

CAMBRIAN ARCHAEOLOGICAL PROJECTS LTD.

# Cambridge Wind Farm Boxworth, Cambridgeshire

Archaeological Evaluation



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CAP Report No. 311

**ARCHAEOLOGICAL EVALUATION**

**Cambridge Wind Farm,  
Boxworth, Cambridgeshire**

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Prepared for:  
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## 7. ARCHAEOLOGICAL ASSESSMENT

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### 7.1 Introduction

The Cambridge Wind Farm proposal is being put forward by Your Energy Ltd. The proposed site is situated north-west of the village of Boxworth and east of the village of Connington, (proposed area centred on OS NGR: TL 34107 65973 – *Figs. 1 & 2*).

This section of the report details the results of the archaeological assessment of the proposed Cambridge Wind Farm with respect of the project's development and the establishment of issues relevant to Environmental Impact Assessment.

Cambrian Archaeological Projects Ltd, were contracted by Your Energy Ltd to carry out the archaeological assessment of the proposed area. Both the desk-based study and the field study took place between 7<sup>th</sup> & 13<sup>th</sup> January 2004, the field evaluation was undertaken between 23<sup>rd</sup> & 30<sup>th</sup> of April 2004.

The study takes into account the various Planning Policy Guidelines, in particular PPG 15 (Planning and the Historic Environment) and PPG 16 (Archaeology and Planning).

### 7.2 Scope and Objectives of the Study

The main scope and objectives of the archaeological assessment were to reveal by desk-based study, the nature, significance and, where possible, the chronology of the archaeology within the area of the proposed development. The purpose of the desk-based assessment, in accordance with standards and guidance as laid down by the *Institute of Field Archaeology*, is to gain information about the known or potential archaeological resource within the given area (including presence or absence, character and extent, date, integrity, state of preservation and relative quality of the potential archaeological resource), in order to make an assessment of its merit in context, leading to one or more of the following:

- the formulation of a strategy to ensure the recording, preservation or management of the resource;

- the formulation of a strategy for further investigation, whether or not intrusive, where the character and value of the resource is not sufficiently defined to permit a mitigation strategy or other response to be devised;
- the formulation of a proposal for further archaeological investigation within a programme of research.

With regards the field survey the main objective in accordance with the standards and guidance laid down by the *Institute of Field Archaeology* is to gain information about the archaeological resource within a given area or site (including presence or absence, character, extent, date, integrity, state of preservation and quality), in order to make an assessment of its merit in the appropriate context, leading to one or more of the following:

- the formulation of a strategy to ensure the recording, preservation or management of the resource;
- the formulation of a strategy to initiate a threat to the archaeological resource;
- the formulation of a proposal for further archaeological investigation within a programme of research.

The field study aimed to examine on the ground the land designated for the proposed wind farm, and isolate and record any archaeology and historic landscape features that survive within it.

All gathered material from the desk-based study and the field study were to be combined and assessed, in order to identify areas where the proposed development may impact on the recognised archaeology or elements of the historic landscape. Following the results of the desk-based assessment and field survey Andy Thomas, Cambridgeshire County Archaeologist, requested field evaluation trenching to be undertaken on all of the turbine areas, the substation and the anemometry masts.

### 7.3 Methodology

#### The Desk-based Assessment

For the purposes of the archaeological desk based study the following repositories were consulted;

- Cambridge Record Office.
- Sites and Monuments Record (SMR) within Cambridge County Council.
- Aerial Photographs held at The Landscape Modelling Unit at Cambridge University.

At the first repository all Ordnance Survey 1<sup>st</sup> and 2<sup>nd</sup> edition maps available were consulted along with an earlier Tithe Award map and a map of 1660. The SMR provided information on archaeological listings as well as a copy of the relevant Victoria County History. Aerial photographs were provided by the Landscape Modelling Unit at Cambridge University and the County Records Office.

For purposes of the Field Study, once all cartographic and archaeological records had been consulted and all relevant material identified, the whole of the proposed area was then the subject of a general walkover. A finds sampling strategy was in place during the field study should any surface scatters of pottery sherds or other potential finds warrant it.

The assessment methods used followed that detailed in the Design Manual for Roads and Bridges (DMRB), Volume 11, Section 3, part 2. All sites identified have been categorised following guidelines set out in the DMRB. The allocation of a site to a category defines the archaeological significance of that site. The categories are described as follows:

- *Category A* - Sites of National Importance. Scheduled Ancient Monuments, Listed Building and sites which meet the criteria for scheduling or listing. Recommended sites will be preserved *in situ*.
- *Category B* - Sites of regional or county importance. Sites which do not quite meet the criteria for scheduling or listing, but which are of particular importance to the region. Preservation *in situ* shall be preferred, but where damage or destruction

is unavoidable, appropriate action will be undertaken.

- *Category C* — Sites of district or local importance. Sites which are not of sufficient importance to justify preservation if threatened, but merit adequate recording prior to damage or destruction.
- *Category D* - Minor or damaged sites. Sites of minor importance or so badly damaged that too little remains to justify inclusion within a higher category. Rapid recording, either in advance of or during construction, should be sufficient.
- *Category E* - Sites needing further investigation. Sites whose importance cannot be determined without farther investigation in order to assign them to categories A-D. These sites will be subject to field evaluation.

The significance of the impact on the cultural heritage has been assessed with regard to the category of the individual site or landscape, based on the following criteria:

- *No impact*: No impact to sites or landscapes.
- *Minor impact*: Slight damage to sites or landscapes.
- *Moderate impact*: Small loss due to damage of sites or landscape.
- *Major impact*: Significant damage or destruction of sites or landscapes.
- *Severe impact*: Total destruction of sites or landscapes.

#### Field Evaluation Trenching

The evaluation was carried out by qualified Cambrian Archaeological Projects staff using proven archaeological techniques. The site was open for monitoring by Andy Thomas, County Archaeologist with Cambridgeshire County Council (CCC).

Trial trench locations were agreed with Andy Thomas (CCC). Fifteen meters of 2m wide trenching was placed on each of the proposed turbine areas. Ten meters of 2m wide trenching was centred on the area of the proposed sub station and two 5 metre of

2m wide trenching was centred on the two possible anemometry locations. The upper levels in each trench were removed using a mechanical excavator fitted with a toothless bucket. All archaeological levels were then cleaned, photographed and sampled for dating material manually.

The following techniques were employed for the excavation of the trench:

- Removal of overburden by machine
- Planning of all exposed surfaces planned to a scale of 1:20, related to Ordnance Datum
- Limited excavation of features exposed to ascertain their date, extent and function
- Backfill all trenches after monitoring by Andy Thomas (CCC)

#### **7.4 Geographical Background and the Historic Landscape**

The proposed wind farm site is located between the villages of Boxworth and Connington, 7 miles to the west of Cambridge and immediately south of the A14 with the villages of Fen Drayton and Fenstaton to the northwest and Elsworth to the southwest.

Land mentioned in the area is recorded as far back as the 11<sup>th</sup> century (VCH). Since that time agriculture has figured largely with a mixture of arable, pastoral and woodland farming throughout the centuries.

The surface geology consists of low undulating land around the 15-40m contours. Boxworth lies mainly upon Ampthill clays and shales, overlaid above the 30m contour with glacial boulder clays. These heavy clays on the higher ground were probably once well wooded. Small groves have been recorded since the 15<sup>th</sup> century. Boxworths open fields were cultivated on a triennial rotation until their formal enclosure in 1839. There were also many areas of grassland from the 17<sup>th</sup> century. Connington also lies on Ampthill Clays which are overlaid by Kimmeridge clay in the north and by boulder clays to the east, where high ground projects into it from Boxworth. No ancient woodland remains in

Connington, although small groves were occasionally recorded from the 16<sup>th</sup> century. After 1800 c. 60 acres of former pasture closes around Connington Hall were gradually planted to form a well timbered park. The parish was mainly devoted to arable farming both before and after its enclosure in 1800.

#### **7.5 Desk-top Assessment and Baseline Conditions**

Historic documentary sources consulted were *The Victorian County History (VCR) Papworth, Vol 9, 1992*, held at the Cambridgeshire SMR. *The Tithe apportionment schedule of 1841* held at Cambridgeshire Record Office.

Cartographic sources included the *1660 Estate Map for Boxworth*, *1804 Lordship Map for Connington*, *Tithe Award map of Boxworth Parish dated 1841*, the *OS 1st edition map dated 1890/1*, the *OS 2<sup>nd</sup> edition 6 inch to 1 mile map dated 1901*, Cambridgeshire Record Office.

Archaeological sources comprising *The SMR, Historic Listed Buildings* and *An Archaeological Watching Brief on The Cambourne Main Gas Pipeline, 1998* were consulted at the Cambridgeshire Sites and Monuments Record.

Aerial Photographic records were consulted at the Cambridge County Record Office and The Unit for Landscape Modelling at the University of Cambridge. Each of these historic and archaeological sources will be discussed individually.

#### **Cambridge Record Office**

##### [1660 Estate Map of Boxworth \(Fig. 3\)](#)

The 1660 Estate Map of Boxworth marks the first and oldest available map of the eastern side of the proposed Cambridge wind farm.

In 1660 the area of the proposed wind farm was divided into large fields of pasture (Down Common, Swavesey Common and Little Down) and arable farmland with a series of access tracks. There are no lists of landowners but the VCR states that after Dame Anne Cutts

had purchased the land, c. 1648, the last substantial independent freehold, the manorial estate comprised all the northern four fifths of the parish, save for the glebe. By 1650 the estate had been divided into six farms. Their tenants were assigned whole furlongs including the glebe strips within them. The four smaller farms had 105a – 120a of arable each, two larger double ones 215a and 233a all equally divided between the three fields (VCH 275). Boxworth meadow and Connington pasture were probably enclosed and divided into grass fields at this time.

#### Connington Lordship Map of 1804 (Fig. 4)

This map indicates that the main bulk of the land on the western side of the proposed wind farm consisted of a large area of pasture called 'Down Fields' which were owned by Rev. Philip Gardner who also occupied Connington Hall. The rest of the labelling within the area of the proposed wind farm is too illegible to ascertain other landowners. However, there would appear to be two smaller enclosures, illustrating the beginning of the land enclosures of the 19<sup>th</sup> century, to the south of the turnpike road (Present A14) and three areas of small woodland groves.

#### Boxworth Tithe Map of 1841 (Fig. 5)

The 1841 Tithe map of Boxworth Parish illustrates the land in the eastern section of the proposed Cambridge Wind farm.

The majority of land in this area of the proposed wind farm is owned by George Thornhill and was used as pasture. His land is bounded to the northeast by the Huntington to Cambridge Turnpike Road and to parts of the south and west by the ancient inclosures called Connington Pastures. The remaining parts of the northwest and southeast are bordered by Connington Parish. The map shows a more open field system to that depicted in 1660 and is the first map to show the location of marshy woodland known as Down Spinney.

The Thornhill's also owned a brick works on plot 5 a in a field immediately to the east of the proposed wind farm, which in 1841 employed eight people.

#### OS 1<sup>st</sup> Edition 1881 map (Fig. 6)

The area of the OS 1<sup>st</sup> edition map was published in 1889. For convenience the map used was taken from the web site <http://www.old-maps.co.uk>. This map shows that the area of the proposed wind farm has been further inclosed so that there are now a total of 37 individual fields. This map also illustrates that Friesland Farm and New Barns and the Brick Works to the east of the proposed wind farm have been constructed since the maps of 1804 and 1841. This map is also the first map to illustrate the A14 as a Roman Road, formally labelled as a Turnpike Road (Connington Lordship Map of 1804). Two small groves are also illustrated, 'Jack of Thumbs' in the centre of the proposed wind farm and 'Down Spinney' at the eastern end.

#### OS 2<sup>nd</sup> Edition 1901 map

The OS 2<sup>nd</sup> edition map was published twelve years after the 1<sup>st</sup> edition 1889 map. A copy of the 6" to 1 mile map was available at the Cambridgeshire Record Office, but it was not possible to obtain a copy of the 1:25000 scale map. The 6" map was photographed and studied but it has not possible to produce a copy of the area of the proposed wind farm for this report. There has been no change in the layout of the fields within the area of the proposed wind farm with the exception of the construction of New Barns Farm on the northwest boundary.

#### Your Energy Map

There was no 1930s revision for the area and so the last map consulted was supplied by Your Energy Ltd, as the background to the proposed wind farm site. The site map supplied by Your Energy Ltd cannot be reproduced for copyright reasons. Inspection of the map shows that the small field divisions have been further replaced by larger ones, 14 in total.

## Unit for Landscape Modelling

### Aerial Photographs

The aerial photographs held at the Unit for Landscape Modelling and the County Records Office adequately covered the area of the proposed wind farm.

The following aerial photographs were studied:

RAF Aps, CPE/UK/1952/4005-4008  
 CUCAP Aps 01/08/1963 AHZ 72- 73  
 CUCAP Aps Rc8-JL/1987/120  
 CUCAP Aps Rc8-JL/1987/121  
 CUCAP Aps Rc8-KN/BN/1988/116  
 CUCAP Aps Rc8-KN/BN/1988/116  
 CRO Aps 1946/3390-3391  
 CRO Aps 1954/01-03  
 CRO Aps 1962/32615-32617  
 CRO Aps 1969/32673-32676  
 CRO Aps 1983/0074  
 OS Aps, 81-003 020

The most revealing photographs were:

CPE/UK/1952/4005-4008  
 CUCAP 01/08/1963 ANZ 72-73  
 OS Aps, 81-003 020

These aerial photographs illustrate the extent of the ridge and furrow in the southeast section of the proposed wind farm. They show traces of curving ridge and furrow of the open field type to the southeast of Friesland farm (**Shaded pink on Fig. 7**). Category D, Severe impact.

These photographs also illustrate the possible remains of an enclosure in the far northwestern corner of the proposed wind farm. No turbines or trackways are scheduled to be constructed on the known area of the enclosures. However, the enclosures do illustrate archaeological activity in the immediate vicinity of Turbines 1 – 3 and it is therefore possible that archaeological features may exist within these areas.

## Sites and Monuments Record (SMR) within Cambridgeshire County Council.

### Schedule of listed buildings.

No listed buildings are recorded within or close to the proposed wind farm site.

### SMR

The search request for the general co-ordinates of the proposed wind farm yielded an initial 11 entries. Of these 5 were felt to have a direct bearing on the case although the others should be bourn in mind as a background to the area's potential archaeological resources.

SMR 00292. Tl3465.

Extensive medieval ridge and furrow in the north strip map of 1650. Traces of curving ridge and furrow of the open-field type occur in aerial photographs over most of the parish. To the north of the village of Boxworth two blocks, end to end, each over 100 yards long and with reversed-S ridges, appear to have been ploughed as one which results in ridges 320 yards long with double reversed-S curves and with intermediate headlands ploughed out. The three open fields of the parish of Boxworth to which most of these traces belonged were called in 1650 'south', 'north' and 'west' fields, and in 1839 'Backend', 'Down' and 'Elsworth Way' fields.

SMR 00442. TL3286664.

A very worn, indecipherable Roman Coin was found in this location. As a finds spot the proposed wind farm should therefore suffer *no impact*. However, the coin gives further evidence (road bordering the area to the north) of Roman activity within the vicinity of the proposed development.

SMR 00480. TL342661.

Traces of Medieval ridge and furrow visible on aerial photographs southwest of Friesland Farm. The traces fit exactly into the field boundaries, in 1800 these were old enclosures presumably taken from the open fields. Before

the enclosure act the parish was divided into six large fields; ‘Down’, ‘Marsh’, ‘Mill’, ‘Sand’, ‘Smee’ and ‘Stephill’.

SMR 08827. TL334671.

Enclosures are visible as cropmarks on aerial photographs the closest turbine (1) is some distance away and it is felt there would be *no impact*. However, the enclosures do illustrate archaeological activity in the immediate vicinity of Turbines 1 – 4 and it is therefore possible that archaeological features may exist within these areas.

SMR 09666. TL337673.

St Johns College Farm. Possible Roman enclosure visible as cropmarks on aerial photographs. However there are no surface indications of any enclosures and no surface archaeological finds have been discovered. The site lies outside the proposed development and there would be *no impact*. However, this site shows yet further evidence of Roman activity within the area of the proposed development. The adjacent A14 road, outside the development area, is on the line of a Roman road.

SMR 11438. TL35106640.

Medieval ridge and furrow visible on aerial photographs to the northeast of the proposed development and there would therefore be *no impact*.

SMR CB14743. TL336656.

Arrowhead finds spot. The site is outside the boundary of the proposed wind farm and therefore suffers *no impact*, but the find indicate evidence of prehistoric activity within the vicinity of the proposed development.

SMR CB14744. TL337665

Blade finds spot. As a finds spot the proposed wind farm should therefore suffer *no impact*, but the find does indicate evidence of prehistoric activity within the vicinity of the proposed development.

SMR CB151121. TL329663

Bombing Decoy. Night time decoy serving RAF Tempsford and RAF Oakington. This lies very close to turbine 2 but should suffer *no impact*.

SMR CB15202. TL334672.

World War II Pillbox. The site is outside the boundary of the proposed wind farm and therefore will suffer *no impact*.

SMR CB545. TL319606.

Gas Main Pipeline archaeological watching brief. Only two fragments of post-medieval pottery were found during the 7 km long pipeline.

#### *Field Survey*

The total area of the proposed wind farm is approx. 000 square Km. At the time of the field survey most of the areas had been ploughed and some areas had just been sown. The fields lie across Amphile and Boulder clays and are dissected by a number of brooks draining away from numerous springs where gravels and alluvium were also identified.

In terms of archaeological sites and features revealed from the desk-top assessment. The sites outside of the wind farm boundary, SMR’s CB15202, 09666, 1143800442, CB14743 lie outside the proposed wind farm so were not looked at. Within the site boundary only CB15121 and CB14744 had any visibility.

All the areas marked for turbine positions were inspected and photographed.

- Turbine 1 TL533404 266958. The field had been recently ploughed and sown. The proposed Turbine is located in the southern side of the field adjacent to the hedge. No finds were found and no archaeological features were visible.
- Turbine 2 TL533654 266788. The field had been ploughed and recently sown. The proposed turbine lies on the southern edge of the northern hedge and the site of the bombing decoy lies

nearby. There were a few fragments of ceramic field drain located but no other visible archaeological features.

- Turbine 3 TL533844 266525. The field had been ploughed and recently sown. The proposed turbine lies adjacent to the southern edge of the northern hedge. No finds were found and no archaeological features were visible.
- Turbine 4 TL533343 266614. The field had been recently ploughed and sown. The position for turbine 4 was in the northwest corner of the field at the bottom of the slope to the northeast. Three pieces of post-medieval pottery were found, but no archaeological features were noticeable.
- Turbine 5 TL533536 266385. The field had been ploughed and sown and the turbine location is situated on the top of the ridge that falls away to the northeast. No finds and no archaeological features were visible.
- Turbine 6 TL533782 266199. The field had been ploughed and sown and the turbine lies on the top of the ridge. No finds and no archaeological features were visible.
- Turbine 7 TL534015 265994. The field had been ploughed and sown and the turbine location was on the southwestern side of the northeastern hedge. No finds and no archaeological features were visible.
- Turbine 8 TL54150 265739. The field had been ploughed and sown. The area of the proposed turbine lies in the middle of the field at the southwestern end. No finds were found and no archaeological features were visible.
- Turbine 9 TL534452 265690. The field had been recently ploughed and sown. The position for turbine 9 was located in the southwestern corner of the field. No finds were found and no archaeological features were visible.
- Turbine 10 TL535366 265377. The field had been recently ploughed and sown. The location of the proposed turbine is located on the northeastern hedge line to the southeast of 'Down Spinney'. Fragments of ceramic field drains and sherds of Post-medieval pottery were found but there were no visible archaeological features.
- Turbine 11 TL533225 266237. The field had been recently ploughed and sown. The proposed turbine is located on the top of the ridge at the northern end of the field. No finds and no archaeological features were visible.
- Turbine 12 TL533462 266055. The field had been recently ploughed and sown. The proposed turbine is located to the southwest of 'Tom of Thumbs Grove' on the southern hedge line. No finds and no archaeological features were visible.
- Turbine 13 TL533722 265774. The field had been recently ploughed and sown. The proposed turbine is located on the top of the ridge at the northern end of the field. No finds or archaeological features were located.
- Turbine 14 TL533866 265512. The field had been recently ploughed and sown. The proposed turbine is located in the southeastern section of the field. No finds or archaeological features were located.
- Turbine 15 TL534048 265279. The field had been recently ploughed and sown. The proposed turbine is located in the northeastern section of the field. No finds or archaeological features were located.
- Turbine 16 TL534330 265042. The field had been recently ploughed and sown. The proposed turbine is half way between turbines 14 and 15 on

the same alignment. No finds or archaeological features were located.

- Sub-station TL534679 265282. This lies in the same field as turbine 10, which had been recently sown. Fragments of ceramic field drain were found but no archaeological features were visible.
- Anemometry Mast 1 TL533920 265678. This lies at the mid point along the field boundary between turbines 13 and 14. The field had been recently ploughed and sown. No archaeological features were visible.
- Anemometry Mast 2 TL533987 265746. This lies at in the corner of the field, north of Anemometry Mast 1. The field had been recently ploughed and sown. No archaeological features were visible.

## 7.6 Conclusions of the Desk-based Assessment

The Desk-based Assessment illustrates how the area of the proposed development and its immediate environs has shown signs of archaeological activity from the prehistoric period through to the present day. The majority of the evidence for this activity has come from aerial photographic evidence and known sites and finds spots recorded in the county Sites and Monuments Record. It should be noted that aerial photograph cropmark evidence is unreliable on clay based sites such as the area of the proposed development as recent archaeological investigations on the nearby Cambourne New Settlement by Wessex Archaeology have shown. The cropmarks at Cambourne were found to be far more complex and extensive than the aerial photographs suggested (Wessex Archaeology Report 45973.1). The aerial photographic evidence has also shown extensive areas of medieval ridge and furrow which can often mask earlier archaeological activity.

Due to the location of Turbines 1 and 2 close to the known cropmarks in the northwestern corner of the site, the presence of medieval ridge and furrow over a significant area of the

site and the known finds from both the prehistoric and Roman periods, it was recommended by Andy Thomas (Cambridgeshire County Archaeologist) that field evaluation trenching should be undertaken on each turbine area, the substation and the anemometry mast areas. A report on the results of the field evaluation is given below.

## 7.7 The Field Evaluation

*Numbers that appear in () in the following section refer to context numbers allocated during the field evaluation.*

### Turbine Area 1 (not illustrated)

This trench measured 15m by 2m and was excavated to a maximum depth of 0.4m. After the removal of the plough soil (1.1) a deposit of naturally occurring heavy orange clay (1.2) with some gleying was revealed. No archaeological deposits, features or datable materials were located during the excavation of this trench.

### Turbine Area 2 (not illustrated)

This trench measured 15m by 2m and was excavated to a maximum depth of 0.4m. After the removal of the plough soil (2.1) a deposit of naturally occurring heavy orange clay (2.2) with some gleying was revealed. No archaeological deposits, features or datable materials were located during the excavation of this trench.

### Turbine Area 3 (not illustrated)

This trench measured 15m by 2m and was excavated to a maximum depth of 0.4m. After the removal of the plough soil (3.1) a deposit of naturally occurring heavy orange clay (3.2) with some gleying was revealed. No archaeological deposits, features or datable materials were located during the excavation of this trench.

### Turbine Area 4 (not illustrated)

This trench measured 15m by 2m and was excavated to a maximum depth of 0.3m. After the removal of the plough soil (4.1) a deposit of naturally occurring heavy grey gleyed clay

(4.2). No archaeological deposits, features or datable materials were located during the excavation of this trench.

#### Turbine Area 5 (not illustrated)

This trench measured 15m by 2m and was excavated to a maximum depth of 0.4m. After the removal of the plough soil (5.1) a deposit of naturally occurring orange clay with occasional chalk fragments (5.2) was revealed. Cut into the natural clay was a stone field drain (5.3/ 5.4). No archaeological deposits, features or datable materials were located during the excavation of this trench.

#### Turbine Area 6 (not illustrated)

This trench measured 15m by 2m and was excavated to a maximum depth of 0.3m. After the removal of the plough soil (6.1) a deposit of naturally occurring orange clay with occasional chalk fragments (6.2) was revealed. No archaeological deposits, features or datable materials were located during the excavation of this trench.

#### Turbine Area 7 (Figs. 9, Plate. 2)

This trench measured 15m by 2m and was excavated to a maximum depth of 0.5m. This evaluation trench was located slightly to the west of the proposed location for Turbine 7 as the grid reference given was exactly in the middle of the field boundary and the accompanying map appeared to indicate a position west of the field boundary. After the removal of the plough soil (7.1) a deposit of naturally occurring orange clay with occasional chalk fragments (7.2) was revealed. Two ditches (7.6-7.8 & 7.3 – 7.5), containing Bronze Age pottery, were located cutting into the natural clay (7.2). Ditch (7.3 – 7.6), which measured 1m wide by 0.25m deep, also cut the eastern edge of ditch (7.6 – 7.8), which measures 1.9m wide by 0.5m deep, suggesting that it is of later date and was probably excavated to replace ditch (7.6 – 7.8) which had probably silted up.

#### Turbine Area 8 (not illustrated)

This trench measured 15m by 2m and was excavated to a maximum depth of 0.3m. After the removal of the plough soil (8.1) a deposit

of naturally occurring orange clay with occasional chalk fragments (8.2) was revealed. No archaeological deposits, features or datable materials were located during the excavation of this trench.

#### Turbine Area 9 (not illustrated)

This trench measured 15m by 2m and was excavated to a maximum depth of 0.3m. After the removal of the plough soil (9.1) a deposit of naturally occurring orange clay with occasional chalk fragments and flint nodules (9.2) was revealed. No archaeological deposits, features or datable materials were located during the excavation of this trench.

#### Turbine Area 10 (not illustrated)

This trench measured 15m by 2m and was excavated to a maximum depth of 0.4m. After the removal of the plough soil (10.1) a deposit of naturally occurring orange clay with occasional chalk fragments and flint nodules (10.2) was revealed. No archaeological deposits, features or datable materials were located during the excavation of this trench.

#### Turbine Area 11 (not illustrated)

This trench measured 15m by 2m and was excavated to a maximum depth of 0.4m. After the removal of the plough soil (11.1) a deposit of naturally occurring orange clay with occasional chalk fragments (11.2) was revealed. No archaeological deposits, features or datable materials were located during the excavation of this trench.

#### Turbine Area 12 (not illustrated)

This trench measured 15m by 2m and was excavated to a maximum depth of 0.4m. This trench measured 15m by 2m and was excavated to a maximum depth of 0.4m. After the removal of the plough soil (12.1) a deposit of naturally occurring orange clay with occasional chalk fragments (12.2) was revealed. No archaeological deposits, features or datable materials were located during the excavation of this trench.

#### Turbine Area 13 (not illustrated)

This trench measured 15m by 2m and was excavated to a maximum depth of 0.4m. After the removal of the plough soil (13.1) a deposit of naturally occurring orange clay with occasional chalk fragments (13.2) was revealed. No archaeological deposits, features or datable materials were located during the excavation of this trench.

#### Turbine Area 14 (not illustrated)

This trench measured 15m by 2m and was excavated to a maximum depth of 0.4m. After the removal of the plough soil (14.1) a deposit of naturally occurring orange clay with occasional chalk fragments (14.2) was revealed. No archaeological deposits, features or datable materials were located during the excavation of this trench.

#### Turbine Area 15 (not illustrated)

This trench measured 15m by 2m and was excavated to a maximum depth of 0.4m. After the removal of the plough soil (15.1) a deposit of naturally occurring orange clay with occasional chalk fragments and flint nodules (15.2) was revealed. No archaeological deposits, features or datable materials were located during the excavation of this trench.

#### Turbine Area 16 (not illustrated)

This trench measured 15m by 2m and was excavated to a maximum depth of 0.4m. After the removal of the plough soil (16.1) a deposit of naturally occurring orange clay with occasional chalk fragments and flint nodules (16.2) was revealed. No archaeological deposits, features or datable materials were located during the excavation of this trench.

#### Substation (Fig. 9, Plate. 1)

This trench measured 15m by 2m and was excavated to a maximum depth of 0.4m. After the removal of the plough soil (SS.1) a deposit of orange brown silty clay subsoil (SS.2) was revealed, which contained 8 worked flints (see section 7.8). Below the subsoil a deposit of naturally occurring orange clay with occasional flint nodules (SS.9) was revealed. At the northern end of the trench a stack of 19<sup>th</sup> century bricks (SS.8) was located 0.4m below the present ground surface. Two

ceramic field drains (SS.04/SS.05 & SS.06/SS.07) were also located cutting through both the natural clay (SS.9) and the brick stack (SS.8) and ran in a north/south direction along the eastern side of the trench.

#### Anemometry Mast 1 (not illustrated)

This trench measured 5m by 2m and was excavated to a maximum depth of 0.3m. After the removal of the plough soil (A.1) a deposit of naturally occurring orange clay with occasional chalk fragments (A.2) was revealed. No archaeological deposits, features or datable materials were located during the excavation of this trench.

#### Anemometry Mast 2 (not illustrated)

This trench measured 5m by 2m and was excavated to a maximum depth of 0.3m. After the removal of the plough soil (B.1) a deposit of naturally occurring orange clay with occasional chalk fragments (B.2) was revealed. No archaeological deposits, features or datable materials were located during the excavation of this trench.

### **7.8 Report on finds from the Field Evaluation**

By Kevin Blockley

#### *Bronze Age Pottery*

Three sherds of pottery were recovered from the evaluation trenching. These are all in the same hand-made fabric: a hard, well-fired fabric with some sand and grog inclusions. The surfaces are well-finished and smooth if not slightly burnished. All are undecorated body sherds. From the fabric alone (since no shape is evident from the small sherds recovered) the pottery is most likely to be Early Bronze Age in date.

1. Not illustrated. Two conjoining pieces from the same vessel (broken since excavation). Pale brown surfaces and core, slight wear on all edges. Turbine area 7, small find 10.
2. Not illustrated. A single sherd with black exterior surface and core and the

remains of a pale brown interior surface. Worn edges. Turbine area 7, small find 11.

3. Not illustrated. A single sherd with pale brown exterior, black interior and core. Slightly work edges. Turbine area 7, small find 12.

#### *Flintwork*

Eight pieces of worked flint were found comprising two scrapers, and six waste flakes, some with evidence of retouching to form tools. Numbers 4-9 were found on the site of the Substation, and numbers 10-11 on the site of Turbine 7. The pieces are generally in fresh condition and are unpatinated. Three different types of flint can be identified: a dark grey material of good quality; a white quartz; and a pale brown flint. The two assemblages are likely to be Early Bronze Age in date (Plate 3).

4. Scraper (50mm x 38mm x 15mm) in black flint. Substation, small find 1, context SS.2.

5. Scraper (48mm x 36mm x 12mm) in black flint. Substation, small find 2, context SS.2.

6. Waste flake (46mm x 30mm x 10mm) in black flint, with possible evidence of re-touching. Substation, small find 3, context SS.2.

7. Waste flake (45mm x 40mm x 8mm) in black flint, with evidence of re-touching. Substation, small find 4, context SS.2.

8. Waste flake (33mm x 18mm x 5mm) in black flint, with no evidence of re-touching. Substation, small find 5, context SS.2.

9. Waste flake (34mm x 18mm x 7mm) in brown flint, with evidence of re-touching. Substation, small find 6, context SS.2.

10. Waste flake (40mm x 22mm x 9mm) in white quartz, with evidence of re-touching on two edges. Turbine area 7, small find 7, Context 7.8.

11. Waste flake (26mm x 15mm x 4mm) in white quartz, with no evidence of re-touching. Turbine area 7, small find 8, context 7.8.

#### *Pebble*

A single rounded pebble was found in association with the pottery and flintwork above and is, therefore likely to be Early Bronze Age in date (Plate 3).

12. Rounded pebble of buff-pale brown, fine-grained siltstone (80mm x 40mm x 32mm). One side broken, two sides smooth. Probably used as a smoothing tool for hides. Turbine area 7, Small find 9, context 7.8.

### **7.9 Conclusions of the Field Evaluation**

The majority of the field evaluation trenching revealed only natural clays lying beneath the ploughsoil with the exception of Turbine Area 7 and the Substation. Finds collected from the ditch fills in Turbine Area 7 gave a Bronze Age date for both ditches with the stratigraphic sequence of the ditches indicating that ditch (7.3 – 7.6) is later than ditch (7.6 – 7.8). The orientation of the ditches, when looked at in conjunction with the land contours suggests a possible Bronze Age enclosure probably lies on the flat area of land in the area of Turbine 7 as opposed to the west of the evaluation trench where the land drops steeply away from 40m OD to 20m OD. The Bronze Age flints located during the excavation of the Substation trench were not associated with any structures or features but do indicate further Bronze Age activity in the area of the proposed development. The stack of 19<sup>th</sup> century red bricks located at the northern end of the Substation trench were probably the remains of brick produced at the brick factory depicted on the late 19<sup>th</sup> century maps.

### **7.10 Predicted Impacts of the Proposal on known Archaeology**

- Turbine 1 TL533404 266958. This location has no identifiable archaeology within the immediate area of the turbine and no archaeological features or deposits were located during the field evaluation. Impact would be *none*.

- Turbine 2 TL533654 266788. This location has no identifiable archaeology within the immediate area of the turbine and no archaeological features or deposits were located during the field evaluation. Impact would be *none*.
- Turbine 3 TL533844 266525. This location has no identifiable archaeology within the immediate area of the and no archaeological features or deposits were located during the field evaluation. Impact would be *none*.
- Turbine 4 TL53334 266614. This location has no identifiable archaeology within the immediate area of the turbine and no archaeological features or deposits were located during the field evaluation. Impact would be *none*.
- Turbine 5 TL533536 266385. This location has no identifiable archaeology within the immediate area of the turbine and no archaeological features or deposits were located during the field evaluation. Impact would be *none*.
- Turbine 6 TL533782 266199. This location has no identifiable archaeology within the immediate area of the turbine and no archaeological features or deposits were located during the field evaluation. Impact would be *none*.
- Turbine 7 TL534015 265994. This location lies in the area of the ridge and furrow to the southeast of Friesland Farm resulting in *minor* impact. The area of Turbine 7 also contains a possible Bronze Age Enclosure on which the impact would be *severe*.
- Turbine 8 TL534150 265736. This location lies in the area of the ridge and furrow to the southeast of Friesland Farm resulting in *minor* impact.
- Turbine 9 turbine 9 TL534452 265690. This location has no identifiable archaeology close by and so the archaeological impact would be *none*.
- Turbine 10 TL535366 265377. This location has no identifiable archaeology close by and so the archaeological impact would be *none*.
- Turbine 11 TL533225 266237. This location lies in the area of the ridge and furrow to the southeast of Friesland Farm resulting in *minor* impact.
- Turbine 12 TL533462 266055. This location lies in the area of the ridge and furrow to the southeast of Friesland Farm resulting in *minor* impact.
- Turbine 13 TL533722 265774. This location lies in the area of the ridge and furrow to the southeast of Friesland Farm resulting in *minor* impact.
- Turbine 14 TL533866 265512. This location lies in the area of the ridge and furrow to the southeast of Friesland Farm w resulting in *minor* impact.
- Turbine 15 TL534048 265279. This location lies in the area of the ridge and furrow to the southeast of Friesland Farm resulting in *minor* impact.
- Turbine 16 TL534330 265042. This location lies in the area of the ridge and furrow to the southeast of Friesland Farm resulting in *minor* impact.
- Substation TL534679 265282. A stack of 19<sup>th</sup> century red bricks and isolated Bronze Age flints were recorded in this area. The archaeological impact would be *minor*.

- Anemometry Mast 1 TL533920 265678. This location lies in the area of the ridge and furrow to the southeast of Friesland Farm resulting in *minor* impact.
- Anemometry Mast 2 TL533987 265746. This location lies in the area of the ridge and furrow to the southeast of Friesland Farm resulting in *minor* impact.

### 7.11 Summary and Recommendations

The archaeological assessment of the landscape for the proposed development of the Cambridge Wind Farm has revealed that the current proposal poses a significant threat to known archaeology only in the area of Turbine 7.

This can be mitigated by an archaeologist being present during the initial clearance works on the area of the proposed turbine and the area of hard standing for the works cranes which should only be excavated to a depth of the first intact archaeological layers. Any archaeological features/deposits should then be fully excavated by a qualified archaeological team prior to any further development. The access tracks on the immediate approaches to the area of Turbine 7 should also be constructed on the surface of the field(s) and not cut into it.

### Bibliography

*Wessex Archaeology*. 2003. Cambourne New Settlement. Wessex Report Ref: 45973.1

*Design Manual for Roads and Bridges (DMRB), Volume 11, Section 3, part 2*

*Victorian County History of Papworth* Vol, 9 1989.

*Unpublished document*. Kemp, S. N. 1998. Archaeology along the Cambourne Gas Main Pipeline. Cambridgeshire County Council Archaeological Field Unit Report B034.

*Listed Sites*. SMR/Cambridgeshire County Council

### Cartographic sources

*Map of Boxworth Estate 1660*

*Connington Lordship Map of 1804*

*Tithe Map of 18401– R60/24/2/161b (Boxworth)*

*OS 1<sup>st</sup> Edition map of 1891 - 6 inch to 1 mile - <http://www.old-maps.co.uk>*

*OS 2<sup>nd</sup> Edition map of 1901 - 6 inch to 1 mile*

*Cambridgeshire County Council SMR Map detail SMR Sites 2004*

*Your Energy Ltd Map of Proposed turbines and tracks*

### Aerial Photographs

*RAF Aps, CPE/UK/1952/4005-4008*

*CUCAP Aps 01/08/1963 AHZ 72- 73*

*CUCAP Aps Rc8-JL/1987/120*

*CUCAP Aps Rc8-JL/1987/121*

*CUCAP Aps Rc8-KN/BN/1988/116*

*CUCAP Aps Rc8-KN/BN/1988/116*

*CRO Aps 1946/3390-3391*

*CRO Aps 1954/01-03*

*CRO Aps 1962/32615-32617*

*CRO Aps 1969/32673-32676*

*CRO Aps 1983/0074*

*OS Aps, 81-003 020*

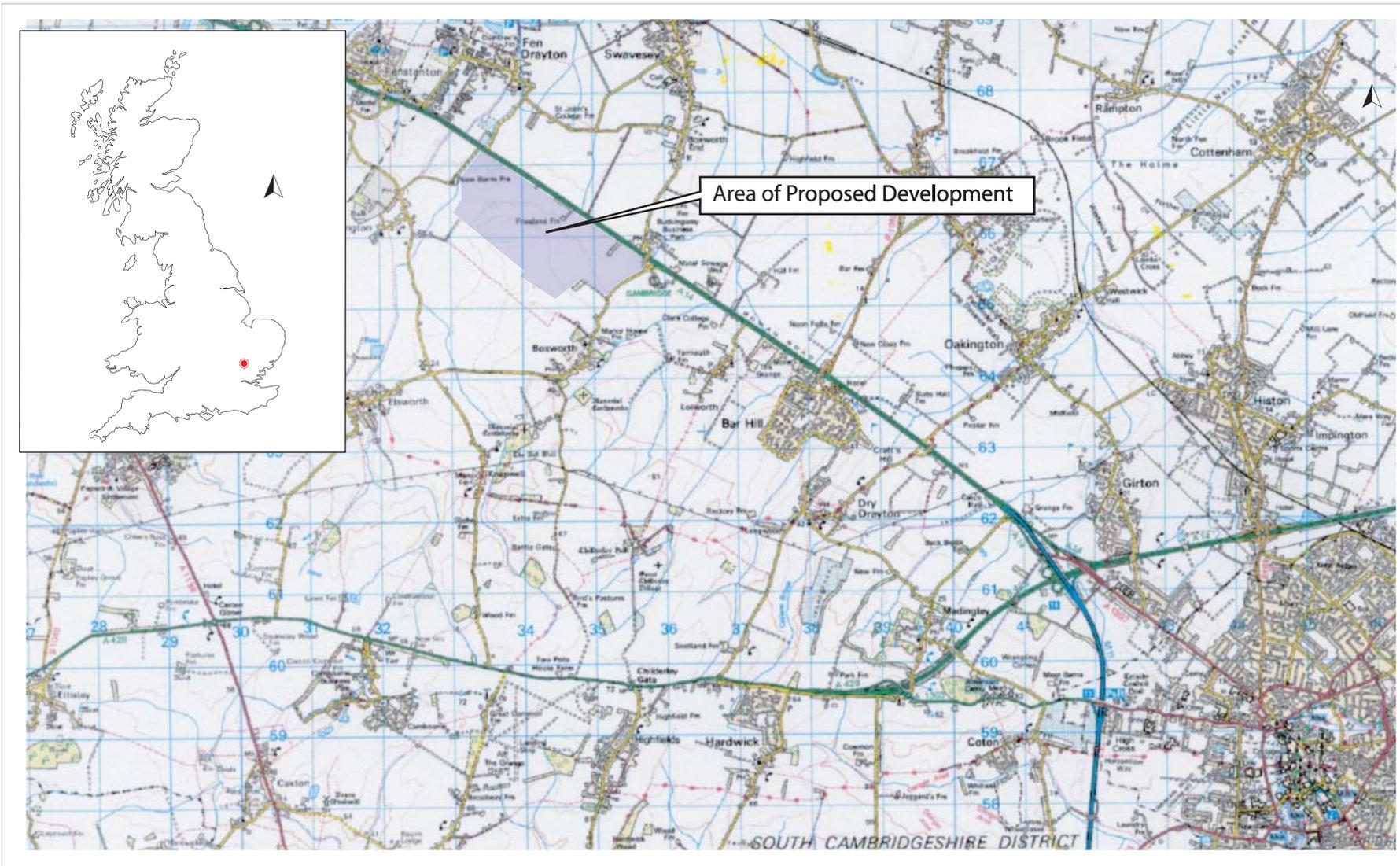
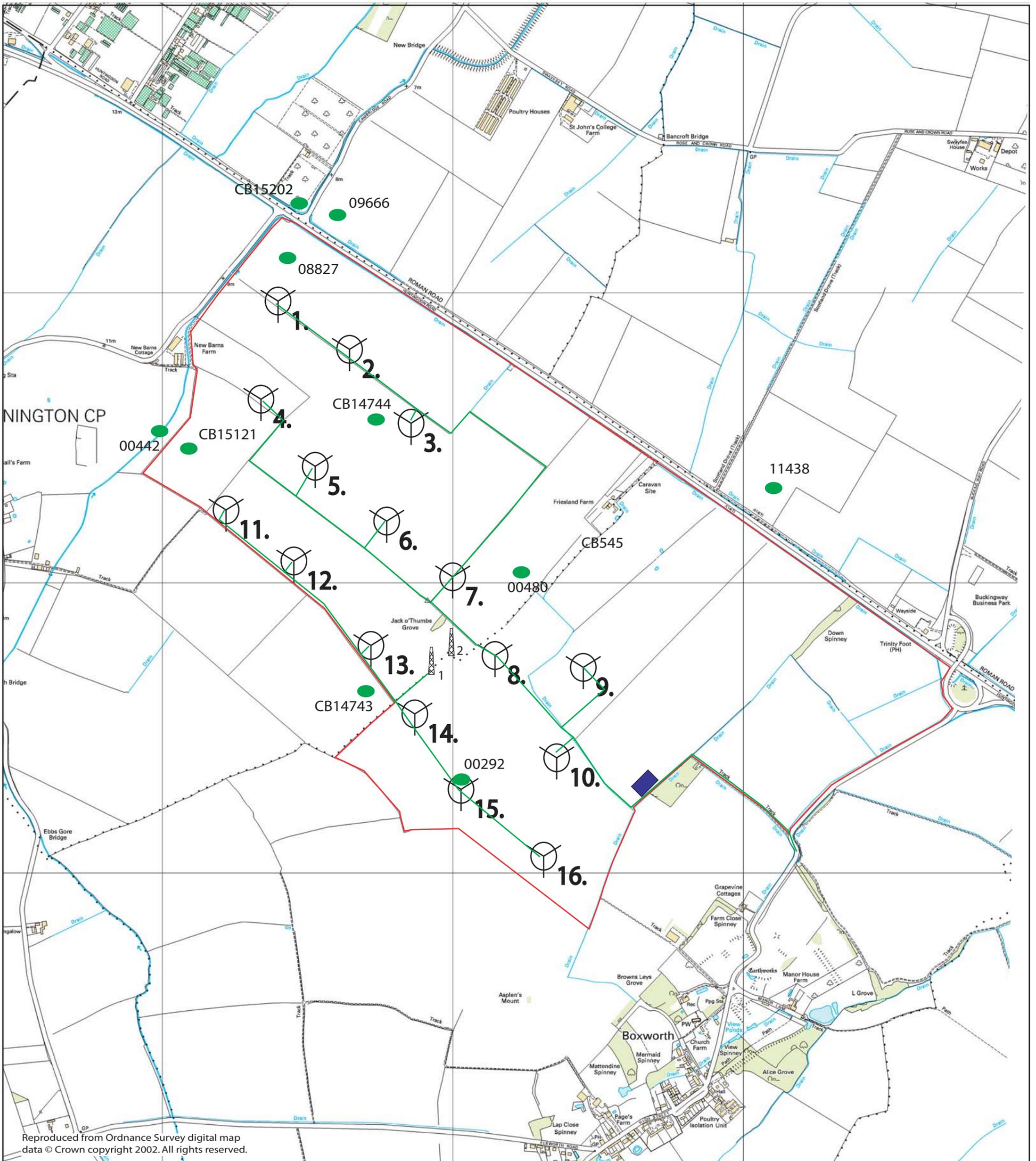


Fig 01: General site location map



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**Turbine Locations:**

- |                  |                   |                   |
|------------------|-------------------|-------------------|
| 1. 533404 266958 | 7. 534015 265994  | 13. 533722 265774 |
| 2. 533654 266788 | 8. 534150 265736  | 14. 533866 265512 |
| 3. 533844 266525 | 9. 534452 265690  | 15. 534048 265279 |
| 4. 533343 266614 | 10. 535366 265377 | 16. 534330 265042 |
| 5. 533536 266385 | 11. 533225 266237 |                   |
| 6. 533782 266199 | 12. 533462 266055 |                   |
-  Anemometry Mast 1 @ 533920 265678  
 Anemometry Mast 2 @ 533987 265746

**Site Boundary:**



**Site Access:**

Sub-station @ 534679 265282



Approximate Scale: 1:13 000

Original Map: 1:10 000

Date: April 2004



Prepared by:  
Dulas Ltd

Client:  
Your Energy Ltd

Cambridge Wind Farm

Figure 2: Site Layout and SMR Points

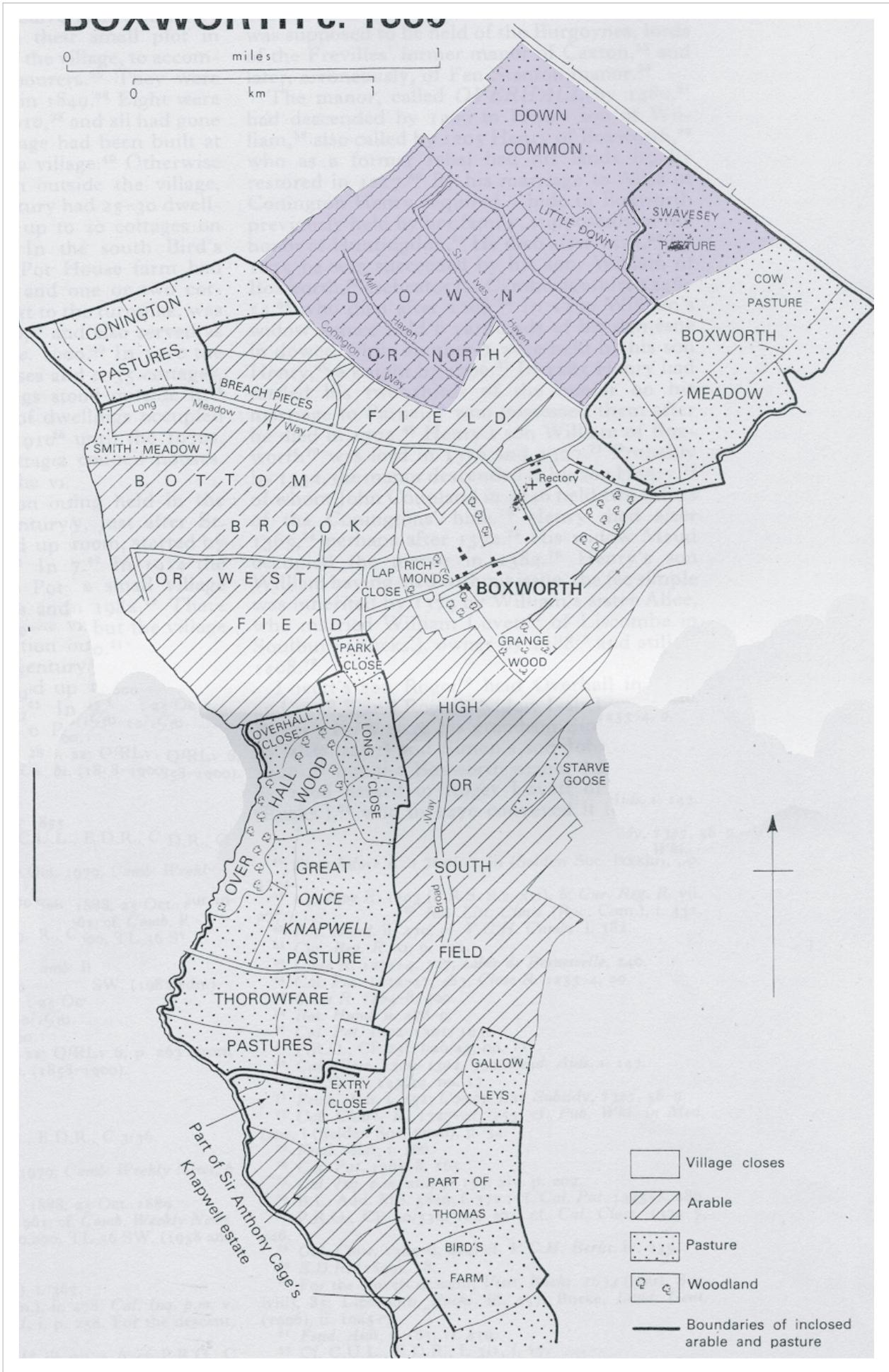


Fig 03: Map of Boxworth Estate 1660





Fig 05: Tithe Map of 1841 for the parish of Boxworth

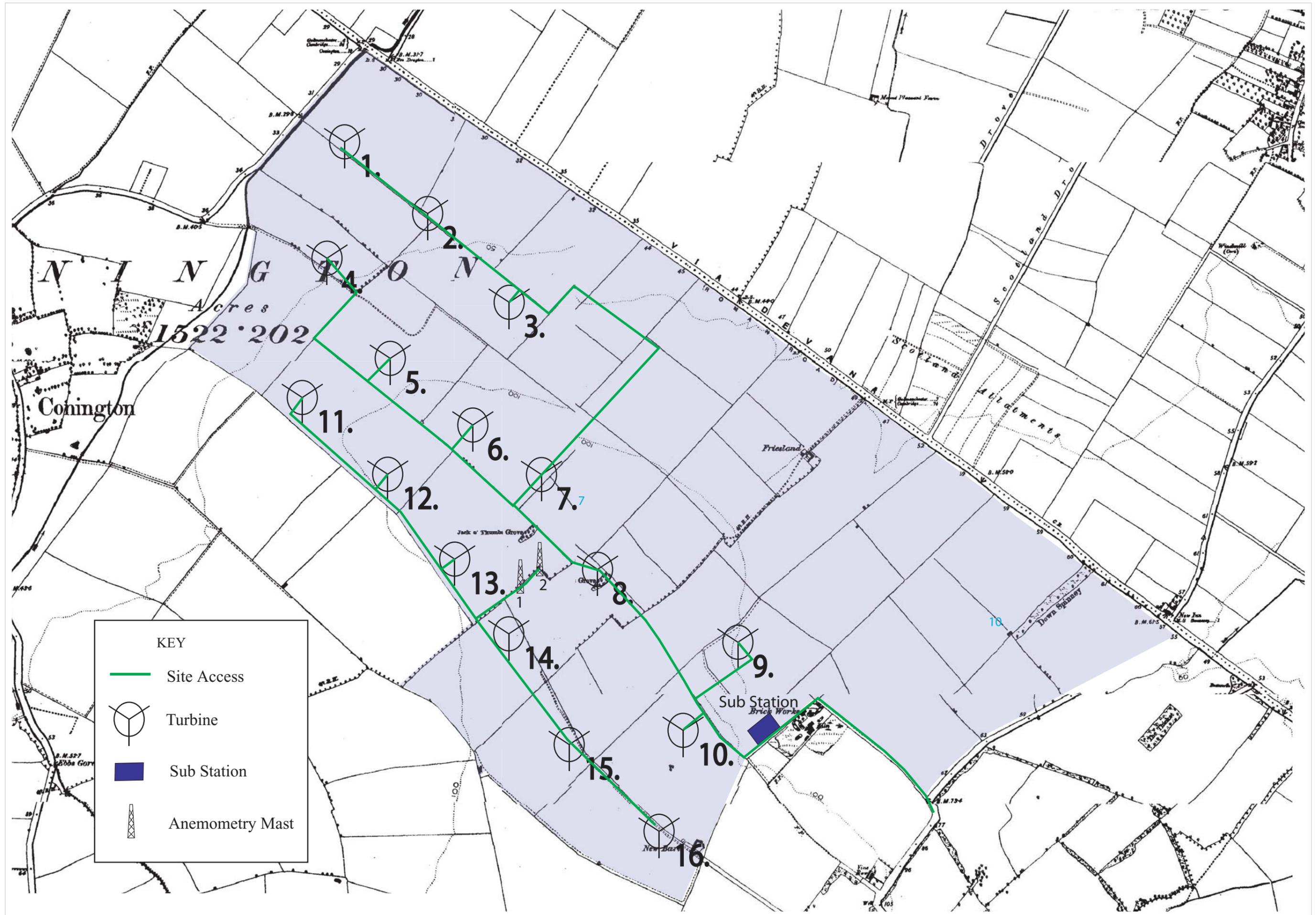
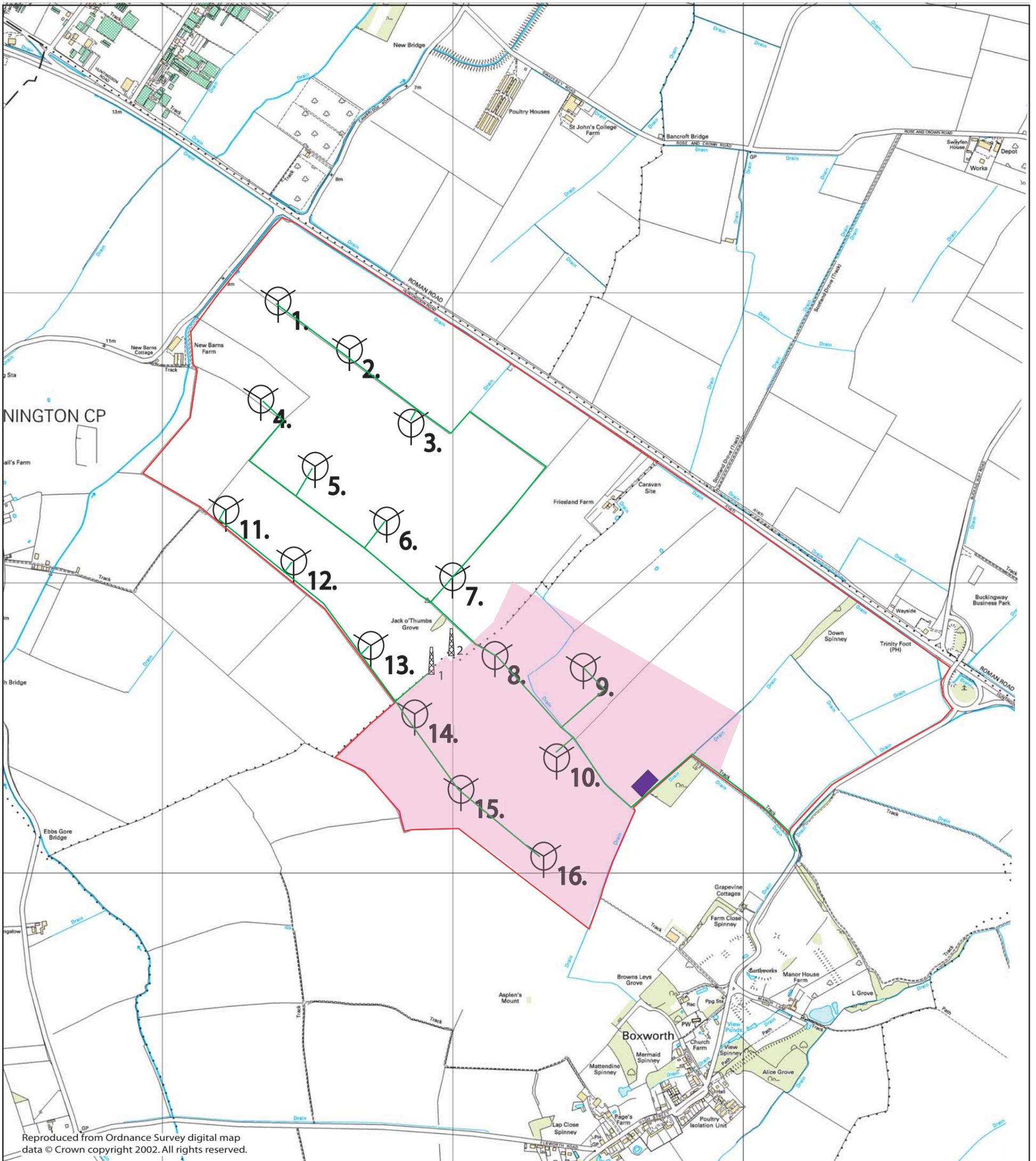


Fig 06: 1st Edition Ordnance Survey Map of 1891



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**Turbine Locations:**

 <b>1.</b> 533404 266958	 <b>7.</b> 534015 265994	 <b>13.</b> 533722 265774
 <b>2.</b> 533654 266788	 <b>8.</b> 534150 265736	 <b>14.</b> 533866 265512
 <b>3.</b> 533844 266525	 <b>9.</b> 534452 265690	 <b>15.</b> 534048 265279
 <b>4.</b> 533343 266614	 <b>10.</b> 535366 265377	 <b>16.</b> 534330 265042
 <b>5.</b> 533536 266385	 <b>11.</b> 533225 266237	 Anemometry Mast 1 @ 533920 265678
 <b>6.</b> 533782 266199	 <b>12.</b> 533462 266055	 Anemometry Mast 2 @ 533987 265746

**Site Boundary:**



**Site Access:**

Sub-station @  
534679 265282



Approximate Scale: 1:13 000

Original Map: 1:10 000

Date: April 2004



Prepared by:  
Dulas Ltd

Client:  
Your Energy Ltd

Cambridge Wind Farm

Figure 07: Area of  
Ridge and Furrow

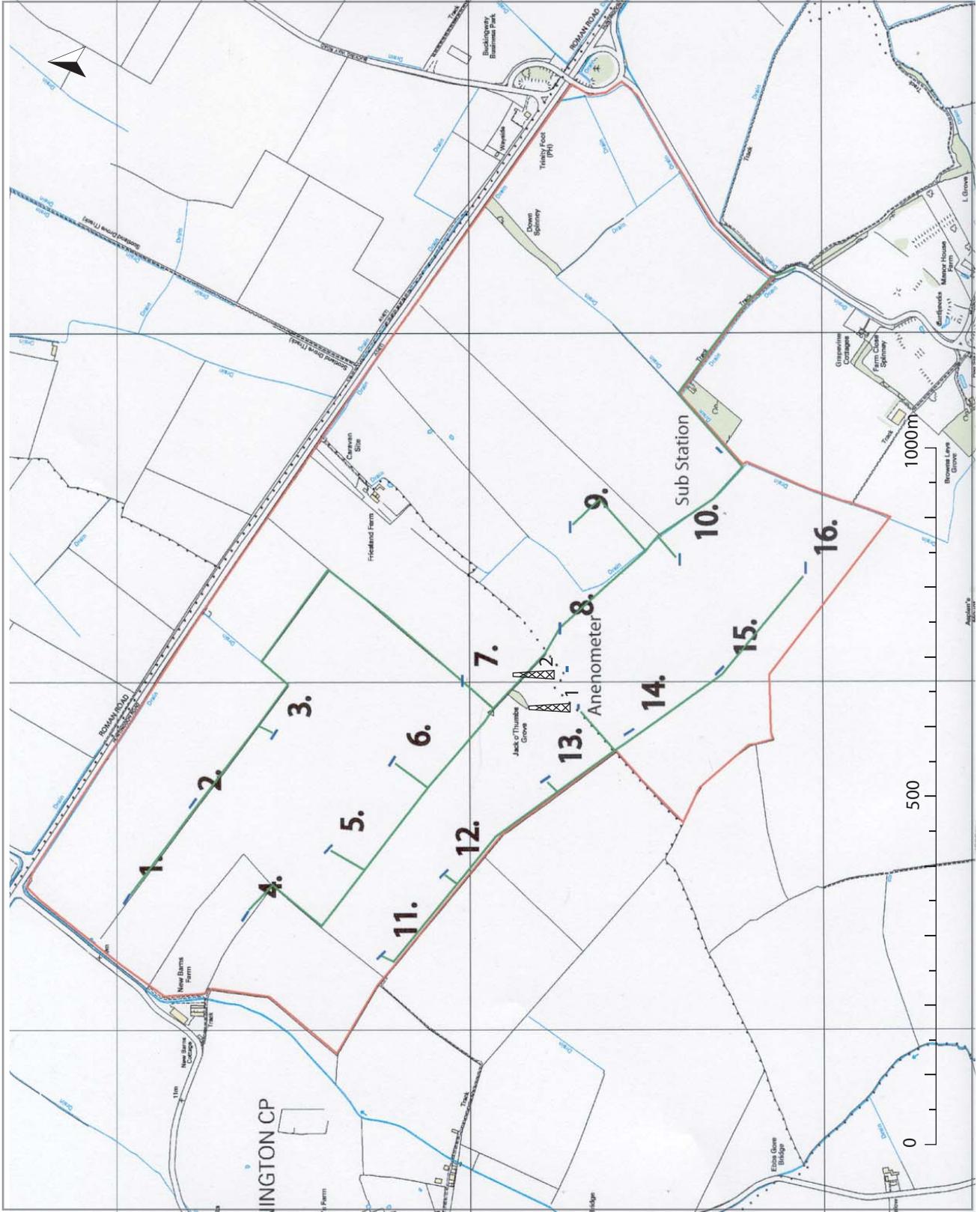
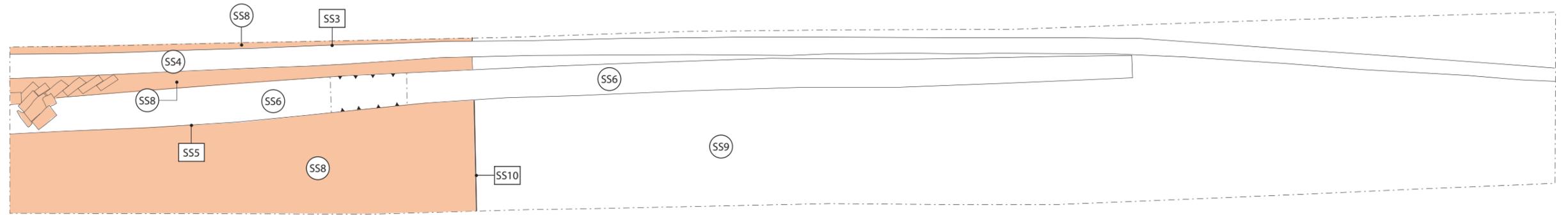
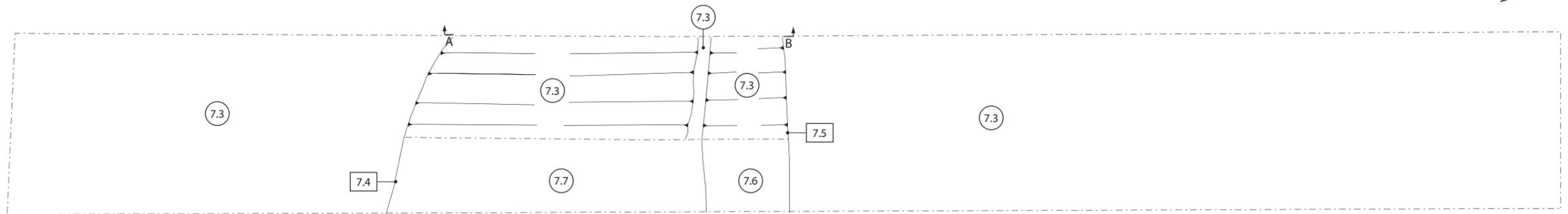


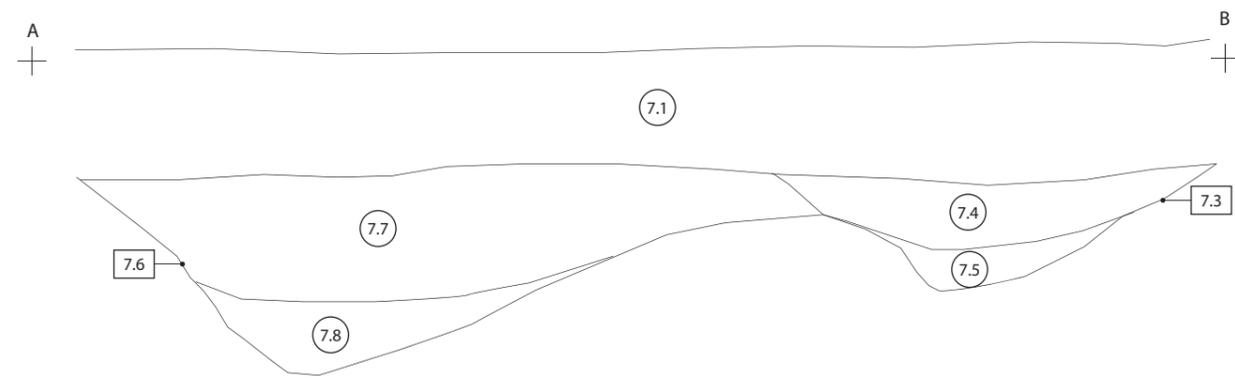
Fig 08: Field Evaluation Trench Locations



Plan of Sub Station



Plan of Turbine Area 7



Section A-B of Turbine Area 7

Fig 09: Plan and Sections of Sub Station and Turbine Area 7



Plate 01: Photograph detailing brick stack in Substation Evaluation Trench, scales 2m, looking southwest.



Plate 02: Photograph of ditches in Turbine 7 evaluation trench (half sectioned), scale 2m, looking west.



Plate 3: Flintwork from evaluation trenching