
TITLE: Figure 2 - Currently known archaeological baseline  
PINS REFERENCE:







### Legend

Features from AIM

Field Numbers

### HER

Non-designated heritage asset

Non-designated heritage asset

### Geophysics

Archaeology

Magnetic Disturbance

Possible Archaeology

Quarry

Uncertain

Former Pond

Geology

Agriculture

Field Boundary

Field Drain

Natural

Pipe

Uncertain

Ridge and Furrow

Order Limits

### Lidar

Band 1 (Gray)

70

5

### SpringwellIMDHS

CRS: EPSG:27700

Projection: Transverse Mercator

Ellipsoid: EPSG:7001

Units: meters

00	11/08/2025	Deadline 3	RSK	RSK	EDF
Rev	Date	Description	Drn	Chk	App

Springwell Solar Farm

DOCUMENT: Outline Written Scheme of Investigation  
TITLE: Figure 2 - Currently known archaeological baseline  
PINS REFERENCE:

00.20.4

Kilometers

Scale: 1:9100 @A3

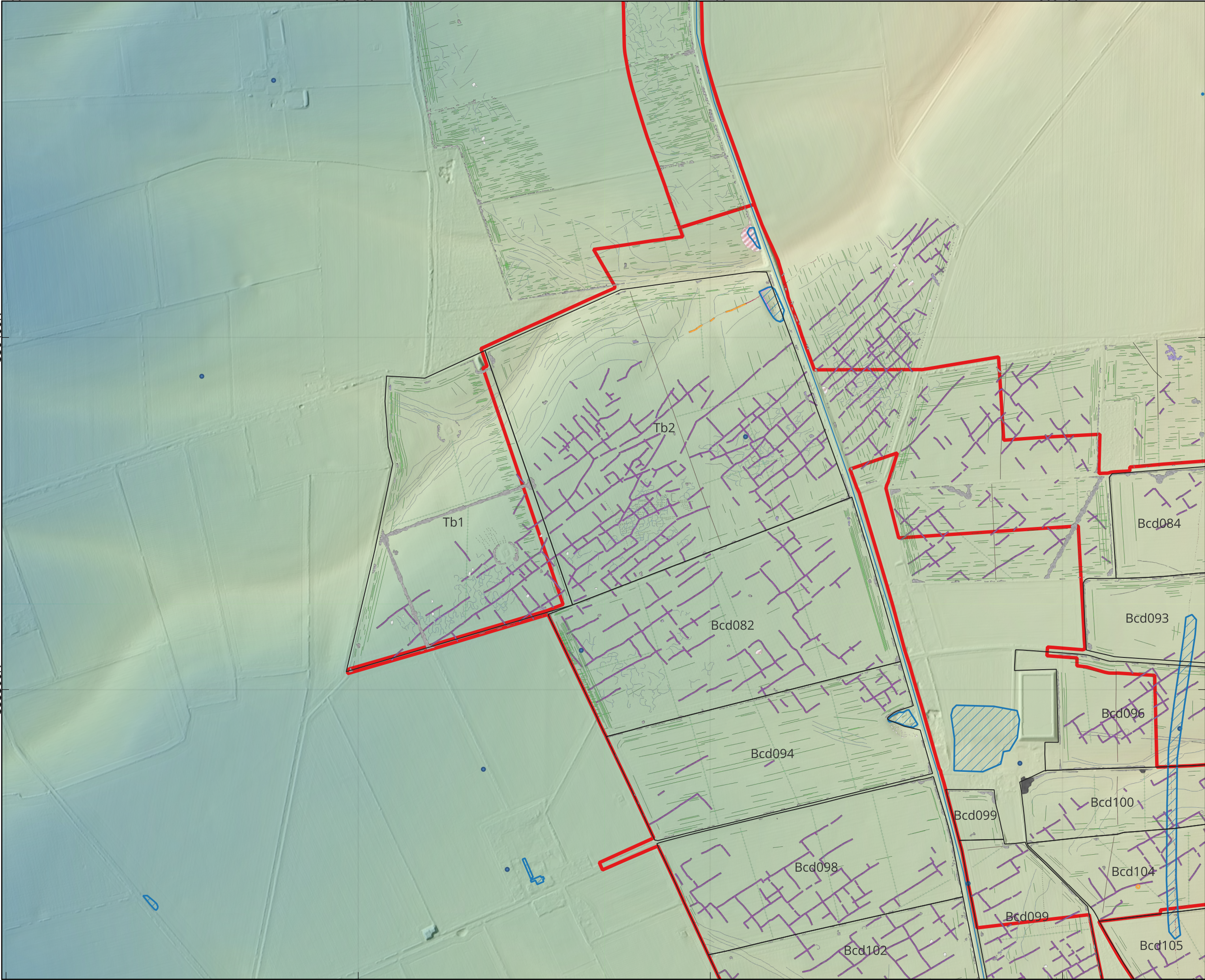
REV 00

Attribution:



500400E 501300E 502200E 503100E

356400N 355500N



### Legend

Field Numbers

HER

Non-designated heritage asset

Non-designated heritage asset

Non-designated heritage asset

Geophysics

Archaeology

Magnetic Disturbance

Possible Archaeology

Quarry

Uncertain

Former Building

Magnetic Disturbance (Above Grou

Quarry

Uncertain

Agriculture

Field Boundary

Possible Field Boundary

Field Drain

Natural

Pipe

Uncertain

Ridge and Furrow

Field System

Possible Archaeology

Quarry

CRS: EPSG:27700  
Projection: Transverse Mercator  
Ellipsoid: EPSG:7001  
Units: meters

00	11/08/2025	Deadline 3	RSK	RSK	EDF
Rev	Date	Description	Drn	Chk	App

Springwell Solar Farm

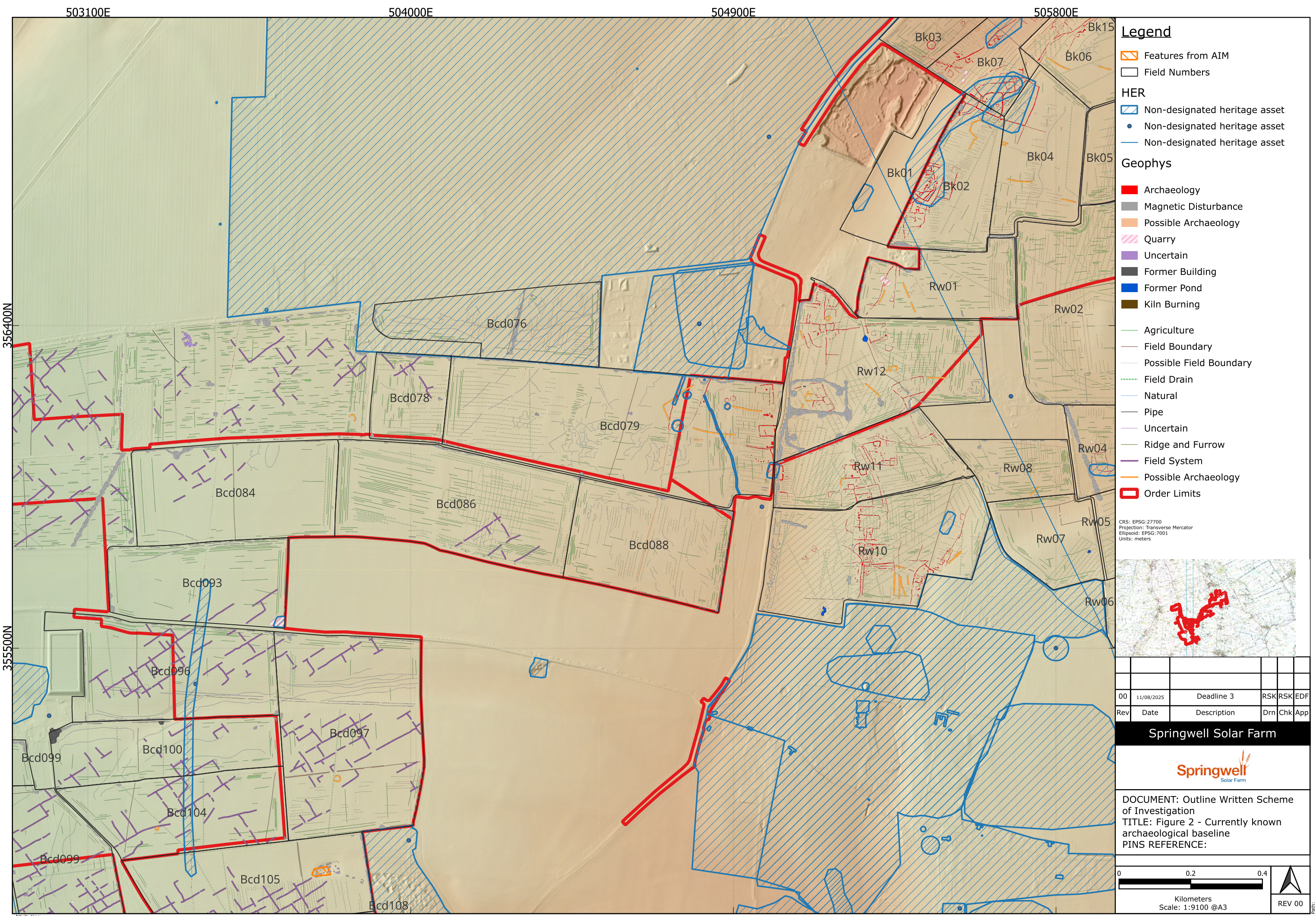
DOCUMENT: Outline Written Scheme of Investigation  
TITLE: Figure 2 - Currently known archaeological baseline  
PINS REFERENCE:

0 0.2 0.4

Kilometers  
Scale: 1:9100 @A3

REV 00





Legend

Features from AIM

Field Numbers

HER

Non-designated heritage asset

Non-designated heritage asset

Non-designated heritage asset

Geophysics

Archaeology

Magnetic Disturbance

Possible Archaeology

Quarry

Uncertain

Former Building

Former Pond

Kiln Burning

Agriculture

Field Boundary

Possible Field Boundary

Field Drain

Natural

Pipe

Uncertain

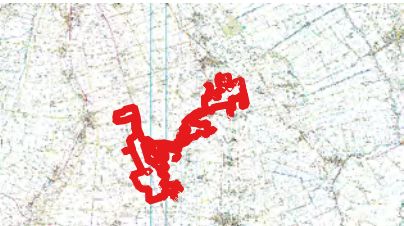
Ridge and Furrow

Field System

Possible Archaeology

Order Limits

CRS: EPSG:27700  
Projection: Transverse Mercator  
Ellipsoid: EPSG:7001  
Units: meters

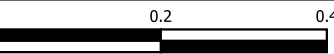


00	11/08/2025	Deadline 3	RSK	RSK	EDF
Rev	Date	Description	Drn	Chk	App

Springwell Solar Farm



DOCUMENT: Outline Written Scheme  
of Investigation  
TITLE: Figure 2 - Currently known  
archaeological baseline  
PINS REFERENCE:

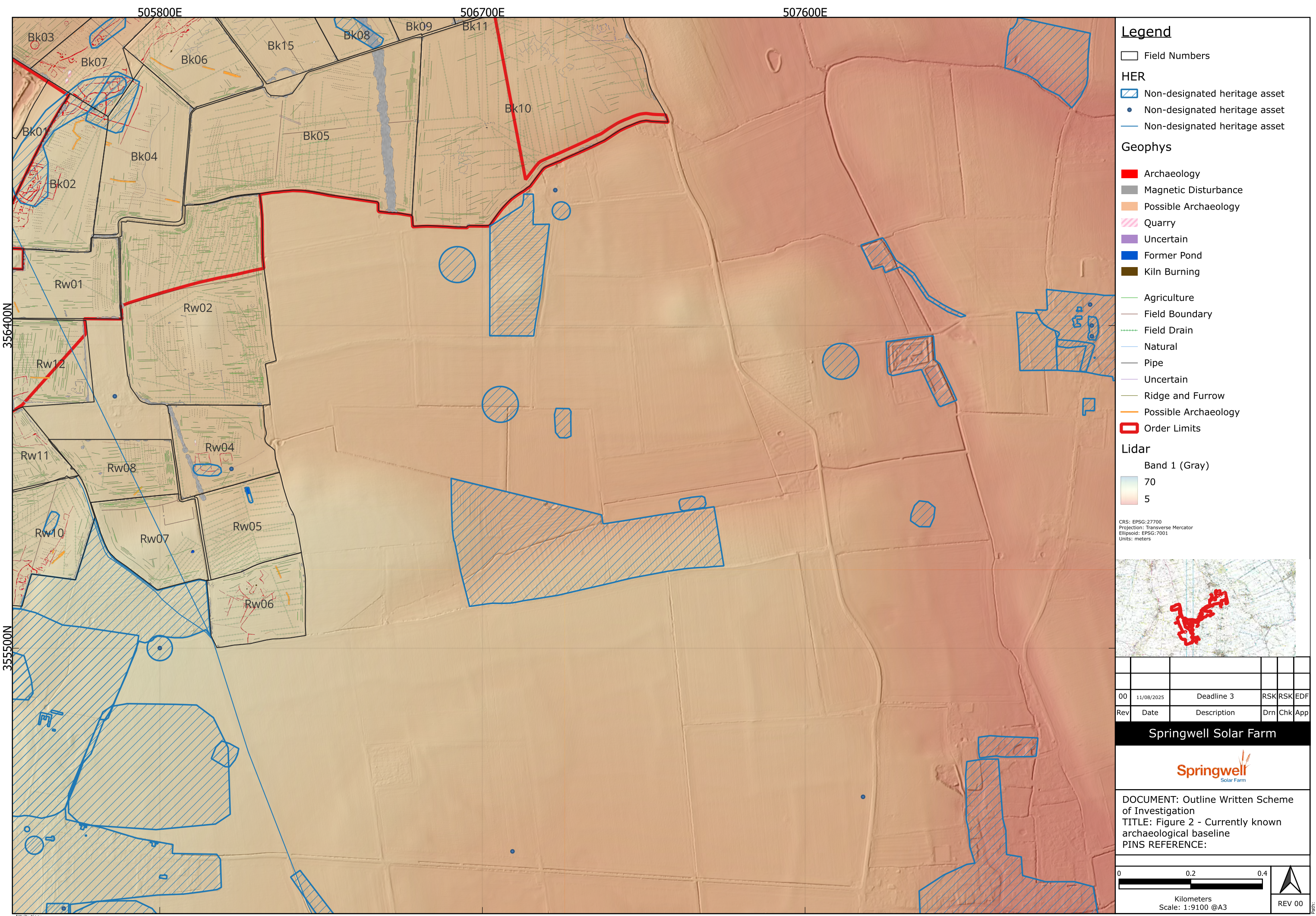


Kilometers  
Scale: 1:9100 @A3



REV 00





Legend

Field Numbers

HER

- Non-designated heritage asset
- Non-designated heritage asset
- Non-designated heritage asset

Geophysics

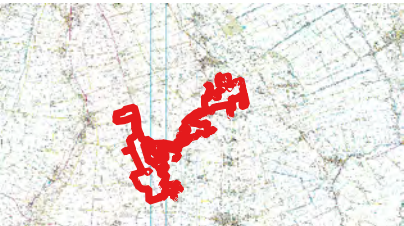
- Archaeology
- Magnetic Disturbance
- Possible Archaeology
- Quarry
- Uncertain
- Former Pond
- Kiln Burning
- Agriculture
- Field Boundary
- Field Drain
- Natural
- Pipe
- Uncertain
- Ridge and Furrow
- Possible Archaeology
- Order Limits

Lidar

Band 1 (Gray)

- 70
- 5

CRS: EPSG:27700  
Projection: Transverse Mercator  
Ellipsoid: EPSG:7001  
Units: meters

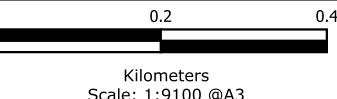


00	11/08/2025	Deadline 3	RSK	RSK	EDF
Rev	Date	Description	Drn	Chk	App

Springwell Solar Farm



DOCUMENT: Outline Written Scheme  
of Investigation  
TITLE: Figure 2 - Currently known  
archaeological baseline  
PINS REFERENCE:



REV 00





Legend

Field Numbers

HER

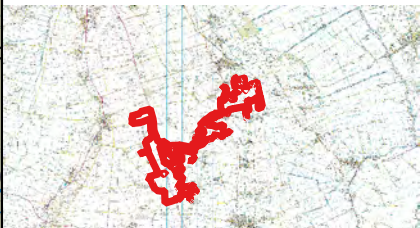
- Non-designated heritage asset
- Non-designated heritage asset
- Non-designated heritage asset

Geophysics

- Archaeology
- Magnetic Disturbance
- Possible Archaeology
- Quarry
- Uncertain
- Former Building
- Geology
- Kiln Burning
- Agriculture
- Possible Field Boundary
- Field Drain
- Natural
- Pipe
- Uncertain
- Ridge and Furrow
- LIRM
- Field System
- Possible Archaeology
- Order Limits

Lidar

CRS: EPSG:27700  
Projection: Transverse Mercator  
Ellipsoid: EPSG:7001  
Units: meters

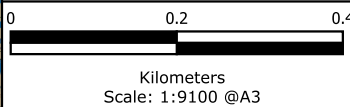


00	11/08/2025	Deadline 3	RSK	RSK	EDF
Rev	Date	Description	Drn	Chk	App

Springwell Solar Farm

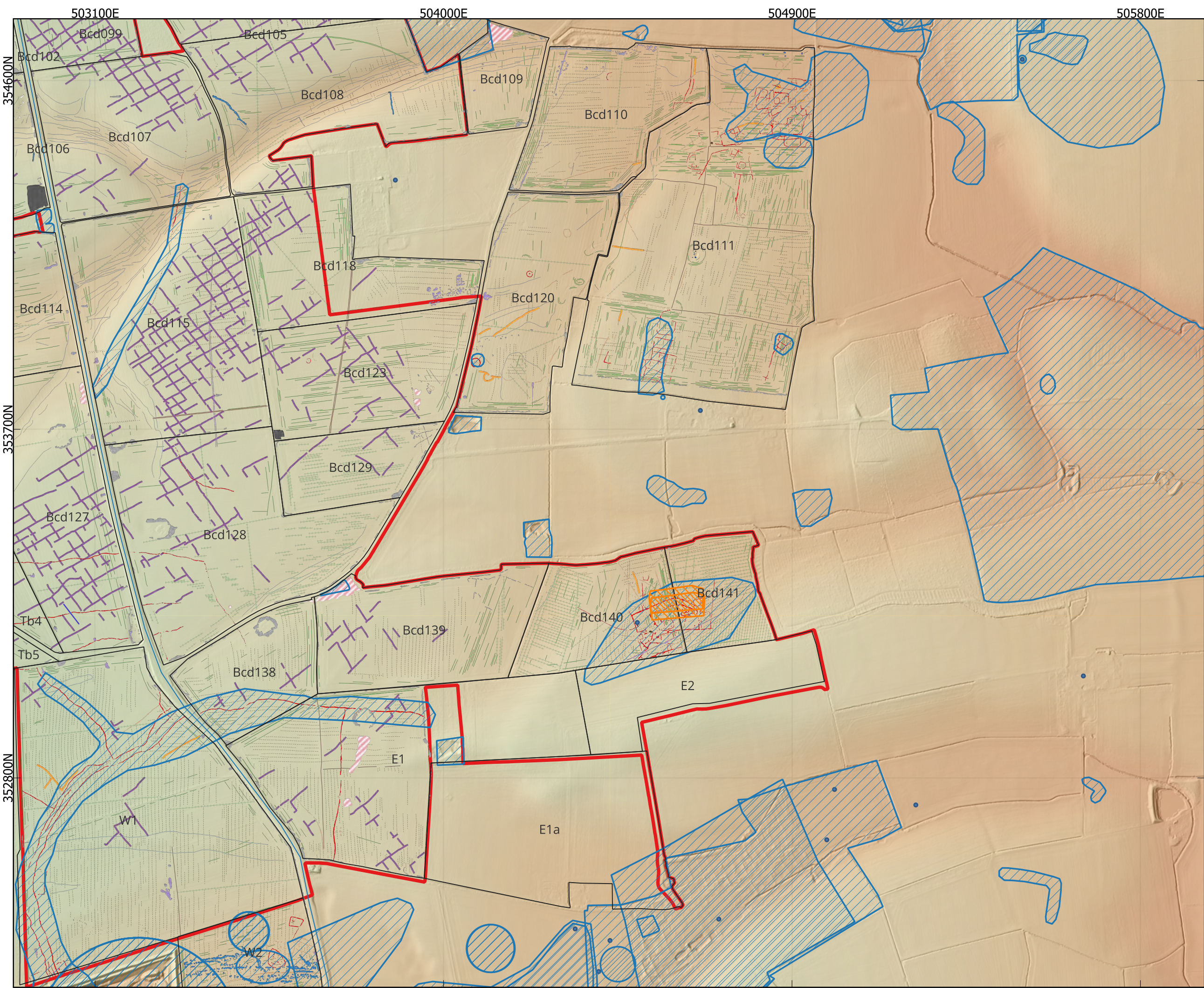


DOCUMENT: Outline Written Scheme of Investigation  
TITLE: Figure 2 - Currently known archaeological baseline  
PINS REFERENCE:



REV 00





### Legend

Features from AIM

Field Numbers

### HER

Non-designated heritage asset

Non-designated heritage asset

Non-designated heritage asset

### Geophys

Archaeology

Magnetic Disturbance

Possible Archaeology

Quarry

Uncertain

Former Building

Former Pond

Geology

Kiln Burning

Agriculture

Field Boundary

Possible Field Boundary

Field Drain

Natural

Uncertain

Ridge and Furrow

Field System

Possible Archaeology

Order Limits

CRS: EPSG:27700

Projection: Transverse Mercator

Ellipsoid: EPSG:7001

Units: meters

00	11/08/2025	Deadline 3	RSK	RSK	EDF
Rev	Date	Description	Drn	Chk	App

Springwell Solar Farm

DOCUMENT: Outline Written Scheme of Investigation  
TITLE: Figure 2 - Currently known archaeological baseline  
PINS REFERENCE:

00.20.4

Kilometers

Scale: 1:9100 @A3

REV 00





springwellsolarfarm.co.uk~~m~~