

Tillbridge Solar Project EN010142

# Volume 6

**Environmental Statement** 

Appendix 8-4: Air Photo and LiDAR

**Mapping and Interpretation** 

Document Reference: EN010142/APP/6.2

Regulation 5(2)(a)

Infrastructure Planning (Applications: Prescribed Forms and

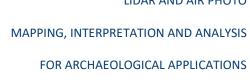
**Procedure) Regulations 2009** 

April 2024

**Revision Number: 00** 

tillbridgesolar.com

This report presents a survey of a larger area which was considered for the Scheme during the application and assessment process. As such there are areas surveyed and presented in this report which are no longer within the Order limits. This does not impact on the conclusions of this report.





Air photo and LiDAR mapping and interpretation:

Tillbridge Solar Scheme

Lincolnshire and Nottinghamshire

updated April 2023

Project number 2223004

Undertaken by

©Alison Deegan 2023

Commissioned by

**AECOM** 

#### **Summary**

This report concerns the results of interpretation and mapping of archaeological features from air photos and LiDAR imagery for the Tillbridge Solar Scheme.

This survey has identified the levelled and buried remains of possible Iron Age and Roman settlements, remnants of medieval or post medieval landscapes, and parts of Sturgate Airfield, which has its origins in the Second World War.

This work was commissioned from 6 Wain Close, South Milford, Leeds LS25 5AH by AECOM. This work is supplied in digital format as well as hard copy and the above named parties may manipulate and/or reproduce the work as they wish providing the archaeological integrity of the work is not compromised. All reproductions of the work either in part, whole or combined with other works should clearly identify

#### **Contents**

1	Introduction
1	IIILIOUUCLIOII

2 Methodology

3 Results

Appendix 1 Archaeology from black and white and colour air photographs

Appendix 2 Archaeology from LiDAR survey data

Appendix 3 Catalogue of features

Appendix 4 Historic England Archive lists of air photos examined

Appendix 5 Structure and content of digital map dataset

#### References and resources cited

Figure 1	Location plan for the Tillbridge Solar Scheme air photo and LiDAR survey
Figure 2	Overview of air photo and LiDAR mapping for the Tillbridge Solar Scheme
Figure 3	Air photo and LiDAR mapping for the western area of the Tillbridge Solar Scheme
Figure 4	Air photo and LiDAR mapping for the north-east area of the Tillbridge Solar Scheme
Figure 5	Air photo and LiDAR mapping for the south-east area of the Tillbridge Solar Scheme
Figure 6	Air photo and LiDAR mapping for the Tillbridge Solar Scheme connector route, where not covered by previous surveys
Figure 7	Hill-shaded and colour relief visualisation generated from the Environment Agency LiDAR DTM for the principal site of the Tillbridge Solar Scheme.

#### 1 Introduction

#### 1.1 Client details

1.1.1 This survey of buried, levelled and upstanding archaeological and historical remains, using existing air photos and LiDAR data, was commissioned by AECOM on behalf of the Tillbridge Solar Scheme.

### 1.2 The Tillbridge Solar Scheme area (see Figures 1 and 7)

- 1.2.1 This survey concerns the Tillbridge Solar Scheme, Lincolnshire and the grid connection route to Cottam Power Station in Nottinghamshire. The principal site comprises approximately 1365 hectares with the A631 to the north, the B1398 to the east and the village of Heapham to the west. A small part of the principal site, approximately 130 hectares, was covered by a similar survey for the Cottam Solar Project (Deegan, 2002b).
- 1.2.2 The grid connector route runs from the south-west edge of the principal site, southward to Normanby Gorse, then turns south-westward and crosses the River Trent near Cottam Power Station. This route corridor covers approximately 1037 hectares. Most parts of this corridor, approximately 937 hectares, were covered by surveys undertaken for the Gate Burton Energy Park, Cottam Solar Project, the West Burton Solar Project (Deegan 2002 a-c).
- 1.2.3 The area specified for this survey excludes those areas of the Tillbridge Solar Scheme that were covered by the previous surveys. However checks were made for new imagery for the relevant areas of the Gate Burton, Cottam and West Burton schemes.
- 1.2.4 Both the principal site and the grid connector corridor are predominantly agricultural landscapes with small scattered farmsteads and hamlets and narrow lanes. The Cottam power station complex, at the western end of the corridor is the exception to this rural character.
- 1.2.5 Across the principal site the bedrock is Scunthorpe and Charmouth Mudstone Formations then narrow bands of Marlstone Rock Formation, Whitby Mudstone Formation and Grantham Formation along the far eastern edge of the site. Most of the site is covered with till and as a consequence the soils are slowly permeable (UKSO
- 1.2.6 On its path to Cottam Power Station, the grid connector route crosses Charmouth Mud Formations, Scunthorpe Mudstone Formation, Penarth Group and finally the Mercia Mudstone Group. Some parts have a covering of till and Holme Pierrepont Sand and Gravels and alluvium are present in the river valley. Overall the soils have slow to impeded drainage (UKSO

1.2.7 A brief overview of the uses of air photos and LiDAR for archaeological remote sensing is provided in Appendices 1 & 2.

#### 2 Methodology

#### 2.1 Data sources

- 2.1.1 The following data sources were examined
  - Environment Agency LiDAR data, 1m resolution Digital Terrain Model and Digital Surface Model,
  - Google Earth imagery, data captured between 2003 and 2022,
  - Bing imagery, undated imagery,
  - The Historic England Archive collections of air photos, see Appendix 4 for full lists of material examined.
  - Historical Ordnance Survey and earlier maps were examined via the National Library of Scotland website ( ).
- 2.1.2 The area of the principal site of the Tillbridge Solar Scheme is covered by the Royal Commission on the Historical Monuments of England's National Mapping Programme (NMP): specifically the Lincolnshire NMP project. This project was completed in the late 1990s and produced hand-drawn maps. Digitised versions of these maps are available through Historic England's Aerial Archaeology Mapping Explorer (https://historicengland.org.uk/research/results/aerial-archaeology-mapping-explorer/).

#### 2.2 Processing and mapping

- 2.2.1 LiDAR data at 1m resolution was obtained from the Environment Agency in geotiff format. Using the Relief Visualisation Toolbox 2.2.1 16-direction hill-shaded visualisations were generated for the Digital Surface Model (DSM) and Digital Terrain Model (DTM) and Simple Local Relief Model models were generated for the DTM.
- 2.2.2 The digital aerial images delivered online by Google Earth were examined on screen. Relevant portions were captured for georeferencing and digitisation of archaeological features.
- 2.2.3 The vertical and obliques air photographic prints held by the Historic England Archive were examined systematically, using x2 magnification where necessary and stereoscopically where possible. Selected prints were then photographed with a hand-held digital camera to enable rectification and digitisation of archaeological features.
- 2.2.4 The various captures and the digital copies were rectified to the ground control points derived from the LiDAR visualisations using Aerial5.36. AERIAL5.36 gives error readings for each control point, where 5 or more control points are used. In all cases errors of within ±3m were achieved for the control points. However this may not reflect the on-the-ground positional accuracy of the features mapped since these usually lie between rather than at the control points.
- 2.2.5 Archaeological features visible on the LiDAR visualisations and rectified image captures were

digitised in the GIS (MAPInfo Professional 21) and with reference back to the original prints, where possible. Archaeological features were mapped to a scale of 1:2500 in detail and accuracy. Data pertaining to each feature was recorded in the MapInfo table. The structure and content of the digital map dataset is described in Appendix 5.

## 2.3 Updates to the previous surveys

- 2.4 As mentioned above, those areas of the Tillbridge Solar Scheme that had been covered by similar surveys for the Gate Burton Energy Park, West Burton and Cottam Solar Projects were not reassessed (Deegan 2022a, b and c). These surveys were undertaken in 2022 to the same specification as this current work. However, to mitigate for the possibility that new data has been made available in the intervening period, the two keys sources were checked for new imagery: Historic England Air Photo Explorer (APEX) and Google Earth.
- 2.5 APEX provides access to all accessioned Historic England born-digital imagery. A spatial search in APEX confirmed that no new imagery has been accessioned for the relevant areas since the Historic England searches were conducted for the previous surveys (AP132472 and AP135459).
- 2.6 Three sets of Google Earth imagery: one dated June 2021 and two dated March 2022, though clearly from different occasions, were examined for these areas and previously unrecorded features were processed as above.

#### 3 Results

- 3.1.1 The results of this survey are presented on Figures 2 to 6. Archaeological features have been catalogued and described according to pre-allocated survey areas as prescribed in the geophysical survey report by Magnitude Surveys for the Tillbridge Solar Scheme, March 2023. (see Appendix 3). A brief overview of the results for the principal site is provided below. Please refer to individual entries in Appendix 3 for those small areas of the connector route that were not covered by previous surveys (survey areas 145-158).
- 3.1.2 From the checks of the recent Google Earth imagery only those features described in survey area 152 had not been recorded by the earlier surveys (Deegan 2022 a-c).
- 3.1.3 Details including type, period and sources for individual archaeological features can be accessed in the digital version of the mapping (see Appendix 5). All attributions of date and type are provisional and open to re-interpretation.

#### 3.2 **Distribution of the sources**

- 3.2.1 For the principal site, the HE archive holds 116 vertical air photos from 16 different sorties flown between 1946 to 1994. Together these provided complete and multiple coverage for all parts of the site.
- 3.2.2 Although the HE Archive lists 66 air photos taken specifically for archaeological purposes in this area, most were targeted on earthworks at Harpswell and only cover the north-east margins of the principal site. Specialist coverage of the rest of the principal site is very sparse.
- 3.2.3 Google Earth and Bing imagery and Environment Agency LiDAR data are available across the whole of the site.

## 3.3 **Neolithic and Bronze Age**

3.3.1 No cropmarked, soilmark or earthwork features of known or possible Neolithic or Bronze Age date were identified by this survey.

#### 3.4 Iron Age and Roman

- 3.4.1 Evidence for Romano-British activity was revealed in survey area 112 during a watching brief for the Caenby Corner to Gainsborough Pipeline (MLI86409, Pre-Construct Archaeology 2003, 13).
  No features directly pertaining to this activity were identified on the aerial imagery examined.
- 3.4.2 Possible evidence of Iron Age or Romano-British settlement has been identified in survey areas 60 and 68, in survey area 87 and in survey areas 94 and 115.
- 3.4.3 Survey areas 60 and 68 lie to the east of Harpswell Wood. The evidence comprises two areas of

indistinct cropmarks that suggest groups of conjoined enclosures and possible field boundaries. In the areas of these cropmarks the LiDAR imagery shows very shallow disturbances of the ground surface that are not generally present elsewhere in the principal site. It is possible that these low undulations are indicative of Iron Age or Romano-British activity.

- 3.4.4 **Survey area 87**, south-east of Harpswell Grange also contains faint cropmarks. These also suggest the presence of small, conjoined enclosures. Earthwork medieval or post medieval ridge and furrow covered this area in the 1940s, but this has now been levelled. The northern edge of the cropmarked enclosures appears to coincide with a medieval or post medieval plough headland. The area of the cropmarks is now partly covered by a small wood.
- 3.4.5 In the fields to the north-east of Glentworth Grange, **survey areas 94** and **115**, the LIDAR imagery shows shallow undulations similar to those observed in **survey areas 60** and **68**. In the 1940s this area was covered with earthwork ridge and furrow, but this has now been levelled by modern ploughing. It is possible that these very shallow disturbances are a signature for pre-medieval activity in this area, but unlike **survey areas 60** and **68**, no cropmarked or soilmark features have been identified in this area on the air photos examined.

## 3.5 Medieval and post medieval features

- 3.5.1 The eastern boundary of the principal site circumvents the extensive medieval and post medieval settlement remains at Harpswell (MLI51003) and Glentworth (MLI51102).
- 3.5.2 Within the principal site, **survey area 124** contains the remains of a small moat. The moat is located to the east of Glentworth Grange and just north of Kexby Road. The western edge of the moat appears to have been truncated by a water channel, which was probably cut in the 19th century to straighten the more sinuous beck that is depicted on the Bryant's map of 1828. There is a small area on the east side of the moat that is devoid of medieval or post medieval ridge and furrow and contains ephemeral features. Everson et al suggest that this moat originated as a park-keepers lodge, associated with Glentworth deer park (1991, 48). With this in mind, whilst the bank and ditch flanking Kexby Road, previously Park Lane, may be the remains of an earlier hollow way, it is also plausible that they remnants of the park's pale. The moat, and other earthworks in this area have now been levelled, but some elements are likely to survive below ground level.
- 3.5.3 Just to the north-east of the moat, a sinuous ditch runs around the northern edge of survey area 124, forks and then continues eastward, beyond the limits of this survey's area. Multiple sources show that the forked ditches resolve into a row of large rectilinear enclosures, as described in survey area 139. Surface finds from survey area 139 and the fields to the north, including building material and 12th to 14th century pottery, suggest these enclosures are the remains of a medieval settlement (MLI50189). Everson et al have identified this settlement as the deserted village of Thorpe (1991, viii). This area has been impacted by the recent construction of

three large reservoirs but the LIDAR imagery indicates that the enclosures survive as shallow earthworks.

- 3.5.4 **Survey area 55** is the land between Harpswell Low Farm, Yawthorpe Beck and Harpswell Lane. It contains some of the better preserved earthwork ridge and furrow in the principal site area. The LiDAR imagery suggests that these medieval or post medieval plough furrows cut across a series of earlier banks. These low and broad banks appears to define two or three enclosures and some appear to be continuations of long banks observed in **survey area 50** (see Appendix 2 Fig. B). Given the relationship to the ridge and furrow, these enclosures may be of medieval origin.
- 3.5.5 **Survey areas 132** and **137** lie near the eastern boundary of the principal site, immediately north of a wood named as 'Blythe Close' on the OS map of 1885. Historical air photos suggest the presence of fragmentary medieval or post medieval cultivation remains in these areas: ridge and furrow and plough headlands. The LiDAR imagery shows other shallow and indistinct undulations. There are several potential explanation for these vestigial earthworks. They may be attributable to the transition in the underlying geology from Charmouth Mudstone Formation to Marlstone Rock Formation. The small wood between **survey areas 132** and **137** is named 'Brickkiln Holt' on the OS map of 1885, so these undulations may be the remains of shallow or infilled claypits. Alternatively, they may be the remains of 'Blyth Close', as it is named on the OS One Inch Map of 1856, or 'Gorse' on Bryant's map of 1828, both of which suggest the presence of at least one building and several enclosed fields.

## 3.6 Medieval and post medieval agricultural remains

- 3.6.1 There is evidence for medieval or post medieval cultivation remains such as ridge and furrow and plough headlands in many areas.
- 3.6.2 In **survey areas 98**, **108**, **116** and **123** there are traces of plough headlands that are overlain by medieval or post medieval ridge and furrow. This discontinuity may suggest a rearrangement of the agricultural landscape in the medieval period.
- 3.6.3 The air photos taken in the 1940s show some relatively well-preserved earthwork ridge and furrow in many fields, particularly in **survey areas 55**, **87**, **108**, **109** and **143**. However, almost all plough ridges have now been levelled, mostly by modern ploughing. Only in **survey area 55** at Harpswell Low Farm and beneath the trees in Harpswell and Peter's Woods (**survey area 143**) does the LIDAR imagery suggest that ridge and furrow survives well as earthworks.
- 3.6.4 Conversely, plough headlands are less visible on the historical air photos but the LIDAR imagery suggests they survive above ground more extensively, albeit as very low and well-spread earthworks.
- 3.6.5 **Survey area 50** contain the remains of a parallel arrangement of six long banks. These banks are oriented south-west to north-east. They may be the remains of baulks or banks between long

Survey area 50 had been ploughed level before the earliest air photos and these banks show repeatedly as broad parchmarks from the 1940s onwards. The LIDAR imagery suggests that they survive as very low earthworks. This area is named as 'Great Moors' on Bryant's map 1828. The more northerly pair of banks appear to continue into survey area 55 to form a series of rectilinear enclosures, which, as described above, survive as low earthworks and may be of medieval origin.

3.6.6 There is evidence of a substantial linear feature running west to east in the fields north of Glentworth Grange. In survey areas 94, 115 and 123 it comprises one or two very low and well-spread banks flanking a discontinuous ditch. Beyond the scheme boundary, in survey area 140, it continues as a broad ditch. This feature may have been a trackway or hollow way that ran from Cow Lane in the west to the village of Glentworth in the east. Much of this route is depicted as a bridle road on the OS map of 1885, except in survey areas 94 and 115 where instead the bridle path detoured southward via Westlands and Spitals Farms and Kexby Road. Part of this feature was recorded by the Lincolnshire NMP Project and tentatively identified as a section of medieval park pale associated with Glentworth Deer Park (NRHE 1033464).

strip fields or, more simply, plough ridges that were higher and thus survived longer.

3.6.7 Numerous small dew ponds of likely post medieval date have been identified in the principal site area.

## 3.7 **20th century features**

- 3.7.1 **Survey area 61** contains the remains of a Second World War searchlight battery, gun emplacement and associated structures and buildings (**MLI80678**). These features were located along the southern edge of the area and east of Harpswell Low Farm. A trackway linked this complex to Harpswell Lane. These features survived on air photos taken in the late 1940s but by 1972 the buildings had been demolished and the earthworks levelled.
- 3.7.2 The principal site clips the eastern edge of what was RAF Sturton. This airfield was established late in the Second World War, closed at the end of the war and was then reopened and allocated to the United States Air Force between 1953 and 1964. Survey areas 33, 35 and 159 contain remains from the Second World War airfield and its later extended runway, including section of runway, perimeter track, hardstandings and features associated with the airfield's Fog Investigation and Dispersal Operation (FIDO). Survey area 39 lay beyond the curtilage of the Second World War airfield but contains the far eastern extent of the extended runway and perimeter track. Within the boundaries of the principal site all airfield structures have now been demolished and most concrete surfaces have been removed and the land returned to cultivation.

- 3.8 Features of uncertain date and origin
- 3.8.1 Air photos taken in 1956 show a indistinct cropmark in **survey area 114**. Although this cropmark resembles an enclosure it is not repeated in any of the other imagery and is more likely to be of superficial origin.

### 4 Concluding remarks

- 4.1.1 There is evidence for possible Iron Age and/or Romano-British settlement remains at two location and tentative indications at a third. However, the absence of cropmark, soilmark or earthwork evidence for the features identified during the Caenby Corner to Gainsborough Pipeline watching brief demonstrates the potential for such features to allude detection by this method of remote sensing.
- 4.1.2 This survey has identified extensive medieval and post medieval remains, mostly ridge and furrow, plough headlands and small dew ponds, but also a small moat and a hollow way near Glentworth Grange and enclosures at Harpswell Low Farm. It has also confirmed the presence of features on the eastern margin of the principal site that may indicate medieval settlement.
- 4.1.3 Many of the medieval and post medieval features identified by this survey have now been levelled or survive only as very low or shallow earthworks, mostly as a result of modern ploughing. This does not preclude the survival of archaeological deposits below ground level.
- 4.1.4 The absence of evidence for archaeological features anywhere in this survey's area should not be taken as an absence of presence.

#### References and resources cited

- Crutchley, S and Crow, P 2009. The Light Fantastic: Using Airborne Laser Scanning in Archaeological Surveys. English Heritage. Swindon.
- Deegan, A. 2022a. Air Photo and LiDAR mapping and interpretation: Gate Burton Energy Park. Unpublished report 2122007
- Deegan, A. 2022b. Air Photo and LiDAR mapping and interpretation: Cottam Solar Project and Cable Routes.

  Unpublished report 2223001
- Deegan, A. 2022c. Air Photo and LiDAR mapping and interpretation: West Burton Solar Project and Cable Routes.

  Unpublished report 2223003
- Everson, P L, Taylor, C C and Dunn, C J. 1991 Change and Continuity: Rural Settlement in North-West Lincolnshire. HMSO.
- Jones, R J A and Evans, R 1975. 'Soil and crop marks in the recognition of archaeological site by air photography' in Wilson, D (ed) *Aerial Reconnaissance for Archaeology*. CBA Research Report 12. 1-11
- Kokalj, Z and Hesse, R. 2017. Airborne laser scanning raster data visualisation: A guide to good practice. Založba ZRC, Ljubljana
- Pre-Construct Archaeology 2003. Caenby Corner to Gainsborough Pipeline. Archaeological Watching Brief and Geophysical Survey Report. Unpublished report.

Bryant, A. 1828 Map of the County of Lincoln, from an actual survey made in the years 1825-26 & 27. via

Geology of Britain Viewer. Viewed online at

Ordnance Survey 25 inch and 6 inch scale maps. Various dates via

Ordnance Survey 1 inch scale map 1853 Sheet 83. Via

Digital sources (all accessed in March 2023)

#### Appendix 1 Archaeology from black and white and colour air photographs

Air photographs and aerial imagery taken in appropriate conditions can record crop marks, soilmarks and earthworks of archaeological origin.

Crop marks result from variations in leaf and stalk colour and plant height and vigour. Crop marks occur where there are anomalies below the ground: in-filled hollows, palaeochannels, frost cracks, archaeological pits, ditches, surfaces and banks or modern disturbances such as land drains. Crop marks can also be created by variations in the treatment of the topsoil and ground cover, for example the uneven application of fertilizers, pesticides and herbicides or damage.

Crop marks that delineate buried and levelled archaeological features are the effect of differential growth and ripening between the vegetation on the archaeological deposits and that on surrounding undisturbed ground. Variations in growth and ripening are most visible when there is a significant difference in the water and nutrient availability between the archaeological and natural deposits. Crop marks can form at any stage from germination to ripening but the optimal conditions are during periods when precipitation is exceeded by transpiration. This results in potential soil moisture deficit (SMD) and water-stressed plants (Jones and Evans 1975). Prolonged periods of SMD halt plant growth and then cause wilting of the plant leaves, stem and finally root. Water-stress is exacerbated by free-draining sub-surface deposits such as archaeological walls or road surfaces but mitigated by rich and humic ditch and pit deposits. Even after ripening, differences in crop height and bulk can indicate the presence of buried features where there are no tonal differences. Crop marks can be seen most clearly in large areas of homogenous, fast-growing plants such as cereal crops and, less frequently, in root crops and grass. Crop marks produced in arable and grass at times of significant moisture stress, usually over buried structures or other highly permeable archaeological deposits, are often referred to as parchmarks.

Soilmarks are the colour and tonal differences between archaeological deposits and the plough or subsoil. The action of ploughing, which can penetrate the ground to a depth of 45cm, brings to the surface previously buried material. The rotation of the plough exposes the cut surface uppermost. Where the plough cuts buried and infilled archaeological features such as banks and ditches it brings to the surface slices of these deposits. If these slices are sufficiently differentiated from the natural plough or subsoil they can be visible from the air.

Archaeological earthworks that are visible on the ground can also be seen from the air. Detection and recording of earthworks from the air is determined by their survival and visibility. The survival of earthworks depends on past and present land use; natural erosion processes, deliberate destruction and ploughing can all reduce upstanding features to ground level. Earthworks can be revealed by the pattern of sunlight and shadow, differential frost or snow cover or the distribution of standing and flood water. Large and subtle variations in ground relief are further accentuated when viewed stereoscopically. Most stereo images are vertical photographs taken in long, regular sorties but stereo-overlapping can also be achieved from correctly set-up oblique views.

### Appendix 2 Archaeology from LiDAR survey data

Airborne Light Detection and Ranging (LiDAR) is a data collection technique that uses a laser to measure certain variables. For archaeological purposes it is the distance between the aircraft and the ground that provides particular interest. During LiDAR flights up to 100,000 measurements per second are made of the ground, allowing highly detailed models of the ground surface, including the details of surviving archaeological earthworks, to be generated at spatial resolutions of between 25cm and 2 metres.

The resulting dataset is a grid of height points called a Digital Elevation Surface Model, these points can be filtered to remove those measurements that were read from trees, buildings and other supra-surface features, the result is a Digital Terrain Model, sometimes called a 'Bare Earth' model. The latter is particular useful for the identification of archaeological earthworks where they are obscured on conventional air photos by tree and shrub cover. The DSM and DTM need to be transformed into a visualisations for analysis and interpretation. For this survey two different visualisations were employed for the identification of archaeological earthworks: multi-direction hill-shaded model and simple local relief model.

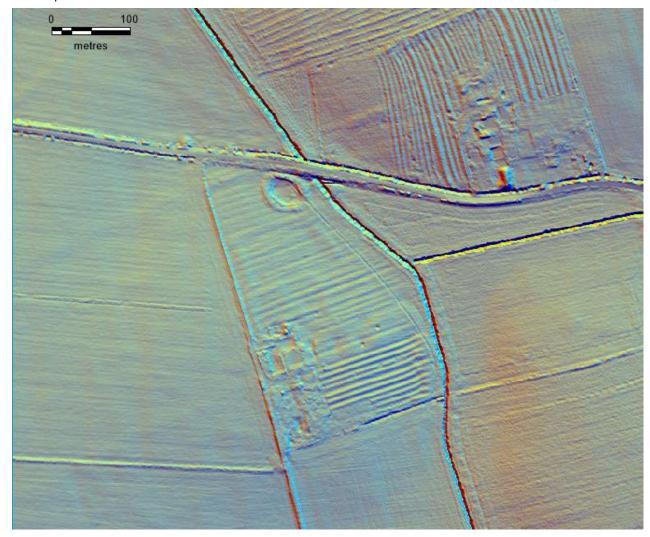


Figure A. A 16-Direction Hill-shaded model of DTM. Hill-shading casts an artificial light source across a landscape to reveal surface irregularities. Hill-shading from a single direction of light will not reveal those features that are in alignment with the light source. This visualisation combines the light and shade of 16 different directions of light. The visualisation can be further enhanced by exaggerating the vertical elevation and lowering the angle of the light source.

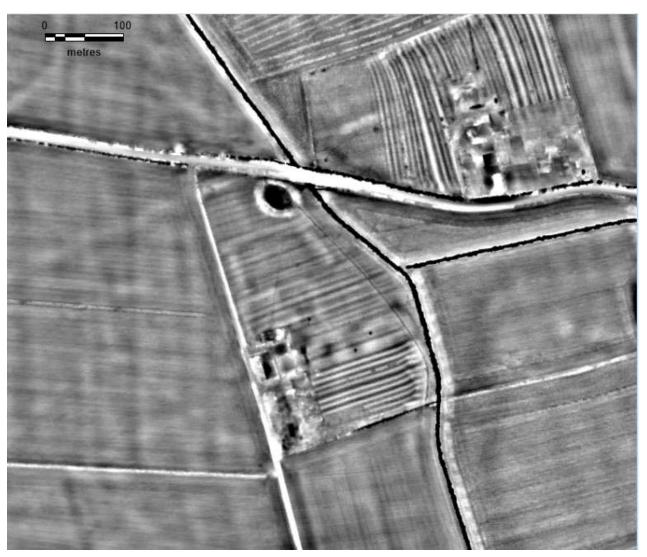


Figure B. Simple Local Relief Model (of DTM). General relief models convey landscape scale topography at the expense of smaller scale features, including archaeological earthworks. This visualisation removes the general trend, eg hills and valleys to accentuate the appearance of the smaller scale features. In this visualisation the lighter tones represent banks and mounds, the darker, ditches and pits. This visualisation is particularly effective at revealing very low earthworks.

Further information and guidance on the use of LiDAR for archaeological prospection and the creation of visualisation from LiDAR data can be found in Crutchley and Crow (2009) and Kokalj and Hesse (2017).

# Appendix 3 Catalogue of features

Survey Area	Description
1	Post medieval ridge and furrow is visible as cropmarks on historic air photos. The LiDAR imagery
	shows the disturbance of a service trench running north-east to south-west across this area.
2	Cropmark traces of medieval or post medieval ridge and furrow and the low earthwork remains of a
	plough headland are visible on historical air photos and LiDAR imagery respectively.
3	Traces of medieval or post medieval ridge and furrow are visible as cropmarks on historical air
	photos.
4	The low remains of a medieval or post medieval plough headland or field boundary are visible on the
	LiDAR imagery. This feature continues southward into survey area 5.
5	The low remains of a medieval or post medieval plough headland or field boundary and a post
	medieval field boundary are visible on the LiDAR imagery. The putative plough headland continues
	northward into survey area 4.
6	No features of archaeological origin were identified on the air photos and LiDAR imagery examined
	for this survey.
7	This survey area was mapped for the Cottam Solar Project and was part of parcel AP47 (Deegan
	2022b). Medieval or post medieval ridge and furrow is visible as cropmarks on historical air photos.
8	Fragments of medieval or post medieval ridge and furrow are visible as cropmarks on historical air
	photos.
9	This survey area was mapped for the Cottam Solar Project and was part of parcel AP46 (Deegan
	2022b). Medieval or post medieval ridge and furrow is visible as cropmarks on historical air photos.
10	Fragments of medieval and post medieval ridge and furrow are visible as cropmarks on historical air
	photos.
11	This survey area is outside of the limits of this air photo and LiDAR survey.
12	This survey area is outside of the limits of this air photo and LiDAR survey.
13	This survey area is outside of the limits of this air photo and LiDAR survey.
14	Medieval or post medieval ridge and furrow is visible as cropmarks on historical air photos.
15	This survey area is outside of the limits of this air photo and LiDAR survey.
16	This survey area was mapped for the Cottam Solar Project and was part of parcel AP47 (Deegan
	2022b). Medieval or post medieval ridge and furrow is visible as cropmarks on historical air photos
	and the low remains of post medieval fields boundaries are visible on LiDAR imagery.
17	No features of archaeological origin were identified on the air photos and LiDAR imagery examined
	for this survey.
18	This survey area was mapped for the Cottam Solar Project and was part of parcel AP47 (Deegan
	2022b). A post medieval field boundary is visible as a low earthwork on LiDAR imagery.
19	No features of archaeological origin were identified on the air photos and LiDAR imagery examined
	for this survey.

Survey Area	Description
20	Three short bank, possibly fragments of medieval plough headland or post medieval field boundary,
	are visible as a low earthwork on LiDAR imagery.
21	A bank, which continues eastward into <b>survey area 50</b> , is visible as low earthwork on LiDAR imagery.
	This feature may be the remains of medieval or post medieval plough ridge or baulk.
22	No features of archaeological origin were identified on the air photos and LiDAR imagery examined
	for this survey.
23	A bank, which continues eastward into <b>survey area 50</b> , is visible as low earthwork on LiDAR imagery.
	This feature may be the remains of medieval or post medieval plough ridge or baulk.
24	No features of archaeological origin were identified on the air photos and LiDAR imagery examined
	for this survey.
25	No features of archaeological origin were identified on the air photos and LiDAR imagery examined
	for this survey.
26	No features of archaeological origin were identified on the air photos and LiDAR imagery examined
	for this survey.
27	No features of archaeological origin were identified on the air photos and LiDAR imagery examined
	for this survey.
28	No features of archaeological origin were identified on the air photos and LiDAR imagery examined
	for this survey.
29	No features of archaeological origin were identified on the air photos and LiDAR imagery examined
	for this survey.
30	This survey area was mapped for the Cottam Solar Project and was part of parcel AP47 (Deegan
	2022b). A strip of medieval or post medieval ridge and furrow is visible as cropmarks on historical air
	photos.
31	No features of archaeological origin were identified on the air photos and LiDAR imagery examined
	for this survey.
32	No features of archaeological origin were identified on the air photos and LiDAR imagery examined
	for this survey.
33	This survey area lies within the curtilage of what was RAF Sturgate, and later Sturgate Airfield.
	Historic air photos show a section of a hardstanding and a small building in this area, but both have
	been removed and the land has been returned to cultivation.
34	This survey area lies within the curtilage of what was RAF Sturgate, and later Strurgate Airfield. A
	ditched feature, possible associated with the airfield's Fog Investigation and Dispersal Operation
	(FIDO), runs across the southern tip of this area.
35	This survey area lies within the curtilage of what was RAF Sturgate, and later Sturgate Airfield. 1940s
	air photos show the perimeter track, a hardstanding, a few small structures. Later photos show the
	eastward expansion of the runway and perimeter track, which continued into survey area 39. Linear
	disturbances flanking the runway may have been part of the airfield's Fog Investigation and Dispersal

Survey Area	Description
	Operation (FIDO). A section of the perimeter track still survives but most other features have been
	removed and the land returned to cultivation.
36	This survey area was mapped for the Cottam Solar Project and was part of parcel AP48 (Deegan
	2022b). Medieval or post medieval ridge and furrow is visible as cropmarks on historical air photos
	and the low remains of a post medieval field boundary can be seen on LiDAR imagery.
37	Medieval or post medieval ridge and furrow and a possible hollow way are visible as soilmarks and
	cropmarks on historical air photos. The putative hollow way runs north to south and is defined by
	two banks or pronounced plough ridges.
38	Medieval or post medieval ridge and furrow is visible as cropmarks on historical air photos.
39	This survey area lies within the curtilage of what was Sturgate Airfield. This survey area contains a
	section of the runway and perimeter track, which were both added after the Second World War.
	Both have been removed and the land returned to cultivation. Historical air photos show the
	cropmarks of medieval or post medieval ridge and furrow. Lidar imagery, as well as showing very
	shallow earthworks pertaining to the runway and perimeter track, show the very low remains of a
	plough headland.
40	Medieval and/or post medieval ridge and furrow is visible as cropmarks on historical air photos.
41	Fragments of medieval or post medieval ridge and furrow are visible as cropmarks on historical air
	photos.
42	No features of archaeological origin were identified on the air photos and LiDAR imagery examined
	for this survey.
43	Google Earth imagery shows the disturbance of a service trench running north-west to south-east
	across the south-west corner of this area.
44	A short bank, probably the remains of a post medieval field boundary, is visible as a low earthwork
	on LiDAR imagery.
45	No features of archaeological origin were identified on the air photos and LiDAR imagery examined
	for this survey.
46	Fragments of medieval or post medieval ridge and furrow are visible as earthworks on historical air
	photos. Lidar imagery suggests these remains have now been levelled.
47	Fragments of medieval or post medieval ridge and furrow are visible as cropmarks and earthworks on
	historical air photos. Lidar imagery suggests these remains have now been levelled. It also show the
	disturbance of a service trench running north-west to south-east.
48	No features of archaeological origin were identified on the air photos and LiDAR imagery examined
	for this survey.
49	Post medieval ridge and furrow is visible as earthworks on historical air photos, but LiDAR imagery
	suggests these remains have now been levelled. It also shows the disturbance of a service trench
	running south-west to north-east.

Survey Area	Description
50	Six parallel linear features run south-west to north-east across this area. They are visible as
	cropmarks on historical air photos and some can be detected on the LiDAR imagery as very low
	banks. The longest can be traced over a distance of 660m. These may be the remains of baulks
	between fields or simply more pronounced plough ridges. Two of these long banks are connected by
	short cross banks to form a small field or paddock.
51	A very shallow pit or hollow and a very low embanked field boundary are visible on LiDAR imagery.
	An air photo taken in 1979 shows a faint cropmarked ditch running close to the bank, which may be
	part of the same field boundary. These features are likely to be of post medieval date. Fragments of
	medieval or post medieval ridge and furrow are visible as cropmarks on the same air photo.
52	The LiDAR imagery shows the disturbance of a service trench running south-west to north-east across
	this area.
53	The LiDAR imagery shows the disturbance of a service trench running south-west to north-east across
	this area.
54	No features of archaeological origin were identified on the air photos and LiDAR imagery examined
	for this survey.
55	This survey area contains a sequence of features. The earliest appear to be two or three embanked
	enclosures that are visible as very low earthworks on the LiDAR imagery. These appear to be
	associated with the long banks described in survey area 50. These enclosures are cut by medieval or
	post medieval plough furrows, which suggest that they are of medieval origin. The ridge and furrow
	survives as fairly well-preserved earthworks. Some plough ridges are cut by a large pond and a
	drainage ditch. Although the pond has been enlarged, some time prior to 1946, and the ditch has
	probably been re-cut, both features are likely to have 19th century or earlier origins.
56	No features of archaeological origin were identified on the air photos and LiDAR imagery examined
	for this survey.
57	The low earthwork remains of a post medieval field boundary or trackway are visible on LiDAR
	imagery. This feature continues briefly into survey area 58.
58	Fragments of medieval or post medieval ridge and furrow are visible as cropmarks on the eastern
	edge of this survey area on historical air photos. The low remains of of a post medieval field
	boundary or trackway and a shallow dew pond are visible on LiDAR imagery.
59	Medieval or post medieval ridge and furrow and ploughed headlands are visible as soilmarks on
	historical air photos. The LiDAR imagery shows the disturbance of a service trench running north-
	west to south-east across this area.
60	Faint cropmarks suggesting the presence of Iron Age or Roman settlement are visible at two locations
	in this area. Both groups have the appearance of small conjoined enclosures. The more westerly
	group coincides with an area of very shallow disturbances indicated on the LiDAR imagery. These
	may be heavily truncated settlement remains. In the southern portion of this survey area there are a
	number of linear features, some may field boundaries and ditches associated with the setttlements,

Survey Area	Description
	but one is certainly a post medieval field boundary. Historical air photos show earthwork medieval
	or post medieval ridge and furrow across the south of this area, but these remains have now been
	levelled.
61	Traces of medieval or post medieval ridge and furrow are visible as soilmarks on historical air
	photos. This survey area was the site of a searchlight battery and gun emplacement in the Second
	World War (MLI80678). These features, along with several structures and a trackway leading to
	Harpswell Lane were still standing on the 1940s air photo. All structures have now been removed,
	but the LiDAR imagery indicates that some very low earthworks survive on the site.
62	Medieval or post medieval ridge and furrow and a plough headland or field boundary are visible as
	cropmarks and earthworks on historical air photos. The plough ridges have now been levelled, the
	boundary survives as a very low earthwork.
63	No features of archaeological origin were identified on the air photos and LiDAR imagery examined
	for this survey.
64	The low earthwork remains of medieval or post medieval plough headlands or field boundaries are
	visible on LiDAR imagery.
65	No features of archaeological origin were identified on the air photos and LiDAR imagery examined
	for this survey.
66	The LiDAR imagery shows the disturbance of a service trench running south-west to north-east across
	this area.
67	The LiDAR imagery shows the disturbance of a service trench running south-west to north-east across
	this area.
68	An area of shallow disturbances is visible on LiDAR imagery. These disturbance are near-contiguous
	with the faint cropmarks observed in survey area 60. These cropmarks may indicate Iron Age or
	Roman settlement, as may these shallow depressions. There is post medieval dew pond near the
	middle of this area. The LiDAR imagery shows the disturbance of a service trench running north-west
	to south-east across this area.
69	No features of archaeological origin were identified on the air photos and LiDAR imagery examined
	for this survey.
70	No features of archaeological origin were identified on the air photos and LiDAR imagery examined
	for this survey.
71	No features of archaeological origin were identified on the air photos and LiDAR imagery examined
	for this survey.
72	A post medieval field boundary is visible as a low earthwork on LiDAR imagery.
73	No features of archaeological origin were identified on the air photos and LiDAR imagery examined
	for this survey.
74	Medieval or post medieval ridge and furrow is visible as earthworks on historical air photos. The
	LiDAR imagery indicates that these remains have now been levelled.

Survey Area	Description
75	Medieval or post medieval ridge and furrow and a short section of boundary bank are visible as
	earthworks on historical air photos. The bank continues eastward through the fields between
	Westlands Farm and Spitals Farm (not mapped, outside of principal site) and through survey area 94.
	The LiDAR imagery indicates that in this survey area the bank survives as a low earthwork but the
	plough ridges have now been levelled.
76	No features of archaeological origin were identified on the air photos and LiDAR imagery examined
	for this survey.
77	Post medieval ridge and furrow is visible as cropmarks on historical air photos. The LiDAR imagery
	shows the disturbance of a service trench running north-west to south-east across this area.
78	Medieval or post medieval ridge and furrow is visible as cropmarks on historical air photos.
79	Medieval or post medieval ridge and furrow is visible as cropmarks on historical air photos.
80	Post medieval ridge and furrow, a field boundary and a dew pond are visible as earthworks on
	historical air photos. The LiDAR imagery indicates that the plough ridges have now been levelled and
	the other features survive as very low earthworks.
81	Post medieval ridge and furrow is visible as earthworks on historical air photos, but LiDAR imagery
	suggests these remains have now been levelled.
82	Post medieval ridge and furrow is visible as earthworks on historical air photos, but LiDAR imagery
	suggests these remains have now been levelled.
83	No features of archaeological origin were identified on the air photos and LiDAR imagery examined
	for this survey.
84	Fragments of medieval or post medieval ridge and furrow, a post medieval dew pond and trackway
	are visible as earthworks and soilmarks on air photos. The dew pond survives as a very shallow
	earthwork.
85	Medieval or post medieval ridge and furrow and a post medieval dew pond are visible as earthworks
	on historical air photos. Lidar imagery indicates that these features have now been levelled.
86	Fragments of medieval or post medieval ridge and furrow are visible as soilmarks on air photos.
87	Faint cropmarks suggesting Iron Age or Roman settlement remains are visible on historical air photos
	on the eastern boundary of this area. These cropmarks continued into what is now the triangle of
	woodland between this survey area and survey area 98. The cropmarks suggest a series of rectilinear
	enclosures. A faint cropmark further to the north-west may be of similar origin. In the 1940s
	earthwork medieval or post medieval ridge and furrow and plough headlands or field boundaries
	extended across most of this area. Most of these earthworks have now been levelled.
88	The very low remains of two long banks, probably the remains of post medieval field boundaries are
	visible on LiDAR imagery. It also shows the disturbance of A service trench running south-west to
	north-east across this area.
89	The LiDAR imagery shows the disturbance of a service trench running north-west to south-east across
	this area.

Survey Area	Description
90	A post medieval field boundary is visible as a cropmark on historical air photos. The LiDAR imagery
	shows the disturbance of a service trench running north-west to south-east across this area.
91	A small post medieval dew pond is visible as a low earthwork on LiDAR imagery.
92	Medieval and post medieval ridge and furrow and a field boundary are visible as earthworks and
	cropmarks on historical air photos. The LiDAR imagery indicates all of these features have now been levelled.
93	No features of archaeological origin were identified on the air photos and LiDAR imagery examined
	for this survey.
94	Very shallow earthwork disturbances are visible on the LiDAR imagery in the south-east corner of this
	survey area and continue into <b>survey area 115</b> . Similar depressions in <b>survey areas 60</b> and <b>68</b> are
	associated with cropmarks that might indicate Iron Age or Roman settlement.
	Two linear features runs near east to west across this survey area and parallel to Kexby Road. The
	more southerly is a medieval or post medieval boundary bank, it is straight and continues eastward
	into <b>survey area 115</b> and westward across the fields between Westlands Farm and Spitals Farm (not
	mapped, outside of principal site) and into <b>survey area 75</b> . The LiDAR imagery indicates that this
	feature survive as an earthwork in this area.
	The more northerly linear feature comprises banks flanking discontinuous sections of ditch. This
	feature continues westward along the north edge of the fields between Westlands Farm and Spitals
	Farm (not mapped, outside of principal site). It also continues eastward, in some form, into
	survey areas 115, 123 and 140. This feature survives as a low earthwork in this area, it may be the
	remains of a medieval or post medieval trackway or hollow way.
	Historical air photos show earthwork medieval or post medieval ridge and furrow across large parts
	of this area, but these remains have now been levelled.
95	No features of archaeological origin were identified on the air photos and LiDAR imagery examined
93	for this survey.
06	· · · · · · · · · · · · · · · · · · ·
96	No features of archaeological origin were identified on the air photos and LiDAR imagery examined
0.7	for this survey.
97	Two short medieval or post medieval plough headlands or field boundaries are visible as very low
00	earthworks on LiDAR imagery.
99	Medieval or post medieval ridge and furrow and ploughed headlands are visible as soilmarks on
	historical air photos.
	No features of archaeological origin were identified on the air photos and LiDAR imagery examined
	for this survey.
100	No features of archaeological origin were identified on the air photos and LiDAR imagery examined
	for this survey.
101	Medieval or post medieval ridge and furrow and fragments of ditch are visible as cropmark on air
	photos. One of the ditches is likely to have marked the northern boundary of a small wood 'Pasture

Survey Area	Description
	Leys' that is depicted on Bryant's map of 1828. The other ditches are likely to be post medieval
	drainage ditches or field boundaries.
102	Post medieval ridge and furrow and a small dew pond are visible as cropmarks and a shallow
	earthwork on historical air photos. The pond survives as a shallow earthwork.
103	Post medieval ridge and furrow is visible as cropmarks on historical air photos.
104	Post medieval ridge and furrow is visible as cropmarks on historical air photos. The LiDAR imagery
	shows the disturbance of a service trench running north-west to south-east across this area.
105	Medieval or post medieval ridge and furrow and a plough headland or field boundary are visible as
	earthworks on historical air photos. The LiDAR imagery indicates that the plough ridges have now
	been levelled, the boundary survives as a very low earthwork.
106	Medieval and post medieval ridge and furrow are visible as cropmarks on historical air photos.
107	Medieval or post medieval ridge and furrow and plough headlands are visible as earthworks and
	cropmarks on historical air photos. The LiDAR imagery indicates that the headlands survive as low
	earthworks but the plough ridges have been levelled.
108	Medieval or post medieval ridge and furrow and plough headlands are visible as earthworks
	historical air photos. These sources also show a small enclosure in the south-west corner of the field
	and a dew pond on the eastern boundary, both of likely post medieval origin. The LiDAR imagery
	indicates that most of these remains have now been levelled but the plough headlands survive as low
	earthworks.
109	Medieval or post medieval ridge and furrow is visible as earthworks on 1950s air photos and
	soilmarks on photos taken in the 1970s.
110	Medieval or post medieval ridge and furrow, a plough headland and a post medieval dew pond are
	visible as earthworks and cropmarks on historical air photos. The LiDAR imagery suggests that that
	the plough ridges have now been levelled but the headland and pond survive as low earthworks.
111	A medieval or post medieval plough headland or field boundary and two post medieval ponds are
	visible as earthworks on the LiDAR imagery. Historical air photos show show fragments of ridge and
	furrow on the western edge of the headland.
112	Medieval or post medieval ridge and furrow and a small mound and a small pond are visible as
	soilmarks on historical air photos. Lidar imagery indicates that most of these features have now been
	levelled. It also shows the disturbance of a service trench running north-west to south-east across
	this area.
113	Post medieval ridge and furrow is visible as cropmarks on historical air photos.
114	Post medieval ridge and furrow is visible as cropmarks on historical air photos. Air photos taken in
	1956 show cropmarks suggestive of an enclosure, but these marks are more likely to be of superficial
	origin.

Survey Area	Description
115	The very shallow earthwork disturbances described in survey area 94 continue into this area. Similar
	depressions in survey area 60 and 68 are associated with cropmarks that might indicate Iron Age or
	Roman settlement.
	The two linear features described in survey area 94, a boundary bank and hollow way or trackway,
	also continue into this area. Both are visible as very low earthworks on the LiDAR imagery.
	Historical air photos also show medieval or post medieval ridge and furrow, a ditched field boundary,
	which cuts the boundary bank, and dew ponds in this area. Most of these features have now been
	levelled.
116	Medieval and/or post medieval ridge and furrow, a plough headland, field boundary, bank and a dew
	pond are visible as cropmarks and earthworks on historical air photos. The LiDAR imagery indicates
	that the pond and field boundary survive as low earthworks.
117	A small post medieval dew pond is visible as a low earthwork on historical air photos and on LiDAR
	imagery.
118	Medieval or post medieval ridge and furrow, a plough headland or field boundary and a dew pond,
	are visible as cropmarks and earthworks. The banked feature and pond are visible as low earthworks
	on the LiDAR imagery.
119	Medieval and post medieval ridge and furrow and a drainage ditch are visible as earthworks and
	cropmarks on historical air photos. Most of these remains have now been levelled.
120	Post medieval ridge and furrow is visible as cropmarks on historical air photos.
121	Post medieval ridge and furrow is visible as cropmarks on historical air photos.
122	No features of archaeological origin were identified on the air photos and LiDAR imagery examined
	for this survey.
123	The more northerly of the two linear features observed in survey areas 94 and 155 continues
	through this area. This hollow way or trackway continues eastward into survey area 140.
	Medieval or post medieval ridge and furrow, cutting across an earlier plough headland are visible as
	earthwork on historical air photos. The LiDAR imagery suggests that the water channel or hollow way
	and the plough headland survive as very low earthworks.
124	The earthwork remains of a small medieval moat and adjacent features are visible in the south-west
	corner of this survey area on historical air photos. The moat platform measures approximately
	56mx41m and there is a small rectangular hollow in the south-west corner. The western side of the
	moat is cut by a field ditch. There is an area of indistinct earthwork on the east side of the moat.
	A sinuous water channel fed by smaller ditches meanders along the north edge of the of this area. On
	its approach to Northlands Road, the water channel ditch forks and appears to mark out the northern
	and western sides of a large rectilinear enclosure, one of a series that continues into
	survey area 139.

Survey Area	Description
	South of the moat and immediately north of Kexby Road there are traces of a bank and ditch, these
	may be the remains of a wider hollow way or a park pale associated with the deer park Everson et al
	place in the vicinity (1991, viii).
	The earthwork remains of medieval or post medieval ridge and furrow, plough headlands and field
	boundaries are visible across the rest of this area. The LiDAR imagery suggests that most of these
	features have been levelled or reduced to very low earthworks, including the moat and adjacent
	features.
125	No features of archaeological origin were identified on the air photos and LiDAR imagery examined
	for this survey.
126	Medieval or post medieval ridge and furrow is visible as cropmarks on historical air photos.
127	No features of archaeological origin were identified on the air photos and LiDAR imagery examined
	for this survey.
128	Medieval or post medieval ridge and furrow is visible as cropmarks on historical air photos. The
	LiDAR imagery also shows the low remains of two plough headlands or field boundaries.
129	This survey area is outside of the limits of this air photo and LiDAR survey.
130	This survey area is outside of the limits of this air photo and LiDAR survey.
131	Medieval or post medieval ridge and furrow is visible as cropmarks and a small post medieval dew
	pond as an earthwork on historical air photos. Lidar imagery indicates that these features have been
	levelled.
132	The LiDAR imagery shows shallow and indistinct disturbances across this area. The OS map of 1885
	names the small wood that stood in the south-east corner of this survey area 'Brickkiln Holt'
	(MLI53950). This might suggest these shallow earthworks are associated with clay extraction.
	However, this area also coincides with the location of Blyth Close, as depicted on the OS One Inch
	Map of 1856, which appears to have comprised at least one building. Historical air photos show
	cropmark fragments of medieval or post medieval ridge and furrow in this area, and the low
	earthwork remains of plough headlands or field boundaries. The LiDAR imagery indicates that these
	features have been levelled.
133	Post medieval ridge and furrow is visible as cropmarks on historical air photos.
134	This survey area clips the eastern margins of the medieval or post medieval ridge and furrow
	recorded in survey area 137.
135	No features of archaeological origin were identified on the air photos and LiDAR imagery examined
	for this survey.
136	Post medieval ridge and furrow and a drainage ditch are visible as earthworks and cropmarks on
	historical air photos. Most of these remains have now been levelled.
137	Medieval or post medieval ridge and furrow, plough headlands or field boundaries and a dew pond
137	incure varior post incure variable and various prought neutral and so include soundaries and a demporar
137	are visible as earthworks on historical air photos. Lidar imagery indicates that most of these remains

Survey Area	Description
138	Post medieval ridge and furrow and two dew ponds are visible as earthworks and cropmarks on
	historical air photos. Lidar imagery indicates that these features have now been levelled.
139	This survey area lies outside the limits of this survey but is included to provide context for the
	features than continue into <b>survey area 124</b> . Air photos and LiDAR imagery show the low earthworks
	remains of at least three large, conjoined rectilinear enclosures. It has been suggested by Everson et
	al that these features may indicate the site of the deserted settlement of Thorpe (MLI50189, 1991,
	viii).
140	This survey area lies outside the limits of this survey but is included to provide context for the feature
	that continues in <b>survey area 123</b> . Air photos and LiDAR imagery show the shallow earthworks of a
	broad ditch that continues eastward from the hollow way or trackway described in survey area 123.
	The possible medieval or post medieval settlement remains described in survey area 139 continued
	into this survey area and were visible as vague soilmarks, however these were probably destroyed
	when the reservoirs were built.
141	Post medieval ridge and furrow is visible as cropmarks on historical air photos.
142	Medieval or post medieval ridge and furrow and a plough headland or field boundary are visible as
	low earthworks on LiDAR imagery.
143	Medieval or post medieval ridge and furrow is visible as earthworks in Harpswell and Peter's Woods
	on LiDAR imagery. It is obscured by trees on most conventional air photos.
144	Post medieval ridge and furrow is visible as cropmarks on historical air photos. This survey area has
	now been built over.
145	Medieval or post medieval ridge and furrow, an orchard and Bottom Farm are visible as earthworks
	and standing buildings on historical air photos. The LiDAR imagery indicates that all of the features
	have now been demolished and levelled.
146	Medieval or post medieval ridge and furrow is visible as earthworks and soilmarks on historical air
	photos. The LiDAR imagery indicates that most of these earthworks have now been levelled.
147	Part of a medieval hollow way, medieval or post medieval field boundaries and a hollow are visible as
	earthworks on historical air photos and on LiDAR imagery. These features are near to the core of the
	medieval village of Normanby (MLI52445).
148	Medieval or post medieval ridge and furrow is visible as an earthwork on historical air photos. Lidar
	imagery indicates that these remains have now been levelled.
149	Fragments of medieval or post medieval ridge and furrow and a post medieval railway cutting are
	visible as earthworks on historical air photos. These remains have now been levelled.
150	Fragments of medieval or post medieval ridge and furrow are visible as earthworks on historical air
	photos. The LiDAR imagery indicates that these remains have now been levelled.
151	A long embankment running along the southern side of Outgang Road, is visible as earthworks on
	historical air photos. This feature, likely to be of post medieval origin has now been levelled.

Survey Area	Description
152	This survey area was mapped and recorded for the survey undertake for the Gate Burton Energy Park
	(Deegan 2022a, Appendix 3, parcel 138). In addition to the features described in that survey's parcel
	138, this survey identified cropmarks Iron Age and Roman trackways and field boundaries on more
	recent Google Earth imagery.
153	No features of archaeological origin were identified on the air photos and LiDAR imagery examined
	for this survey.
154	No features of archaeological origin were identified on the air photos and LiDAR imagery examined
	for this survey.
155	No features of archaeological origin were identified on the air photos and LiDAR imagery examined
	for this survey.
156	No features of archaeological origin were identified on the air photos and LiDAR imagery examined
	for this survey.
157	No features of archaeological origin were identified on the air photos and LiDAR imagery examined
	for this survey.
158	No features of archaeological origin were identified on the air photos and LiDAR imagery examined
	for this survey.
159	This survey area lies within the curtilage of what was RAF Sturgate, and later Sturgate Airfield. A
	linear that may have been part of the airfield's Fog Investigation and Dispersal Operation (FIDO)
	extends into this area, as does a section of the post-war extended perimeter track.

## Appendix 4 Historic England Archive list of air photos examined

The Engine House, Fire Fly Avenue, Swindon SN2 2EH. **Enquiry reference no. AP 138288**. The Specialist Collection (mostly oblique) and Vertical Collection air photos listed below were consulted at the Archives on the 14th, 15th and 28th March 2023. All of the photographs listed below were available to view as prints at the Archive.

Specialist collection (oblique air photos)

Photo reference	Original Film an	d frame	Date	Film type	
SK 8888 / 20	INV 19414	/ 18	24 MAY 1997	Colour neg	35 mm
SK 8889 / 1	NMR 1850	/ 172	09 OCT 1980	Black & white	70mm,120,220
SK 8890 / 1	INV 19417	/ 21A	09 JUL 1997	Colour neg	35 mm
SK 8988 / 1	INV 19422	, / 17	07 SEP 1997	Colour neg	35 mm
SK 8988 / 2	INV 19554	/ 16	07 SEP 1997	Colour neg	35 mm
SK 8988 / 3	INV 19554	/ 17	07 SEP 1997	Colour neg	35 mm
SK 9088 / 1	PLE 2978	/ 19	05 AUG 1979	Black & white	35 mm
SK 9088 / 2	INV 19552	/ 18	14 MAR 1999	Colour neg	35 mm
SK 9089 / 1	PLE 2978	/ 21	11 AUG 1979	Black & white	35 mm
SK 9090 / 1	NMR 1850	/ 026	09 OCT 1980	Black & white	70mm,120,220
SK 9090 / 2	NMR 1850	/ 027	09 OCT 1980	Black & white	70mm,120,220
SK 9090 / 3	NMR 1850	/ 028	09 OCT 1980	Black & white	70mm,120,220
SK 9090 / 4	INV 19554	/ 15	07 SEP 1997	Colour neg	35 mm
SK 9188 / 1	PLE 2975	/ 13	13 AUG 1979	Black & white	35 mm
SK 9189 / 1	PLE 2978	/ 18	05 AUG 1979	Black & white	35 mm
SK 9189 / 2	INV 19546	/ 10A	19 JUL 1998	Colour neg	35 mm
SK 9190 / 2	NMR 1850	/ 020	09 OCT 1980	Black & white	70mm,120,220
SK 9190 / 6	NMR 1850	/ 021	09 OCT 1980	Black & white	70mm,120,220
SK 9190 / 7	NMR 1850	/ 022	09 OCT 1980	Black & white	70mm,120,220
SK 9190 / 8	NMR 1850	/ 023	09 OCT 1980	Black & white	70mm,120,220
SK 9190 / 9	NMR 1850	/ 024	09 OCT 1980	Black & white	70mm,120,220
SK 9190 / 10	NMR 1850	/ 025	09 OCT 1980	Black & white	70mm,120,220
SK 9287 / 1	PLE 2947	/ 21	17 MAY 1980	Black & white	35 mm
SK 9288 / 1	PLE 2975	/ 12	11 AUG 1979	Black & white	35 mm
SK 9288 / 2	INV 19405	/ 18	11 AUG 1996	Colour neg	35 mm
SK 9288 / 3	INV 19405	/ 19	11 AUG 1996	Colour neg	35 mm
SK 9288 / 4	INV 19552	/ 17	14 MAR 1999	Colour neg	35 mm
SK 9290 / 1	NMR 1850	/ 035	09 OCT 1980	Black & white	70mm,120,220
SK 9290 / 8	NMR 1850	/ 036	09 OCT 1980	Black & white	70mm,120,220
SK 9290 / 9	NMR 1850	/ 037	09 OCT 1980	Black & white	70mm,120,220
SK 9387 / 1	PLE 2933	/ 27	01 MAY 1977	Black & white	35 mm
SK 9387 / 2	PLE 5159	/ 24	28 JUL 1977	Black & white	35 mm
SK 9387 / 3	PLE 5159	/ 25	28 JUL 1977	Black & white	35 mm
SK 9387 / 4	PLE 2937	/ 16	13 JAN 1979	Black & white	35 mm
SK 9387 / 5	PLE 2937	/ 18	13 JAN 1979	Black & white	35 mm
SK 9387 / 6	PLE 2937	/ 19	13 JAN 1979	Black & white	35 mm
SK 9389 / 1	NMR 1850	/ 038	09 OCT 1980	Black & white	70mm,120,220
SK 9389 / 2	PLE 2931	/ 35	01 MAY 1977	Black & white	35 mm
SK 9389 / 3	PLE 2931	/ 36	01 MAY 1977	Black & white	35 mm
SK 9389 / 4	PLE 2928	/ 38	07 NOV 1976	Black & white	35 mm
SK 9389 / 5	PLE 2928	/ 39	07 NOV 1976	Black & white	35 mm
SK 9389 / 6	PLE 2942	/ 23	13 JAN 1980	Black & white	35 mm
SK 9389 / 7	PLE 2942	/ 24	13 JAN 1980	Black & white	35 mm
SK 9389 / 8	PLE 5164	/ 14	30 JUL 1977	Black & white	35 mm
SK 9389 / 9	NMR 1850	/ 039	09 OCT 1980	Black & white	70mm,120,220
SK 9389 / 10	NMR 1850	/ 040	09 OCT 1980	Black & white	70mm,120,220
SK 9389 / 11	NMR 1850	/ 041	09 OCT 1980	Black & white	70mm,120,220
SK 9389 / 12	NMR 1850	/ 042	09 OCT 1980	Black & white	70mm,120,220
SK 9389 / 13	NMR 1850	/ 043	09 OCT 1980	Black & white	70mm,120,220
SK 9389 / 14	NMR 1850	/ 044	09 OCT 1980	Black & white	70mm,120,220
SK 9389 / 15	PLE 2926	/ 23	16 SEP 1976	Black & white	35 mm
SK 9389 / 16	PLE 2926	/ 24	16 SEP 1976	Black & white	35 mm
SK 9389 / 17	PLE 2926	/ 25	16 SEP 1976	Black & white	35 mm
SK 9389 / 18	PLE 2926	/ 26	16 SEP 1976	Black & white	35 mm
SK 9389 / 19	PLE 2926	/ 27 / 20	16 SEP 1976	Black & white	35 mm
SK 9389 / 20	PLE 2926	/ 28	16 SEP 1976	Black & white	35 mm
SK 9389 / 21	INV 19554	/ 08 / 00	07 SEP 1997	Colour neg	35 mm
SK 9389 / 22	INV 19554	/ 09 / 10	07 SEP 1997	Colour neg	35 mm
SK 9389 / 23	INV 19554	/ 10	07 SEP 1997	Colour neg	35 mm

Photo reference	Original Film a	and frame	Date	Film type	
SK 9390 / 1	NMR 1850	/ 029	09 OCT 1980	Black & white	70mm,120,220
SK 9390 / 2	NMR 1850	/ 030	09 OCT 1980	Black & white	70mm,120,220
SK 9390 / 3	NMR 1850	/ 031	09 OCT 1980	Black & white	70mm,120,220
SK 9390 / 4	NMR 1850	/ 032	09 OCT 1980	Black & white	70mm,120,220
SK 9390 / 5	NMR 1850	/ 033	09 OCT 1980	Black & white	70mm,120,220
SK 9390 / 6	NMR 1850	/ 034	09 OCT 1980	Black & white	70mm,120,220
SK 9390 / 13	INV 19554	/ 13	07 SEP 1997	Colour neg	35 mm

## Vertical collection (oblique air photos)

Sortie number	Library number	Camera position	Frame number	Date	Scale 1:
RAF/CPE/UK/1880	540	FS	2424	06 DEC 1946	10000
RAF/CPE/UK/1880	540	FS	2425	06 DEC 1946	10000
RAF/CPE/UK/1880	540	FS	2426	06 DEC 1946	10000
RAF/CPE/UK/1880	540	FS	2427	06 DEC 1946	10000
RAF/CPE/UK/1880	540	FS	2428	06 DEC 1946	10000
RAF/CPE/UK/1880	540	FS	2429	06 DEC 1946	10000
RAF/CPE/UK/1880	540	FS	2430	06 DEC 1946	10000
RAF/CPE/UK/1880	540	FS	2431	06 DEC 1946	10000
RAF/CPE/UK/1880	540	FS	2432	06 DEC 1946	10000
RAF/CPE/UK/1880	540	FS	2433	06 DEC 1946	10000
RAF/CPE/UK/1880	540	FS	2434	06 DEC 1946	10000
RAF/CPE/UK/1880	540	FS	2435	06 DEC 1946	10000
RAF/CPE/UK/1880	540	V	5426	06 DEC 1946	10000
RAF/CPE/UK/1880	540	V	5427	06 DEC 1946	10000
RAF/CPE/UK/1880	540	V	5428	06 DEC 1946	10000
RAF/CPE/UK/1880	540	V	5429	06 DEC 1946	10000
RAF/CPE/UK/1880	540	V	5430	06 DEC 1946	10000
RAF/CPE/UK/1880	540	V	5431	06 DEC 1946	10000
RAF/CPE/UK/1880	540	V	5432	06 DEC 1946	10000
RAF/CPE/UK/1880	540	V	5433	06 DEC 1946	10000
RAF/CPE/UK/1880	540	V	5434	06 DEC 1946	10000
RAF/CPE/UK/1880	540	V	5435	06 DEC 1946	10000
RAF/CPE/UK/1880	540	V	5436	06 DEC 1946	10000
RAF/CPE/UK/2012	609	FS	2087	16 APR 1947	9800
RAF/CPE/UK/2012	609	FS	2088	16 APR 1947	9800
RAF/CPE/UK/2012	609	FS	2089	16 APR 1947	9800
RAF/CPE/UK/2012	609	FS	2090	16 APR 1947	9800
RAF/CPE/UK/2012	609	FS	2091	16 APR 1947	9800
RAF/CPE/UK/2012	609	FS	2092	16 APR 1947	9800
RAF/CPE/UK/2012	609	FS	2093	16 APR 1947	9800
RAF/CPE/UK/2012	609	FS	2094	16 APR 1947	9800
RAF/CPE/UK/2012	609	FS	2095	16 APR 1947	9800
RAF/CPE/UK/2012	609	FS	2096	16 APR 1947	9800
RAF/CPE/UK/2012	609	RP	3082	16 APR 1947	9800
RAF/CPE/UK/2012	609	RP	3083	16 APR 1947	9800
RAF/CPE/UK/2012	609	RP	3084	16 APR 1947	9800
RAF/CPE/UK/2012	609	RS	4088	16 APR 1947	9800
RAF/CPE/UK/2012	609	RS	4089	16 APR 1947	9800
RAF/CPE/UK/2012	609	RS	4090	16 APR 1947	9800
RAF/CPE/UK/2012	609	RS	4091	16 APR 1947	9800
RAF/CPE/UK/2012	609	RS	4092	16 APR 1947	9800
RAF/CPE/UK/2012	609	RS	4093	16 APR 1947	9800
RAF/CPE/UK/2012	609	RS	4094	16 APR 1947	9800
RAF/CPE/UK/2012	609	RS	4095	16 APR 1947	9800
RAF/CPE/UK/2012	609	RS	4096	16 APR 1947	9800
RAF/CPE/UK/2563	832	RS	4331	28 MAR 1948	10000
RAF/CPE/UK/2563	832	RS	4332	28 MAR 1948	10000
RAF/CPE/UK/2541	834	RS	4067	25 MAR 1948	10000
RAF/CPE/UK/2541	834	RS	4068	25 MAR 1948	10000
RAF/CPE/UK/2541	834	RS	4069	25 MAR 1948	10000
RAF/CPE/UK/2541	834	RS	4070	25 MAR 1948	10000
RAF/CPE/UK/2541	834	RS	4071	25 MAR 1948	10000
RAF/58/2490	2250	٧	7	26 JUN 1958	12000
RAF/58/2490	2250	V	8	26 JUN 1958	12000
RAF/82/1373	2546	V	14	24 MAR 1956	15000
RAF/82/1373	2546	V	15	24 MAR 1956	15000
RAF/540/1788	2765	V	11	25 JAN 1956	15000
RAF/540/1788	2765	V	12	25 JAN 1956	15000
RAF/540/1652	2805	V	16	28 JUN 1955	15000
RAF/540/1652	2805	V	17	28 JUN 1955	15000
, ,		<del>-</del>	=:		

Sortie number	Library number	Camera position	Frame number	Date	Scale 1:
RAF/540/1373	2878	V	12	23 JUL 1954	9000
RAF/540/1373	2878	V	13	23 JUL 1954	9000
RAF/540/1758	5049	F21	28	03 FEB 1956	16000
RAF/540/1758	5049	F21	29	03 FEB 1956	16000
MAL/74002	7168	V	32	31 JAN 1974	15000
MAL/74002	7168	V	33	31 JAN 1974	15000
MAL/74002	7168	V	34	31 JAN 1974	15000
MAL/74002	7168	V	47	31 JAN 1974	15000
MAL/74002	7168	V	48	31 JAN 1974	15000
MAL/74002	7168	V	49	31 JAN 1974	15000
MAL/74002	7168	V	50	31 JAN 1974	15000
OS/72024	10268	V	315	21 MAR 1972	7500
OS/72024	10268	V	316	21 MAR 1972	7500
OS/72024	10268	V	317	21 MAR 1972	7500
OS/72024	10268	V	318	21 MAR 1972	7500
OS/72024	10268	V	319	21 MAR 1972	7500
OS/72024	10268	V	320	21 MAR 1972	7500
OS/72113	10269	V	403	03 MAY 1972	7500
OS/72113	10269	V	404	03 MAY 1972	7500
OS/72113	10269	V	405	03 MAY 1972	7500
OS/72113	10269	V	406	03 MAY 1972	7500
OS/72113	10269	V	407	03 MAY 1972	7500
OS/72113	10269	V	408	03 MAY 1972	7500
OS/72113	10269	V	425	03 MAY 1972	7500
OS/72113	10269	V	426	03 MAY 1972	7500
OS/72113	10269	V	427	03 MAY 1972	7500
OS/72113	10269	V	428	03 MAY 1972	7500
OS/72113	10269	V	429	03 MAY 1972	7500
OS/72113	10269	V	430	03 MAY 1972	7500
OS/72113	10269	V	431	03 MAY 1972	7500
OS/72113	10269	V	432	03 MAY 1972	7500
OS/72220	10271	V	485	14 JUL 1972	7500
OS/72220	10271	V	486	14 JUL 1972	7500
OS/72220	10271	V	487	14 JUL 1972	7500
OS/72220	10271	V	488	14 JUL 1972	7500
OS/73331	10380	V	1	23 JUN 1973	7500
OS/73331	10380	V	2	23 JUN 1973	7500
OS/73331	10380	V	3	23 JUN 1973	7500
OS/73331	10380	V	4	23 JUN 1973	7500
OS/73331	10380	V	5	23 JUN 1973	7500
OS/73331	10380	V	6	23 JUN 1973	7500
OS/73331	10380	V	7	23 JUN 1973	7500
OS/73331	10380	V	8	23 JUN 1973	7500
OS/73331	10380	V	42	23 JUN 1973	7500
OS/73331	10380	V	43	23 JUN 1973	7500
OS/73331	10380	V	44	23 JUN 1973	7500
OS/73331	10380	V	45	23 JUN 1973	7500
OS/73331	10380	V	46	23 JUN 1973	7500
OS/94285	14722	V	25	16 AUG 1994	7500
OS/94285	14722	V	26	16 AUG 1994	7500
OS/94285	14722	V	27	16 AUG 1994	7500
OS/94285	14722	V	28	16 AUG 1994	7500
OS/94285	14722	V	29	16 AUG 1994	7500
OS/94285	14722	V	30	16 AUG 1994	7500
OS/94285	14722	V	31	16 AUG 1994	7500
OS/94285	14722	V	32	16 AUG 1994	7500
JJ J720J	17/22	•	32	10 700 1334	7500

NB Prints RAF/HLA/378 8411 RS 903-909 were also included in the search results but on examination it was determined that these had been wrongly sited and do not cover any part of the Tillbridge Solar Scheme.

The following air photos were re-examined to cover those small areas of the Tillbridge connector corridor that were not covered by the Gate Burton Energy Park, Cottam Solar Project, the West Burton Solar Project surveys (Deegan 2002 a-c).

## Enquiry reference no. AP135459

Sortie number	Library number	Camera position	Frame number	Date	Scale 1:
MAL/81047	7728	V	90	26 Oct 81	3000
MAL/81047	7728	V	215	26 Oct 81	3000
MAL/81047	7728	V	217	26 Oct 81	3000
MAL/81047	7728	V	222	26 Oct 81	3000
MAL/81047	7728	V	224	26 Oct 81	3000
MAL/81048	7729	V	81	26 Oct 81	3000
MAL/81048	7729	V	95	26 Oct 81	3000
RAF/HLA/378	8411	RS	910	15 Dec 41	13500
OS/72220	10271	V	494	14 Jul 72	7500
OS/72220	10271	V	546	14 Jul 72	7500
OS/73033	10372	V	170	23 Mar 73	7500

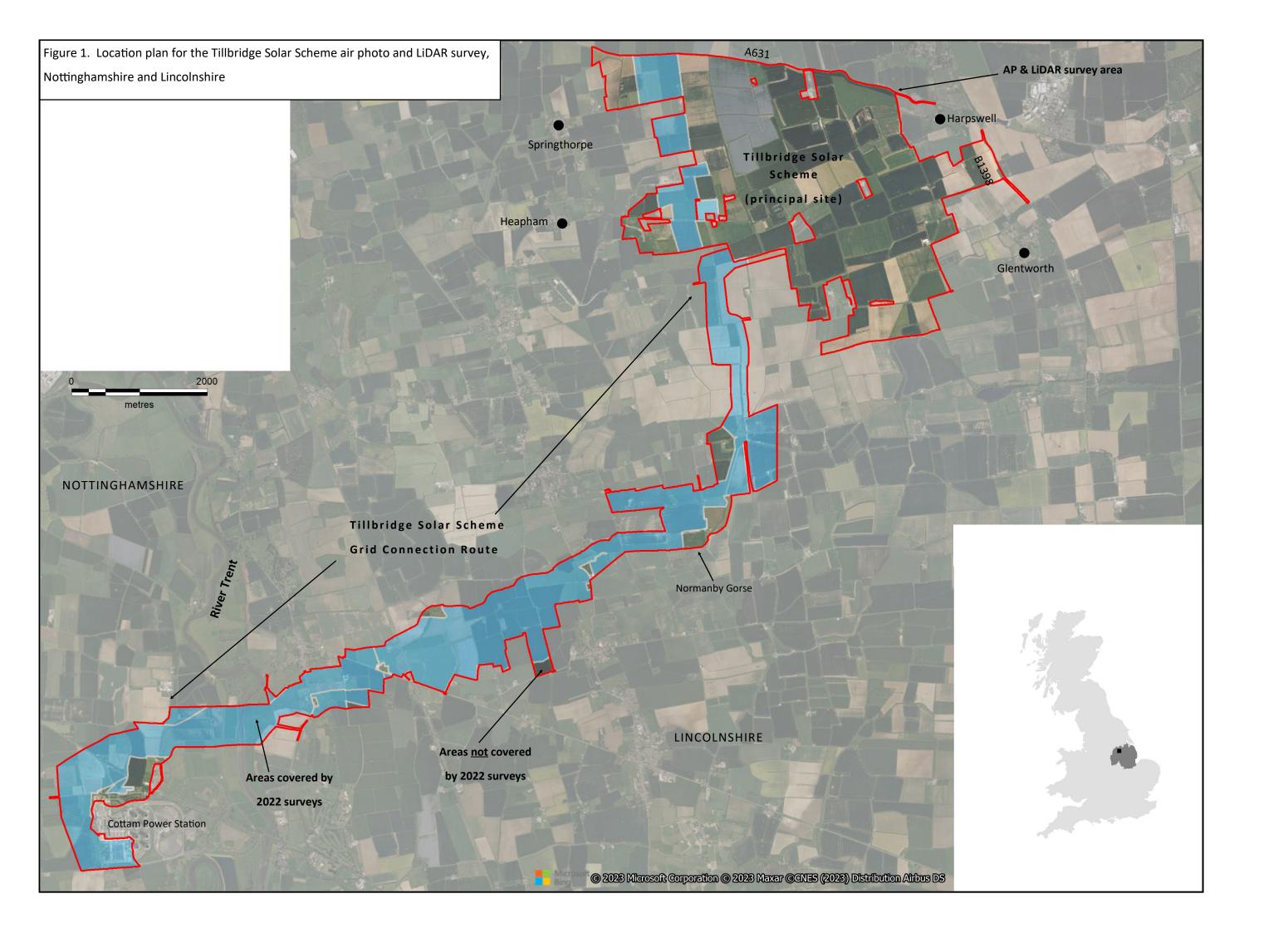
## Enquiry reference no. AP132472

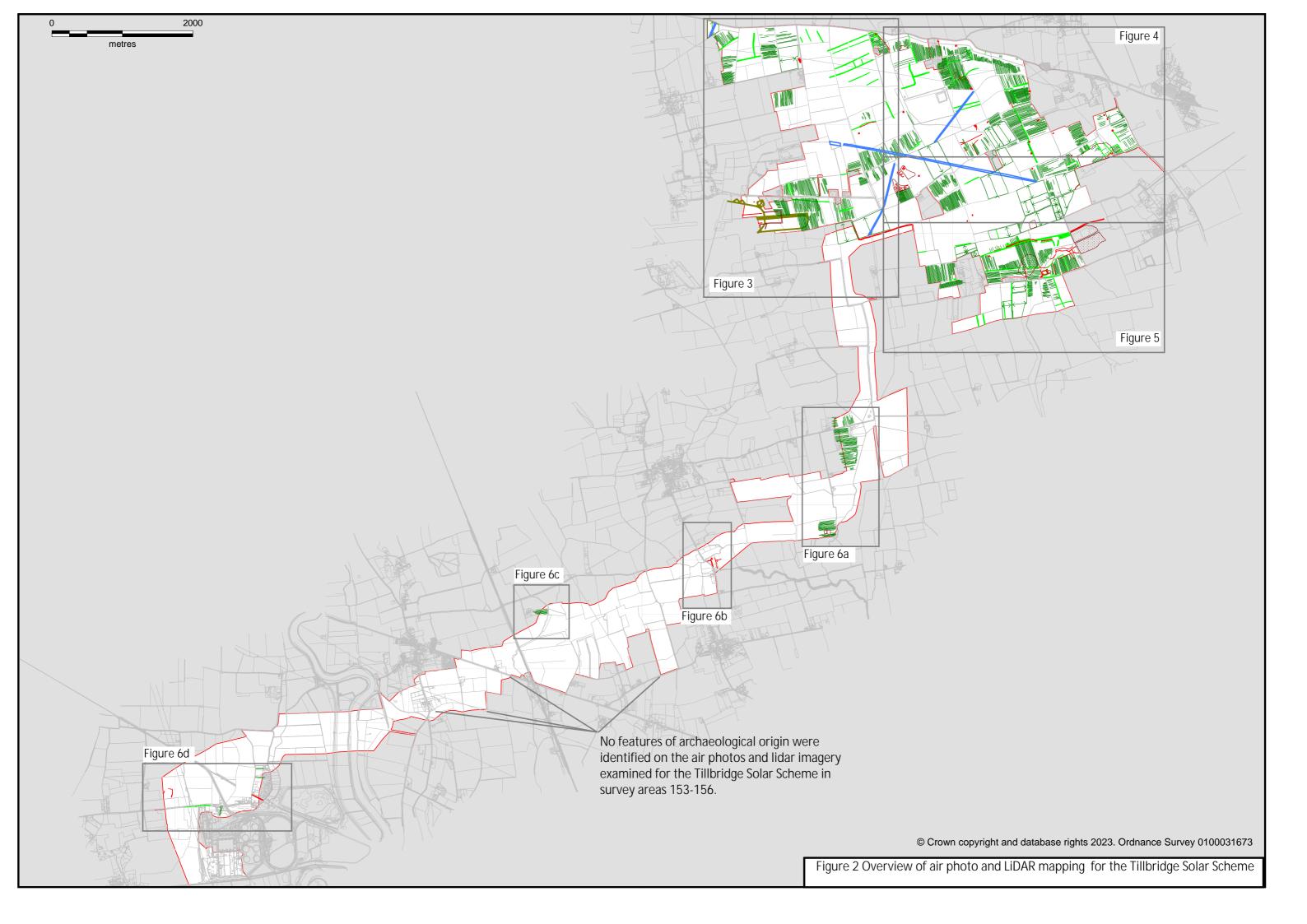
RAF/CPE/UK/2012         609         FS         2128         16 Apr 47         9800           RAF/541/35         873         RS         4468         19 May 48         10750           RAF/541/35         873         RS         4469         19 May 48         10750           RAF/541/35         873         RS         4470         19 May 48         10750           MAL/77005         6946         V         58         27 Feb 77         2500           MAL/77005         6946         V         60         27 Feb 77         2500           MAL/77005         6946         V         61         27 Feb 77         2500           MAL/77005         6946         V         61         27 Feb 77         2500           MAL/77005         6946         V         62         27 Feb 77         2500           MAL/77005         6946         V         67         27 Feb 77         2500           MAL/77005         6946         V         67         27 Feb 77         2500           MAL/76072         8177         V         258         20 Sep 76         2500           MAL/76072         8177         V         259         20 Sep 76         2500	Sortie number	Library number	Camera position	Frame number	Date	Scale 1:
RAF/541/35 873 RS 4469 19 May 48 10750 RAF/541/35 873 RS 4470 19 May 48 10750 MAL/77005 6946 V 58 27 Feb 77 2500 MAL/77005 6946 V 59 27 Feb 77 2500 MAL/77005 6946 V 60 27 Feb 77 2500 MAL/77005 6946 V 60 27 Feb 77 2500 MAL/77005 6946 V 61 27 Feb 77 2500 MAL/77005 6946 V 62 27 Feb 77 2500 MAL/77005 6946 V 62 27 Feb 77 2500 MAL/77005 6946 V 62 27 Feb 77 2500 MAL/77005 6946 V 66 27 Feb 77 2500 MAL/77005 6946 V 67 27 Feb 77 2500 MAL/77005 6946 V 69 27 Feb 77 2500 MAL/76072 8177 V 258 20 Sep 76 2500 MAL/76072 8177 V 258 20 Sep 76 2500 MAL/76072 8177 V 259 20 Sep 76 2500 OS/78067 9980 V 156 28 May 78 7600 OS/71149 10122 V 1110 03 May 71 7500 OS/71149 10122 V 1110 03 May 71 7500 OS/71149 10122 V 1111 03 May 71 7500 OS/71149 10122 V 1111 03 May 71 7500 MAL/78002 14040 V 86 24 Feb 78 2500 MAL/78002 14040 V 86 24 Feb 78 2500 MAL/78002 14040 V 86 24 Feb 78 2500 MAL/78002 14040 V 87 24 Feb 78 2500 MAL/78005 14042 V 180 02 Apr 78 2500 MAL/78005 14042 V 180 02 Apr 78 2500 MAL/78005 14042 V 186 02 Apr 78 2500 MAL/78005 14047 V 225 11 0ct 77 2500 MAL/77033 14047 V 228 11 0ct 77 2500 MAL/77033 14047 V 228 11 0ct 77 2500 MAL/77033 14047 V 233 11 10ct 77 2500 MAL	RAF/CPE/UK/2012	609	FS	2128	16 Apr 47	9800
RAF/541/35         873         RS         4470         19 May 48         10750           MAL/77005         6946         V         58         27 Feb 77         2500           MAL/77005         6946         V         59         27 Feb 77         2500           MAL/77005         6946         V         60         27 Feb 77         2500           MAL/77005         6946         V         61         27 Feb 77         2500           MAL/77005         6946         V         66         27 Feb 77         2500           MAL/77005         6946         V         66         27 Feb 77         2500           MAL/77005         6946         V         67         27 Feb 77         2500           MAL/76072         8177         V         258         20 Sep 76         2500           MAL/76072         8177         V         259         20 Sep 76         2500           OS/71149         10122         V         110         03 May 71         7500           OS/71149         10122         V         111         03 May 71         7500           OS/71149         10122         V         111         03 May 71         7500 <tr< td=""><td>RAF/541/35</td><td>873</td><td>RS</td><td>4468</td><td>19 May 48</td><td>10750</td></tr<>	RAF/541/35	873	RS	4468	19 May 48	10750
MAL/77005         6946         V         58         27 Feb 77         2500           MAL/77005         6946         V         59         27 Feb 77         2500           MAL/77005         6946         V         60         27 Feb 77         2500           MAL/77005         6946         V         61         27 Feb 77         2500           MAL/77005         6946         V         62         27 Feb 77         2500           MAL/77005         6946         V         66         27 Feb 77         2500           MAL/77005         6946         V         67         27 Feb 77         2500           MAL/77005         6946         V         69         27 Feb 77         2500           MAL/76072         8177         V         258         20 Sep 76         2500           MAL/76072         8177         V         259         20 Sep 76         2500           OS/78067         9980         V         156         28 May 78         7600           OS/71149         10122         V         1110         03 May 71         7500           OS/71149         10122         V         112         03 May 71         7500	RAF/541/35	873	RS	4469	19 May 48	10750
MAL/77005         6946         V         59         27 Feb 77         2500           MAL/77005         6946         V         60         27 Feb 77         2500           MAL/77005         6946         V         61         27 Feb 77         2500           MAL/77005         6946         V         62         27 Feb 77         2500           MAL/77005         6946         V         66         27 Feb 77         2500           MAL/77005         6946         V         67         27 Feb 77         2500           MAL/76072         8177         V         258         20 Sep 76         2500           MAL/76072         8177         V         258         20 Sep 76         2500           OS/78067         9980         V         156         28 May 78         7600           OS/71149         10122         V         111         03 May 71         7500           OS/71149         10122         V         111         03 May 71         7500           OS/71149         10122         V         111         03 May 71         7500           MAL/78002         14040         V         84         24 Feb 78         2500	RAF/541/35	873	RS	4470	19 May 48	10750
MAL/77005         6946         V         60         27 Feb 77         2500           MAL/77005         6946         V         61         27 Feb 77         2500           MAL/77005         6946         V         62         27 Feb 77         2500           MAL/77005         6946         V         66         27 Feb 77         2500           MAL/77005         6946         V         67         27 Feb 77         2500           MAL/76072         8177         V         258         20 Sep 76         2500           MAL/76072         8177         V         259         20 Sep 76         2500           OS/78067         9980         V         156         28 May 78         7600           OS/71149         10122         V         110         03 May 71         7500           OS/71149         10122         V         111         03 May 71         7500           OS/71149         10122         V         111         03 May 71         7500           MAL/78002         14040         V         84         24 Feb 78         2500           MAL/78002         14040         V         86         24 Feb 78         2500	MAL/77005	6946	V	58	27 Feb 77	2500
MAL/77005         6946         V         61         27 Feb 77         2500           MAL/77005         6946         V         62         27 Feb 77         2500           MAL/77005         6946         V         66         27 Feb 77         2500           MAL/77005         6946         V         67         27 Feb 77         2500           MAL/76072         8177         V         258         20 Sep 76         2500           MAL/76072         8177         V         259         20 Sep 76         2500           MAL/76072         8177         V         259         20 Sep 76         2500           OS/78067         9980         V         156         28 May 78         760           OS/71149         10122         V         110         03 May 71         7500           OS/71149         10122         V         111         03 May 71         7500           OS/71149         10122         V         111         03 May 71         7500           MAL/78002         14040         V         84         24 Feb 78         2500           MAL/78002         14040         V         86         24 Feb 78         2500	MAL/77005	6946	V	59	27 Feb 77	2500
MAL/77005         6946         V         62         27 Feb 77         2500           MAL/77005         6946         V         66         27 Feb 77         2500           MAL/77005         6946         V         67         27 Feb 77         2500           MAL/77005         6946         V         69         27 Feb 77         2500           MAL/76072         8177         V         258         20 Sep 76         2500           MAL/76072         8177         V         259         20 Sep 76         2500           OS/78067         9980         V         156         28 May 78         7600           OS/71149         10122         V         110         03 May 71         7500           OS/7149         10122         V         111         03 May 71         7500           OS/7149         10122         V         111         03 May 71         7500           OS/7149         10122         V         112         03 May 71         7500           MAL/78002         14040         V         84         24 Feb 78         2500           MAL/78002         14040         V         85         24 Feb 78         2500	MAL/77005	6946	V	60	27 Feb 77	2500
MAL/77005         6946         V         66         27 Feb 77         2500           MAL/77005         6946         V         67         27 Feb 77         2500           MAL/76072         8177         V         69         27 Feb 77         2500           MAL/76072         8177         V         258         20 Sep 76         2500           MAL/76072         8177         V         259         20 Sep 76         2500           OS/78067         9980         V         156         28 May 78         7600           OS/71149         10122         V         110         03 May 71         7500           OS/71149         10122         V         111         03 May 71         7500           OS/71149         10122         V         112         03 May 71         7500           OS/7149         10122         V         112         03 May 71         7500           OS/7149         10122         V         112         03 May 71         7500           MAL/78002         14040         V         84         24 Feb 78         2500           MAL/78002         14040         V         86         24 Feb 78         2500	MAL/77005	6946	V	61	27 Feb 77	2500
MAL/77005         6946         V         67         27 Feb 77         2500           MAL/77005         6946         V         69         27 Feb 77         2500           MAL/76072         8177         V         258         20 Sep 76         2500           MAL/76072         8177         V         259         20 Sep 76         2500           OS/78067         9980         V         156         28 May 78         7600           OS/71149         10122         V         110         03 May 71         7500           OS/71149         10122         V         111         03 May 71         7500           OS/71149         10122         V         1112         03 May 71         7500           OS/71149         10122         V         112         03 May 71         7500           MAL/78002         14040         V         84         24 Feb 78         2500           MAL/78002         14040         V         85         24 Feb 78         2500           MAL/78002         14040         V         87         24 Feb 78         2500           MAL/78002         14040         V         88         24 Feb 78         2500      <	MAL/77005	6946	V	62	27 Feb 77	2500
MAL/77005         6946         V         69         27 Feb 77         2500           MAL/76072         8177         V         258         20 Sep 76         2500           MAL/76072         8177         V         259         20 Sep 76         2500           OS/78067         9980         V         156         28 May 78         7600           OS/71149         10122         V         110         03 May 71         7500           OS/71149         10122         V         111         03 May 71         7500           OS/71149         10122         V         111         03 May 71         7500           OS/71149         10122         V         112         03 May 71         7500           OS/71149         10122         V         112         03 May 71         7500           MAL/78002         14040         V         84         24 Feb 78         2500           MAL/78002         14040         V         85         24 Feb 78         2500           MAL/78002         14040         V         88         24 Feb 78         2500           MAL/78005         14042         V         180         02 Apr 78         2500	MAL/77005	6946	V	66	27 Feb 77	2500
MAL/76072       8177       V       258       20 Sep 76       2500         MAL/76072       8177       V       259       20 Sep 76       2500         OS/78067       9980       V       156       28 May 78       7600         OS/71149       10122       V       110       03 May 71       7500         OS/71149       10122       V       111       03 May 71       7500         OS/71149       10122       V       112       03 May 71       7500         OS/71149       10122       V       112       03 May 71       7500         OS/71149       10122       V       112       03 May 71       7500         OS/71149       10122       V       84       24 Feb 78       2500         MAL/78002       14040       V       85       24 Feb 78       2500         MAL/78002       14040       V       86       24 Feb 78       2500         MAL/78002       14040       V       88       24 Feb 78       2500         MAL/78005       14042       V       180       02 Apr 78       2500         MAL/78005       14042       V       185       02 Apr 78       2500	MAL/77005	6946	V	67	27 Feb 77	2500
MAL/76072       8177       V       259       20 Sep 76       2500         OS/78067       9980       V       156       28 May 78       7600         OS/71149       10122       V       110       03 May 71       7500         OS/71149       10122       V       111       03 May 71       7500         OS/71149       10122       V       112       03 May 71       7500         MAL/78002       14040       V       84       24 Feb 78       2500         MAL/78002       14040       V       85       24 Feb 78       2500         MAL/78002       14040       V       86       24 Feb 78       2500         MAL/78002       14040       V       87       24 Feb 78       2500         MAL/78002       14040       V       88       24 Feb 78       2500         MAL/78002       14040       V       88       24 Feb 78       2500         MAL/78005       14042       V       180       02 Apr 78       2500         MAL/78005       14042       V       184       02 Apr 78       2500         MAL/78005       14042       V       185       02 Apr 78       2500	MAL/77005	6946	V	69	27 Feb 77	2500
OS/78067         9980         V         156         28 May 78         7600           OS/71149         10122         V         110         03 May 71         7500           OS/71149         10122         V         111         03 May 71         7500           OS/71149         10122         V         112         03 May 71         7500           MAL/78002         14040         V         84         24 Feb 78         2500           MAL/78002         14040         V         85         24 Feb 78         2500           MAL/78002         14040         V         86         24 Feb 78         2500           MAL/78002         14040         V         87         24 Feb 78         2500           MAL/78002         14040         V         87         24 Feb 78         2500           MAL/78002         14040         V         88         24 Feb 78         2500           MAL/78005         14042         V         180         02 Apr 78         2500           MAL/78005         14042         V         181         02 Apr 78         2500           MAL/78005         14042         V         185         02 Apr 78         2500	MAL/76072	8177	V	258	20 Sep 76	2500
OS/71149         10122         V         110         03 May 71         7500           OS/71149         10122         V         111         03 May 71         7500           OS/71149         10122         V         112         03 May 71         7500           MAL/78002         14040         V         84         24 Feb 78         2500           MAL/78002         14040         V         85         24 Feb 78         2500           MAL/78002         14040         V         86         24 Feb 78         2500           MAL/78002         14040         V         87         24 Feb 78         2500           MAL/78002         14040         V         88         24 Feb 78         2500           MAL/78005         14042         V         180         02 Apr 78         2500           MAL/78005         14042         V         181         02 Apr 78         2500           MAL/78005         14042         V         184         02 Apr 78         2500           MAL/78005         14042         V         186         02 Apr 78         2500           MAL/78005         14042         V         186         02 Apr 78         2500 <td>MAL/76072</td> <td>8177</td> <td>V</td> <td>259</td> <td>20 Sep 76</td> <td>2500</td>	MAL/76072	8177	V	259	20 Sep 76	2500
OS/71149         10122         V         111         03 May 71         7500           OS/71149         10122         V         112         03 May 71         7500           MAL/78002         14040         V         84         24 Feb 78         2500           MAL/78002         14040         V         85         24 Feb 78         2500           MAL/78002         14040         V         86         24 Feb 78         2500           MAL/78002         14040         V         87         24 Feb 78         2500           MAL/78002         14040         V         88         24 Feb 78         2500           MAL/78002         14040         V         88         24 Feb 78         2500           MAL/78005         14042         V         180         02 Apr 78         2500           MAL/78005         14042         V         181         02 Apr 78         2500           MAL/78005         14042         V         185         02 Apr 78         2500           MAL/78005         14042         V         186         02 Apr 78         2500           MAL/78035         14047         V         225         11 Oct 77         2500 <td>OS/78067</td> <td>9980</td> <td>V</td> <td>156</td> <td>28 May 78</td> <td>7600</td>	OS/78067	9980	V	156	28 May 78	7600
OS/71149       10122       V       112       03 May 71       7500         MAL/78002       14040       V       84       24 Feb 78       2500         MAL/78002       14040       V       85       24 Feb 78       2500         MAL/78002       14040       V       86       24 Feb 78       2500         MAL/78002       14040       V       87       24 Feb 78       2500         MAL/78002       14040       V       88       24 Feb 78       2500         MAL/78005       14042       V       180       02 Apr 78       2500         MAL/78005       14042       V       181       02 Apr 78       2500         MAL/78005       14042       V       184       02 Apr 78       2500         MAL/78005       14042       V       185       02 Apr 78       2500         MAL/78035       14042       V       186       02 Apr 78       2500         MAL/77033       14047       V       225       11 Oct 77       2500         MAL/77033       14047       V       226       11 Oct 77       2500         MAL/77033       14047       V       231       11 Oct 77       2500 </td <td>OS/71149</td> <td>10122</td> <td>V</td> <td>110</td> <td>03 May 71</td> <td>7500</td>	OS/71149	10122	V	110	03 May 71	7500
MAL/78002       14040       V       84       24 Feb 78       2500         MAL/78002       14040       V       85       24 Feb 78       2500         MAL/78002       14040       V       86       24 Feb 78       2500         MAL/78002       14040       V       87       24 Feb 78       2500         MAL/78002       14040       V       88       24 Feb 78       2500         MAL/78005       14042       V       180       02 Apr 78       2500         MAL/78005       14042       V       181       02 Apr 78       2500         MAL/78005       14042       V       184       02 Apr 78       2500         MAL/78005       14042       V       185       02 Apr 78       2500         MAL/78035       14042       V       186       02 Apr 78       2500         MAL/77033       14047       V       225       11 Oct 77       2500         MAL/77033       14047       V       226       11 Oct 77       2500         MAL/77033       14047       V       228       11 Oct 77       2500         MAL/77033       14047       V       231       11 Oct 77       2500     <	OS/71149	10122	V	111	03 May 71	7500
MAL/78002       14040       V       85       24 Feb 78       2500         MAL/78002       14040       V       86       24 Feb 78       2500         MAL/78002       14040       V       87       24 Feb 78       2500         MAL/78002       14040       V       88       24 Feb 78       2500         MAL/78005       14042       V       180       02 Apr 78       2500         MAL/78005       14042       V       181       02 Apr 78       2500         MAL/78005       14042       V       184       02 Apr 78       2500         MAL/78005       14042       V       185       02 Apr 78       2500         MAL/78005       14042       V       186       02 Apr 78       2500         MAL/78035       14042       V       186       02 Apr 78       2500         MAL/77033       14047       V       225       11 Oct 77       2500         MAL/77033       14047       V       227       11 Oct 77       2500         MAL/77033       14047       V       231       11 Oct 77       2500         MAL/77033       14047       V       232       11 Oct 77       2500	OS/71149	10122	V	112	03 May 71	7500
MAL/78002       14040       V       86       24 Feb 78       2500         MAL/78002       14040       V       87       24 Feb 78       2500         MAL/78002       14040       V       88       24 Feb 78       2500         MAL/78005       14042       V       180       02 Apr 78       2500         MAL/78005       14042       V       181       02 Apr 78       2500         MAL/78005       14042       V       184       02 Apr 78       2500         MAL/78005       14042       V       185       02 Apr 78       2500         MAL/78005       14042       V       186       02 Apr 78       2500         MAL/78005       14042       V       186       02 Apr 78       2500         MAL/78033       14047       V       225       11 Oct 77       2500         MAL/77033       14047       V       226       11 Oct 77       2500         MAL/77033       14047       V       228       11 Oct 77       2500         MAL/77033       14047       V       231       11 Oct 77       2500         MAL/77033       14047       V       232       11 Oct 77       2500	MAL/78002	14040	V	84	24 Feb 78	2500
MAL/78002       14040       V       87       24 Feb 78       2500         MAL/78002       14040       V       88       24 Feb 78       2500         MAL/78005       14042       V       180       02 Apr 78       2500         MAL/78005       14042       V       181       02 Apr 78       2500         MAL/78005       14042       V       184       02 Apr 78       2500         MAL/78005       14042       V       185       02 Apr 78       2500         MAL/78005       14042       V       186       02 Apr 78       2500         MAL/78033       14047       V       225       11 Oct 77       2500         MAL/77033       14047       V       226       11 Oct 77       2500         MAL/77033       14047       V       228       11 Oct 77       2500         MAL/77033       14047       V       231       11 Oct 77       2500         MAL/77033       14047       V       232       11 Oct 77       2500         MAL/77033       14047       V       232       11 Oct 77       2500         MAL/77033       14047       V       233       11 Oct 77       2500	MAL/78002	14040	V	85	24 Feb 78	2500
MAL/78002       14040       V       88       24 Feb 78       2500         MAL/78005       14042       V       180       02 Apr 78       2500         MAL/78005       14042       V       181       02 Apr 78       2500         MAL/78005       14042       V       184       02 Apr 78       2500         MAL/78005       14042       V       185       02 Apr 78       2500         MAL/78005       14042       V       186       02 Apr 78       2500         MAL/77033       14047       V       225       11 Oct 77       2500         MAL/77033       14047       V       226       11 Oct 77       2500         MAL/77033       14047       V       228       11 Oct 77       2500         MAL/77033       14047       V       231       11 Oct 77       2500         MAL/77033       14047       V       232       11 Oct 77       2500         MAL/77033       14047       V       232       11 Oct 77       2500         MAL/77033       14047       V       232       11 Oct 77       2500         MAL/77033       14047       V       233       11 Oct 77       2500	MAL/78002	14040	V	86	24 Feb 78	2500
MAL/78005       14042       V       180       02 Apr 78       2500         MAL/78005       14042       V       181       02 Apr 78       2500         MAL/78005       14042       V       184       02 Apr 78       2500         MAL/78005       14042       V       185       02 Apr 78       2500         MAL/78005       14042       V       186       02 Apr 78       2500         MAL/77033       14047       V       225       11 Oct 77       2500         MAL/77033       14047       V       226       11 Oct 77       2500         MAL/77033       14047       V       228       11 Oct 77       2500         MAL/77033       14047       V       231       11 Oct 77       2500         MAL/77033       14047       V       232       11 Oct 77       2500         MAL/77033       14047       V       232       11 Oct 77       2500         MAL/77033       14047       V       233       11 Oct 77       2500         MAL/77033       14047       V       234       11 Oct 77       2500	MAL/78002	14040	V	87	24 Feb 78	2500
MAL/78005       14042       V       181       02 Apr 78       2500         MAL/78005       14042       V       184       02 Apr 78       2500         MAL/78005       14042       V       185       02 Apr 78       2500         MAL/78005       14042       V       186       02 Apr 78       2500         MAL/77033       14047       V       225       11 Oct 77       2500         MAL/77033       14047       V       226       11 Oct 77       2500         MAL/77033       14047       V       228       11 Oct 77       2500         MAL/77033       14047       V       231       11 Oct 77       2500         MAL/77033       14047       V       232       11 Oct 77       2500         MAL/77033       14047       V       232       11 Oct 77       2500         MAL/77033       14047       V       233       11 Oct 77       2500         MAL/77033       14047       V       234       11 Oct 77       2500	MAL/78002	14040	V	88	24 Feb 78	2500
MAL/78005       14042       V       184       02 Apr 78       2500         MAL/78005       14042       V       185       02 Apr 78       2500         MAL/78005       14042       V       186       02 Apr 78       2500         MAL/77033       14047       V       225       11 Oct 77       2500         MAL/77033       14047       V       226       11 Oct 77       2500         MAL/77033       14047       V       227       11 Oct 77       2500         MAL/77033       14047       V       228       11 Oct 77       2500         MAL/77033       14047       V       231       11 Oct 77       2500         MAL/77033       14047       V       232       11 Oct 77       2500         MAL/77033       14047       V       233       11 Oct 77       2500         MAL/77033       14047       V       234       11 Oct 77       2500	MAL/78005	14042	V	180	02 Apr 78	2500
MAL/78005       14042       V       185       02 Apr 78       2500         MAL/78005       14042       V       186       02 Apr 78       2500         MAL/77033       14047       V       225       11 Oct 77       2500         MAL/77033       14047       V       226       11 Oct 77       2500         MAL/77033       14047       V       227       11 Oct 77       2500         MAL/77033       14047       V       228       11 Oct 77       2500         MAL/77033       14047       V       231       11 Oct 77       2500         MAL/77033       14047       V       232       11 Oct 77       2500         MAL/77033       14047       V       233       11 Oct 77       2500         MAL/77033       14047       V       234       11 Oct 77       2500	MAL/78005	14042	V	181	02 Apr 78	2500
MAL/78005     14042     V     186     02 Apr 78     2500       MAL/77033     14047     V     225     11 Oct 77     2500       MAL/77033     14047     V     226     11 Oct 77     2500       MAL/77033     14047     V     227     11 Oct 77     2500       MAL/77033     14047     V     228     11 Oct 77     2500       MAL/77033     14047     V     231     11 Oct 77     2500       MAL/77033     14047     V     232     11 Oct 77     2500       MAL/77033     14047     V     233     11 Oct 77     2500       MAL/77033     14047     V     234     11 Oct 77     2500	MAL/78005	14042	V	184	02 Apr 78	2500
MAL/77033     14047     V     225     11 Oct 77     2500       MAL/77033     14047     V     226     11 Oct 77     2500       MAL/77033     14047     V     227     11 Oct 77     2500       MAL/77033     14047     V     228     11 Oct 77     2500       MAL/77033     14047     V     231     11 Oct 77     2500       MAL/77033     14047     V     232     11 Oct 77     2500       MAL/77033     14047     V     233     11 Oct 77     2500       MAL/77033     14047     V     234     11 Oct 77     2500	MAL/78005	14042	V	185	02 Apr 78	2500
MAL/77033     14047     V     226     11 Oct 77     2500       MAL/77033     14047     V     227     11 Oct 77     2500       MAL/77033     14047     V     228     11 Oct 77     2500       MAL/77033     14047     V     231     11 Oct 77     2500       MAL/77033     14047     V     232     11 Oct 77     2500       MAL/77033     14047     V     233     11 Oct 77     2500       MAL/77033     14047     V     234     11 Oct 77     2500	MAL/78005	14042	V	186	02 Apr 78	2500
MAL/77033     14047     V     227     11 Oct 77     2500       MAL/77033     14047     V     228     11 Oct 77     2500       MAL/77033     14047     V     231     11 Oct 77     2500       MAL/77033     14047     V     232     11 Oct 77     2500       MAL/77033     14047     V     233     11 Oct 77     2500       MAL/77033     14047     V     234     11 Oct 77     2500	MAL/77033	14047	V	225	11 Oct 77	2500
MAL/77033     14047     V     228     11 Oct 77     2500       MAL/77033     14047     V     231     11 Oct 77     2500       MAL/77033     14047     V     232     11 Oct 77     2500       MAL/77033     14047     V     233     11 Oct 77     2500       MAL/77033     14047     V     234     11 Oct 77     2500	MAL/77033	14047	V	226	11 Oct 77	2500
MAL/77033     14047     V     231     11 Oct 77     2500       MAL/77033     14047     V     232     11 Oct 77     2500       MAL/77033     14047     V     233     11 Oct 77     2500       MAL/77033     14047     V     234     11 Oct 77     2500	MAL/77033	14047	V	227	11 Oct 77	2500
MAL/77033     14047     V     232     11 Oct 77     2500       MAL/77033     14047     V     233     11 Oct 77     2500       MAL/77033     14047     V     234     11 Oct 77     2500	MAL/77033	14047	V	228	11 Oct 77	2500
MAL/77033 14047 V 233 11 Oct 77 2500 MAL/77033 14047 V 234 11 Oct 77 2500	MAL/77033	14047	V	231	11 Oct 77	2500
MAL/77033 14047 V 234 11 Oct 77 2500	MAL/77033	14047	V	232	11 Oct 77	2500
,	MAL/77033	14047	V	233	11 Oct 77	2500
OS/94021 14543 V 13 19 Mar 94 7500	MAL/77033	14047	V	234	11 Oct 77	2500
	OS/94021	14543	V	13	19 Mar 94	7500

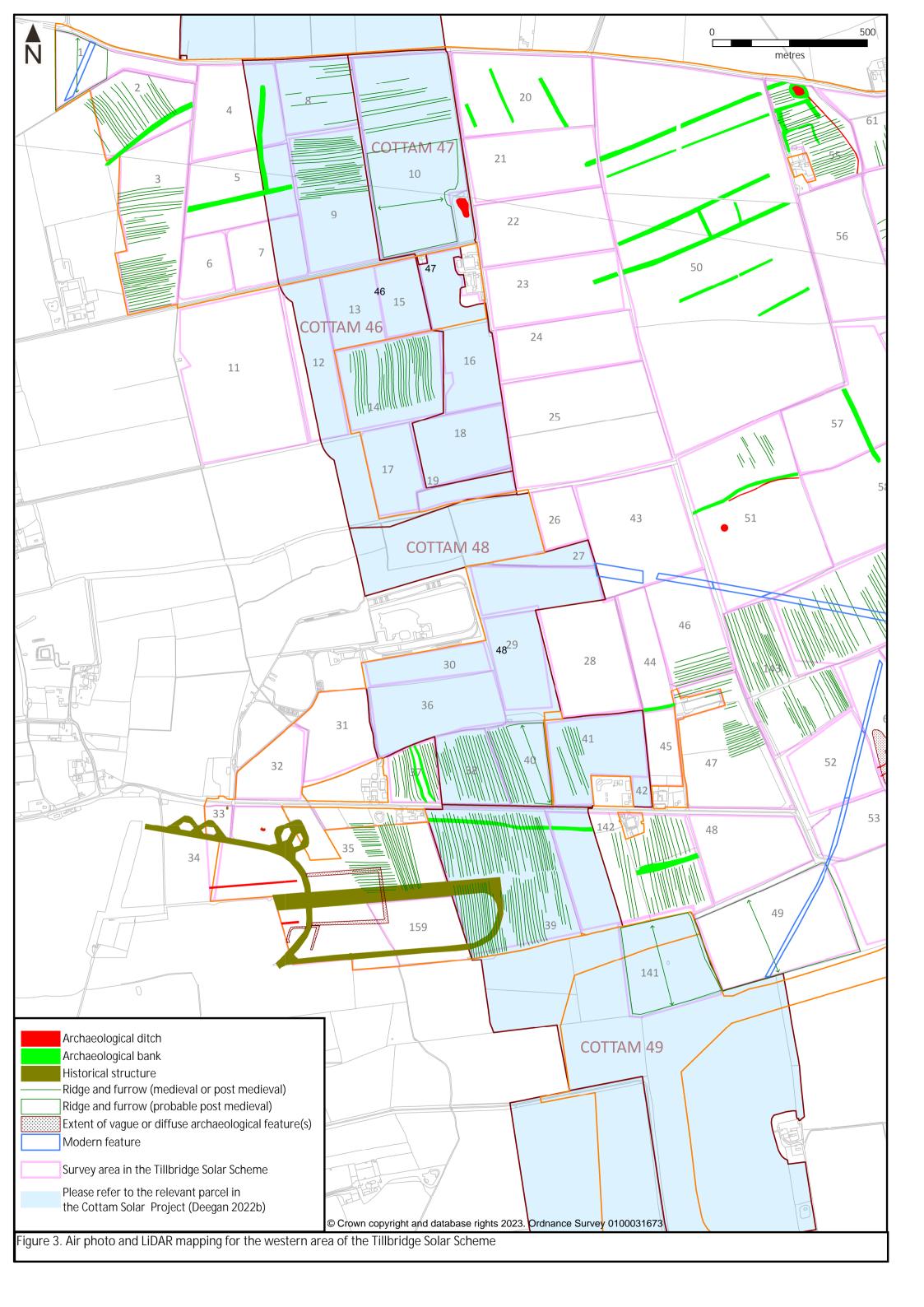
## Appendix 5 Structure and content of digital map dataset

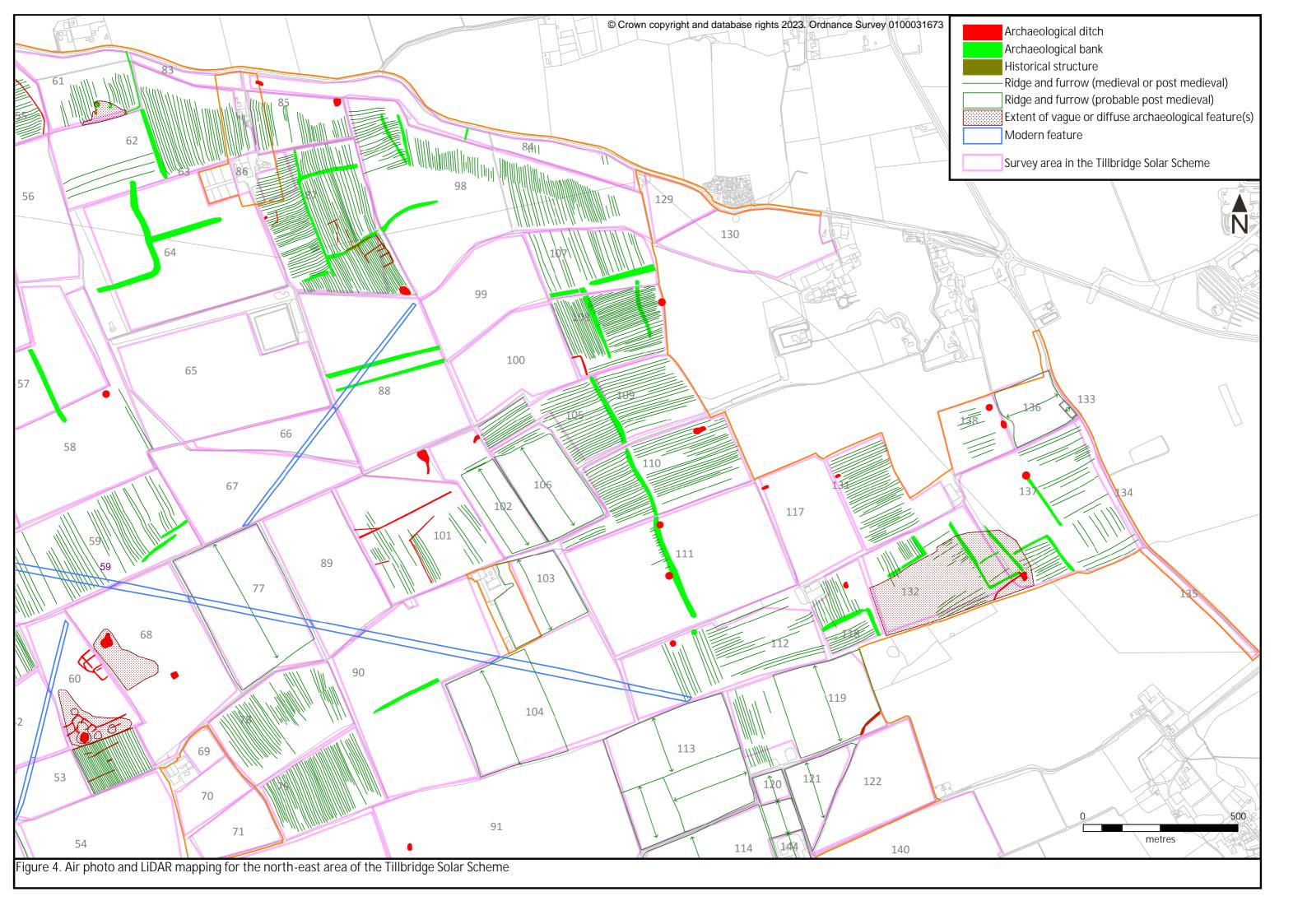
All features in the MapInfo table and ESRI shape files 'TILLBRIDGE SOLAR AP\_LIDAR MAPPING' are associated with the following information, where applicable.

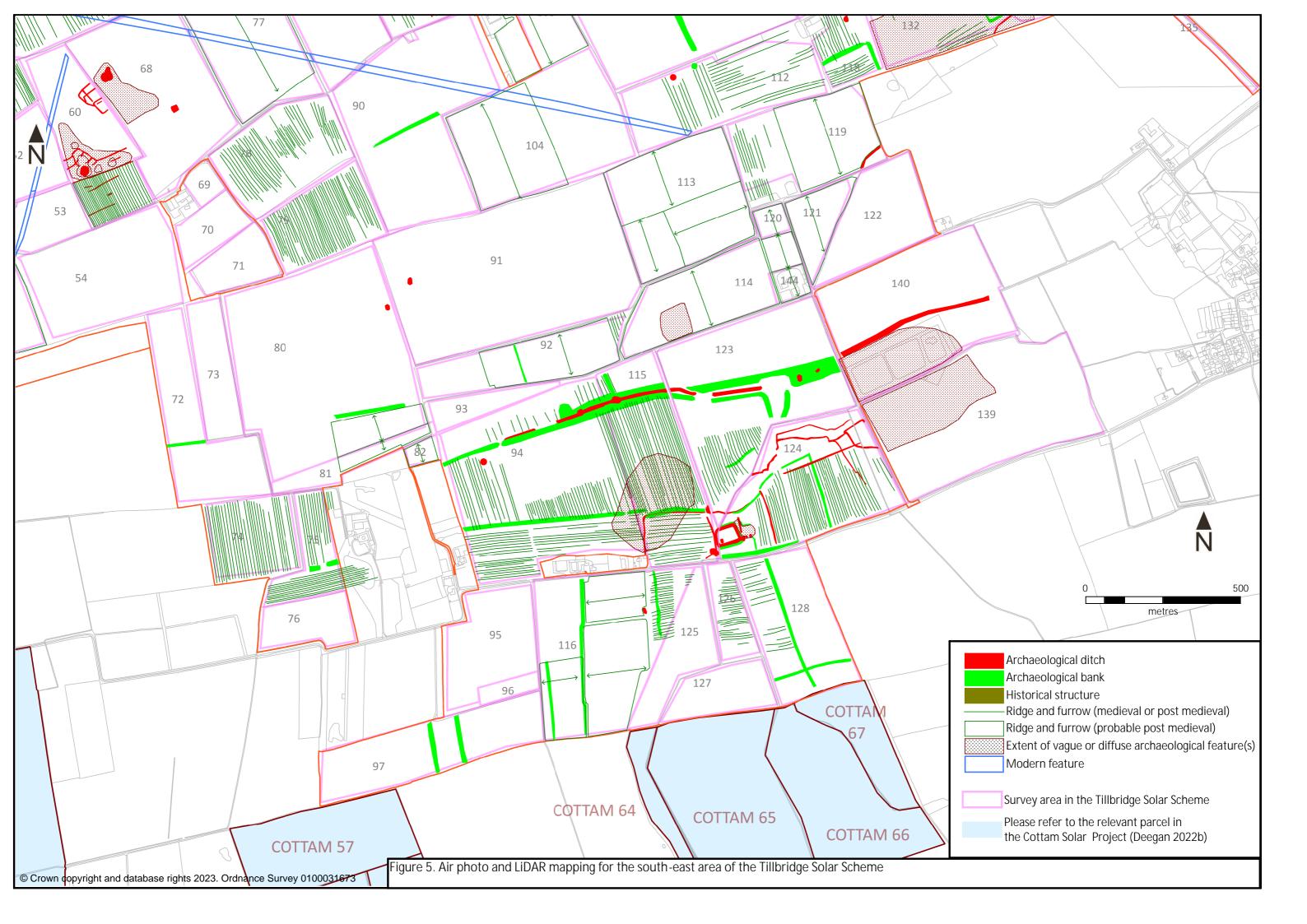
SURVEY AREA	AECOM allocated survey area number
LAYER	Indicates nature of feature depicted eg bank, ditch, ridge and furrow, modern etc
ТҮРЕ	Historic England Monument Type Thesaurus term
PERIOD	Period
SOURCES1	Photo reference number + date
SOURCE1EVIDENCE	Evidence (earthwork, structure, soilmark, parchmark, cropmark) as features appears on SOURCE1
SOURCES2	Photo reference number + date
SOURCE2EVIDENCE	Evidence (earthwork, structure, soilmark, parchmark, cropmark) as features appears on SOURCE2
SOURCES3	Photo reference number + date
SOURCE3EVIDENCE	Evidence (earthwork, structure, soilmark, parchmark, cropmark) as features appears on SOURCE3
HER	Historic Enviroment Record monument number (where applicable)

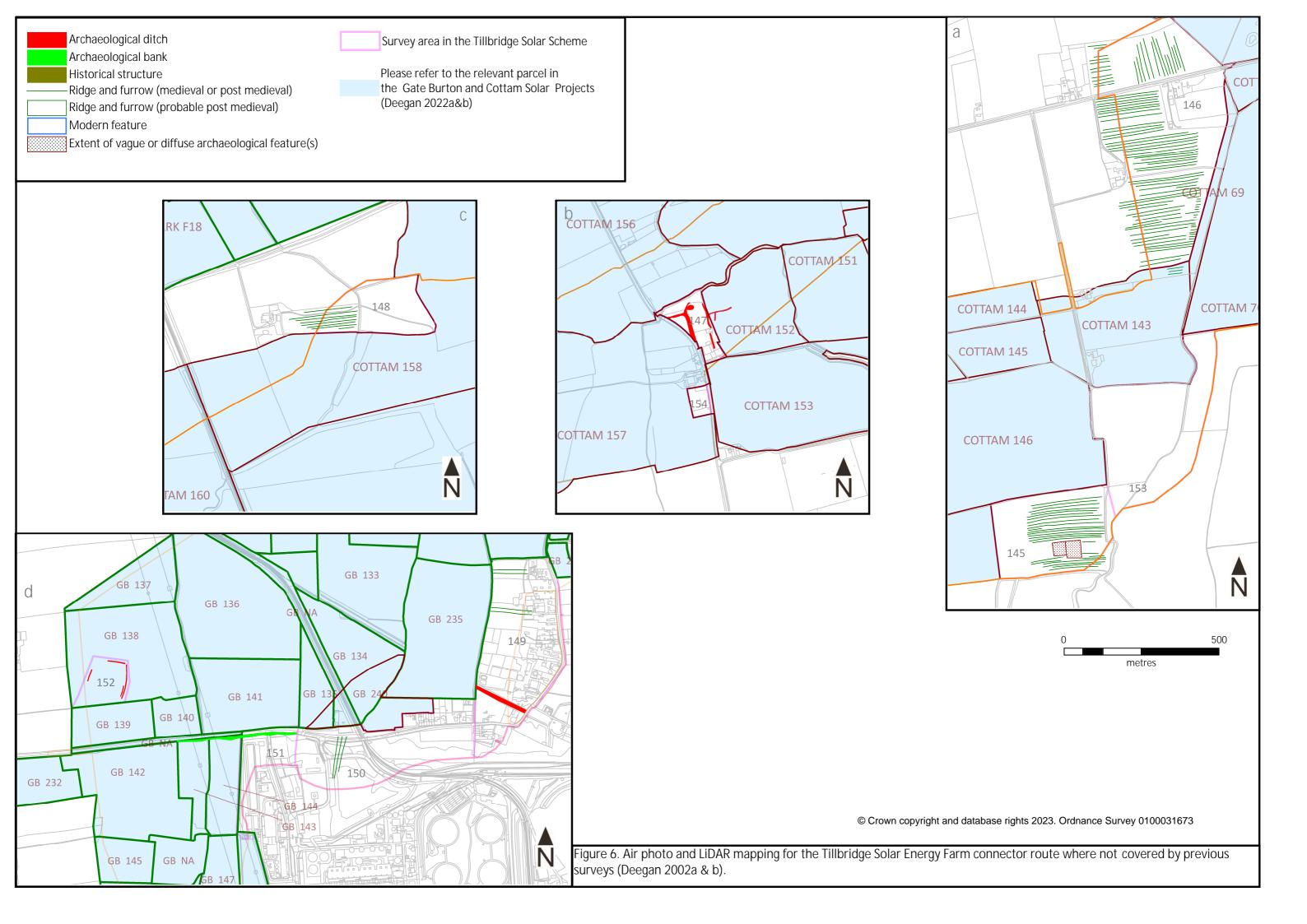












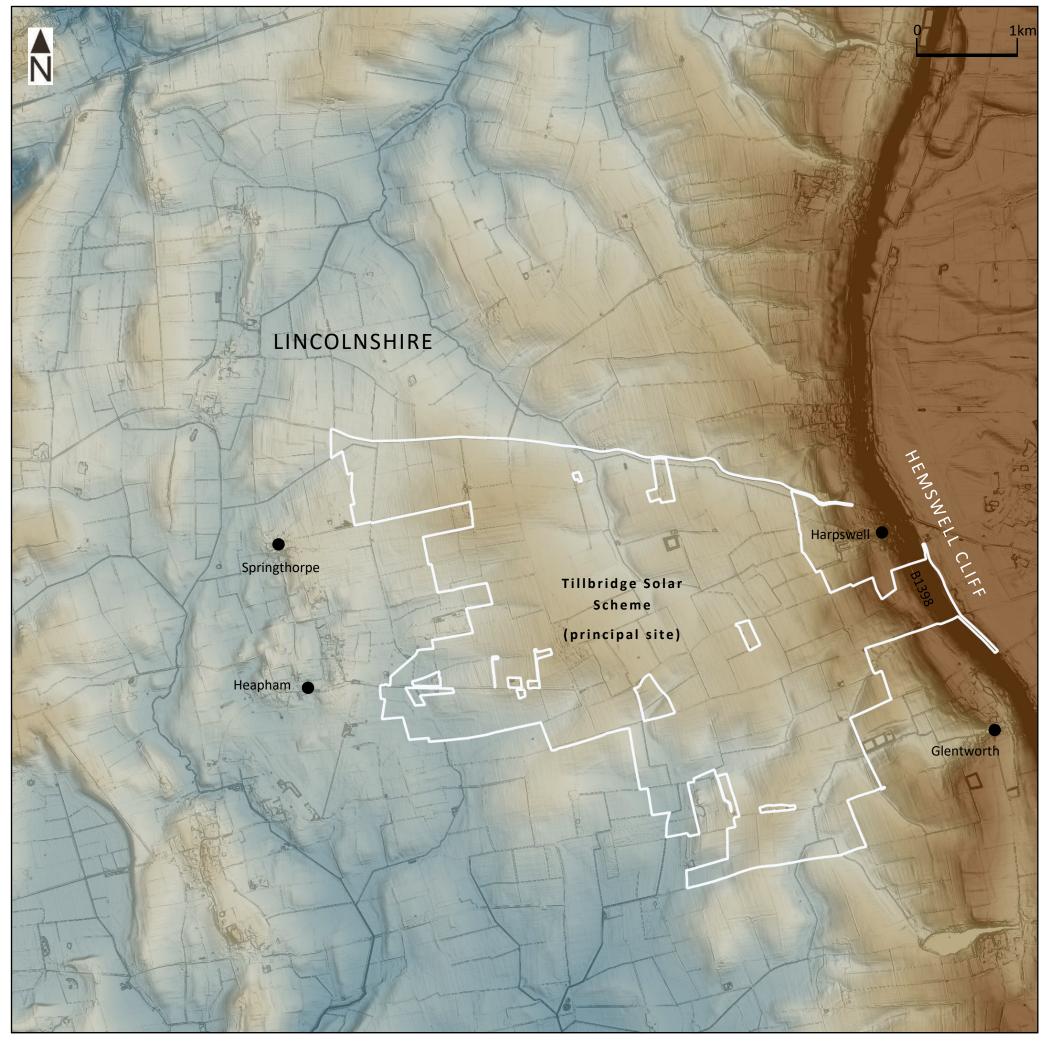


Figure 7. Hill-shaded and colour relief visualisation generated from the Environment Agency LiDAR DTM for the principal site of the Tillbridge Solar Scheme.