

# Proposed Summercourt Solar Farm, St. Enoder, Cornwall

## Archaeological Assessment



**Historic Environment Projects**



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Within Historic Environment, the Project Manager was Adam Sharpe.

The views and recommendations expressed in this report are those of Historic Environment Projects and are presented in good faith on the basis of professional judgement and on information currently available.

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Fig 18 Geophysical survey with overlying interpretation of central and south-west fields (© ArchaeoPhysica Ltd)

## **Abbreviations**

AEL	Anciently Enclosed Land (HLC Zone)
BA	Bronze Age
AONB	Area of Outstanding Natural Beauty
CC	Cornwall Council
CRO	Cornwall Record Office
EH	English Heritage
HBSMR	Historic Buildings, Sites and Monuments Record
HE	Historic Environment, Cornwall Council
HLC	Historic Landscape Character
LB	Listed building
LPA	Local Planning Authority
NGR	National Grid Reference
NMP	National Mapping Programme (digital plotting from aerial photographs)
OS	Ordnance Survey
PRN	Primary Record Number in Cornwall HBSMR
PPS5	Planning Policy Statement 5 ('Planning for the Historic Environment')
RIC	Royal Institution of Cornwall
SM	Scheduled Monument
WSI	Written Scheme of Investigation

## 7.1 Archaeological Summary

This archaeological assessment of a proposed solar farm at Summercourt, St Enoder, Cornwall, for Wardell Armstrong International was undertaken by the Projects team of Historic Environment, Cornwall Council (HE Projects, CC). The study was designed to gain a better understanding of the impacts which would result from the solar farm, both within the limits of this site, and in the surrounding historic landscape with its key archaeological sites or 'heritage assets'. It includes the results of a desk-based study and field visit, and follows current planning policies and guidance, relevant extracts from which are provided in the report. Viewshed mapping generated in ArcGIS, showing the theoretical inter-visibility between the proposed solar farm and the surrounding landscape, was used to inform the assessment. The results of a geophysical survey carried out across the majority of the site were also used to inform the potential for the survival of below ground features within the area.

The proposed area does not include any Scheduled Monuments (SMs) or Listed Buildings (LBs). The field boundaries are considered 'important' under Hedgerow Regulations. In the potential viewshed up to 5km from the site (where historic features such as field systems can be discerned) two Scheduled Monuments have possible inter-visibility with the site. The site is also possibly visible from seven of the Listed Buildings within the viewshed.

On the basis of current knowledge the proposed site includes or is bordered by fifteen archaeological sites of particular significance. Those within the proposed area include the site of an Iron Age or Romano-British round (**site 2**) of national importance where a stone axe was found (**site 3**) and is also possibly the site of a medieval Plain An Gwarry (**site 4**), two other possible rounds or prehistoric enclosures (**sites 1 and 5**) potentially of regional importance (although neither were identified by the geophysical survey), an area of medieval ridge and furrow of local importance (**site 6**) and a field system of local importance (**site 3**). Those sites bordering the area include another Iron Age or Romano-British round of national importance to the south-west (**site 8**), a prehistoric field system probably associated with **site 8** of regional importance (**site 9**), the site of a possible Roman road along the A30, potentially of regional importance (**site 10**), another possible round or enclosure potentially of regional importance immediately north of the eastern end of the site (**site 11**), the site of a small Bronze Age settlement of national importance (**site 12**) an area of medieval ridge and furrow of local importance (**site 13**), early medieval tin streamworks of local importance (**site 14**) and the site of a possible post-medieval decoy pond of local importance (**site 15**).

In addition to these sites the geophysical survey identified two earlier field systems in the central and eastern fields. One lies alongside the road in the central field and seems likely to have been a series of road side closes defined by ditch fills [1] to [4]. The other group seems to have much earlier origins based upon its form. It comprises a series of broad anomalies [10] to [13], probably from ploughed-down earthworks. These would be typical of prehistoric or perhaps early medieval fields (Roseveare and Bellomo, 2011). The survey also identified a few features that appear to represent shallow mining activity ([14], [15] and [18]).

In terms of Historic Landscape Character, the development area at Summercourt is significant as a part of a large Unit of the 'Medieval Farmland' HLC Type of 'Anciently Enclosed Land', with derivation from medieval cropping-units, with evidence for time-depth, as well as for its former association with the church and settlement of St Enoder as Glebe land. Buried early remains often occur in land of this HLC Type, and the presence of prehistoric sites both within the assessment area in close proximity dating to the Bronze Age and Iron Age/Romano-British periods indicates prolonged prehistoric settlement in this area and high potential for associated below-ground remains. The presence of an Iron Age/Romano British

round within the area (**site 2**) indicates high potential for further associated settlement activity surviving below ground.

The scheme would involve erecting solar arrays up to 2m high, with a control station, and associated cable trenching and anchor points up to 1m deep. The current proposal plan excludes the area containing the round (**site 2**). Its potential impacts include in the construction phase disturbance or loss of below-ground archaeological features. In the operational phase it would impact adversely on HLC, and possibly on the settings of some designated heritage assets. Overall, the impact on the archaeological resource is assessed as potentially negative/moderate without appropriate mitigation; with a negative/minor residual impact provided such mitigation is undertaken.

The recommendations set out further work likely to be required to mitigate for the archaeological impact should the development proceed. This includes a geophysical survey (already undertaken) to identify sensitive ground, and modification of the scheme to avoid any significant buried features identified as a result of the geophysical survey. Also controlled soil stripping or archaeological watching briefs are recommended (as appropriate) to allow recording of buried remains threatened by the development. Disturbance to Cornish hedges should be avoided, but if they are recording of affected sections may be required, and careful reconstruction may be appropriate.

## **7.2 Introduction**

### **7.2.1 Project background**

This archaeological assessment of a proposed solar farm at Summercourt, St. Enoder, Cornwall, was commissioned by Paul Evans of Wardell Armstrong International's Cornwall Office, and undertaken by the Projects team of Historic Environment, Cornwall Council (HE, CC). The results of the assessment are intended to be included in a wider Environmental Assessment for the proposal. It follows methods of working and reporting developed by HE, CC for similar projects (Parkes, 2010 and Sharpe, 2010), so facilitating cross-reference between project results. The site extends over three fields centred at around SW 89835 56762 just to the north-east of Summercourt to the south of the A30 (Figs 5 and 6).

### **7.2.2 Aims**

The principal aim of the study is to gain a better understanding of the impacts which would result from the construction of a solar farm at the site, both within the limits of the application site, and in the surrounding historic landscape with its key archaeological sites or 'heritage assets'.

The objectives are to identify the archaeological potential and significance of the site and to provide the client with advice on the impacts of the proposed development and any mitigation which would be likely to be required should the development proceed.

A further objective is to satisfy the information requirements of PPS5, the Government's policy statement on 'Planning for the Historic Environment' (see further Section 7.4.1).

### **7.2.3 Methods**

#### **7.2.3.1 Desk-based assessment**

For the desk-based study, historical databases and archives were consulted. Information about the history and significance of the sites and the features likely to survive in the proposed development area was recorded, and evidence for the development and present character of the wider historic landscape (HLC) was gathered. The key surrounding heritage assets (those

of high archaeological importance) whose settings could be affected by the solar farm project were included in this work. GIS mapping was used to assist identification of the viewshed of the solar farm, to inform the study of impact on the settings of those surrounding assets. (See separate Section 7.2.3.2, below). The main sources studied were as follows:

- Cornwall's HBSMR, the computerised database of the county's archaeological and historical sites maintained by Cornwall Council.
- GIS based computerised mapping showing features plotted from aerial photographs as part of the National Mapping Programme (NMP).
- GIS mapping of Historic Landscape Character (HLC) Types, and related text derived originally from the Cornwall Historic Landscape Assessment, 1994.
- Historic maps and original documents (see Section 7.9.1 for a list of these).
- Archaeological reports, histories and other relevant publications (listed in Section 7.9.2).
- Relevant designation and planning documentation.
- Aerial photographs taken previously as part of the Cornwall Aerial Survey project, HE, CC.
- Geophysical survey report (ArchaeoPhysica Ltd).

#### **7.2.3.2 Study of viewshed**

The viewshed mapping (as used in Figs 15 and 16), showing the theoretical inter-visibility between the site with solar arrays as proposed and the surrounding landscape, was generated in ArcGIS. A viewshed is an area of the landscape that is visible from a specific location based on elevation values of a Digital Elevation Model (DEM). Viewshed analysis uses the elevation value of each cell of the elevation model to determine visibility to or from a particular location - the observer viewpoint. To determine the visibility of a target, each cell between the observer's location and target is examined for line of sight. Where cells of higher value are between the observer viewpoint and the target cells the line of site is blocked. If the line of sight is blocked then the target cell, and by extension that part of the landscape, is determined to not be part of the viewshed; otherwise it is included in the viewshed.

The methodology used was based on a Digital Surface Model (DSM), which takes account of surface features such as buildings, woodland, vegetation, roads etc, and provides a more accurate representation when compared to a 'bare earth' or DTM elevation model. A viewshed was generated for each of seven 'observer points' based on the centroid of each of the seven fields in which an array is proposed. The seven were combined to produce the *multiple viewshed* for the proposed solar farm area.

When performing a viewshed analysis, several variables are used to limit or adjust the calculation including offset values, limitations on horizontal and vertical viewing angles (azimuth) and distance parameters (radius) for each observer point. For the proposed solar farm, the viewshed is based on an 'overall observer elevation value' made up of the 'elevation value' or height above sea level of the ground at the observer viewpoint, with added to this an additional offset of 2m to represent the height of the solar array.

The viewshed mapping is a computer model and whilst it does take into account some surface features that might hinder visibility and lines of sight (e.g. trees) it takes only limited account of visibility quality and the degradation of views over distance. It was therefore verified and qualified through observation as part of the project fieldwork, looking 'outward' or from rather than into the proposed site, due to limits on time and other constraints. Inevitably,

atmospheric conditions and other local factors will still have a variable effect on actual visibility, and there are practical limitations to the feasibility of checking potential 'inward' visibility to a site which is currently similar in terms of its ground cover and other features to neighbouring farmland, but which would have a colour and texture more distinguishable than at present at distances of several kilometres if developed as proposed. However in general the areas of landscape visible on the ground proved to conform very well with those generated by the GIS modelling.

The checking of the viewshed on the ground also allowed identification of particular belts, within these areas theoretically visible from the proposed solar farm site, whose historic landscape character can be 'read' *from* the site with varying degrees of clarity through discernible patterns of historic features, primarily field systems, and can be expected to have views *to* the site of similar quality. The belts observed were used to help determine useful distance buffers (at 0.5km, 2km and 5km around the site) for application to the original viewshed mapping, to show zones with inwardly increasing quality of visibility and legibility of the proposed solar farm's historic landscape (Figs 15 and 16). The GIS was then used to capture for the inner zones the designated key heritage assets; their Scheduled Monuments and Listed Buildings.

(It should be noted that the site viewshed mapping is used in this report to aid assessment and presentation of archaeological impacts. This work is not intended to convey more general impacts on views from dwellings, etc.)

#### **7.2.3.3 Fieldwork**

Following completion of the desk-based assessment, a 'walk-over' survey of the site was undertaken using a composite base map generated by that research. This involved walking systematically over the ground, recording the following;

- Any further details of sites identified during the desk-based survey
- Other features visible on the ground
- Areas of ground with particular evidence for potential survival of below-ground remains
- Relevant aspects of Historic Landscape Character
- Associations with the area's key heritage assets, contributing to their setting
- Views over surrounding sites and historic landscape.

The walk-over was carried out across all the fields on the site. There was good visibility across the ground since all the fields were laid to pasture. St Enoder and the Bronze Age barrows near Besowsa were also visited briefly to inform the assessment of impact on settings.

Digital colour photographs were taken as appropriate to record sites and aspects of the historic landscape, or illustrate potential effects on these.

#### **7.2.3.4 Post-fieldwork**

The cultural resource of the study area, and potential impacts of the solar farm scheme upon this, were assessed and reported using current standards and methodologies, and professional judgement. The area's individual archaeological features, its specific archaeological potential for further, buried sites, its Historic Landscape Character (HLC), and its significance for the settings of key surrounding heritage assets (in terms of both visual and historic or other aesthetic connections), were all considered. The viewshed study was used to inform the HLC and 'settings' assessments. The readings from the geophysical survey undertaken by

ArchaeoPhysica Ltd were used to inform the results of the assessment. Finally, notes and images generated by the project were archived, following established HE guidelines (see Section 7.9.3).

## **7.3 Site location**

The proposed solar farm site belongs to Glebe Farm and is located to the north-east of Summercourt and south-east of Penhale at NGR SW 89835 56762 (Figs 5 and 6). The site lies in the parish of St. Enoder on the western edge of the St Austell China Clay District within an area of historic mining. It comprises three adjoining fields aligned north-east to south-west along the southern side of the A30. The fields slope gently down to the east and south-east from 100m OD in the west down to 85m OD in the south and east. Altogether the total area of the fields is 18 hectares. The village of St. Enoder is approximately 0.5km to the north-west, whilst Summercourt to the south-west and Penhale to the north-east are also only 0.5km away.

### **7.3.1 Geology and soils**

The study area lies within the Meadfoot group comprising slate and sandstone interbedded and overlain by fine loamy soils (CC GIS mapping).

### **7.3.2 Landuse**

All three fields were in pasture at the time of the site visit. Areas of scrubland along the south-eastern edges of the fields adjoining Trefullock Moor have been left uncultivated since at least the 19<sup>th</sup> century.

### **7.3.3 Access**

Public highways border the proposed solar farm fields to the north-west and south-west. There are no public rights of way within the proposed site.

### **7.3.4 Viewshed**

The Zone of Theoretical Visibility (ZTV) for the proposed solar farm (that is, the area of the surrounding historic landscape which can be seen from the site and from where the site can be seen) generated for the project is not particularly extensive, but in summary includes the following (see Figs 15 and 16);

- **In a 0.5km radius**, ground mostly contained within the site and some to the north-west looking onto the A30.



Fig 1 View of earthworks associated with the round (**site 2**) with early/ mid 20<sup>th</sup> century houses built on the northern part of the site

- **In a 0.5-2km radius**, ground to the north-east including Penhale and Fraddon inter-visible with most of the site and ground to the east and south-east including the large china clay tips inter-visible with nearly all of the site. (Figs 2 and 3).

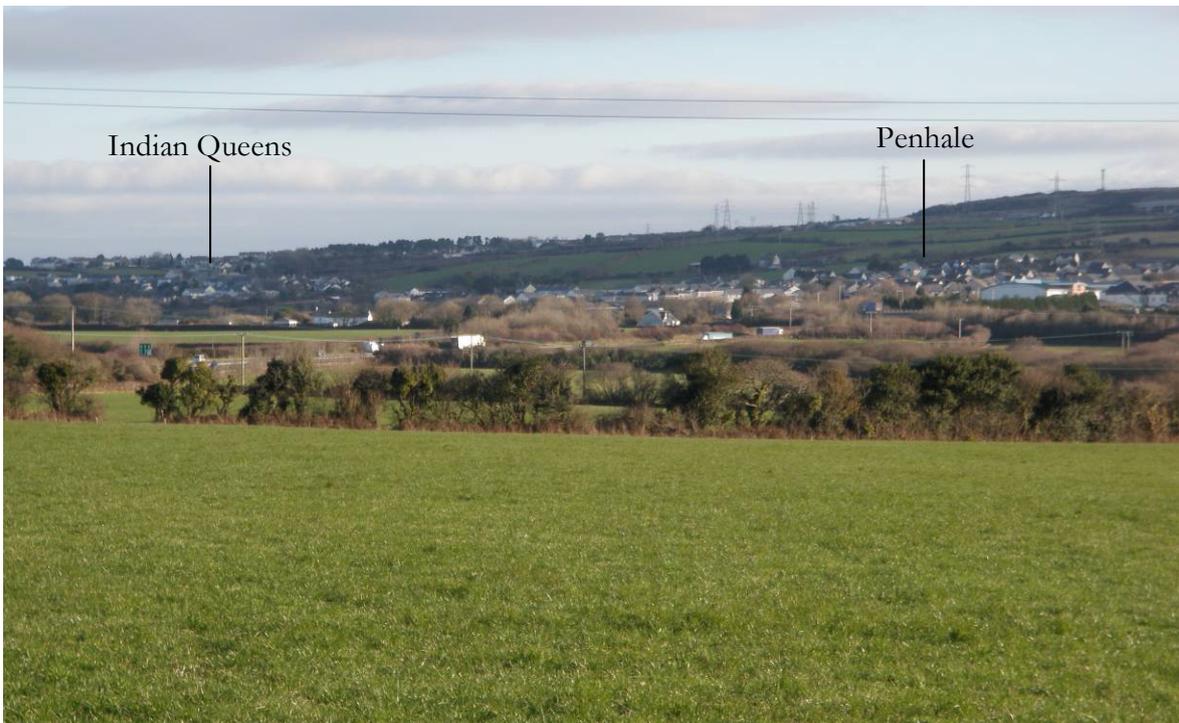


Fig 2 View from the centre of the site looking north-east to Indian Queens approximately 2km away



Fig 3 View from the centre of the site looking east to Wheal Remfry china clay tip approximately 2km away

- **In a 2-5km radius**, ground to the north-east including Fraddon and the southern half of Indian Queens, inter-visible with most of the site and some ground to the south around Besowisa also inter-visible with most of the site.



Fig 4 View from the centre of the site looking south-east to Besowisa approximately 2.5km away

### 7.3.5 Historic Landscape Characterisation

Historic Landscape Characterisation, developed for Cornwall from 1994 (Cornwall County Council 1996), captures the varying evidence for change and earlier landscapes existing in the present landscape, identifying extents of landscape with similar essential or distinguishing features, principally field boundary patterns. These extents have been mapped across the county, forming a continuous patchwork of Units of various Historic Landscape Character (HLC) Types (Fig 12). HLC Units of any given Type share a similar distinctive character today, the result of historic processes common to that Type, and tend to contain a predictable range of archaeological sites and historic features.

As shown in Fig 12, the land proposed for the solar farm at Summercourt is part of an extensive tract of the 'Medieval farmland' HLC Type of 'Anciently Enclosed Land' (AEL).

The following summary of the area's predominant 'Medieval farmland' Historic Landscape Character Type is adapted from generic HLC texts produced for Cornwall by Peter Herring (Cornwall County Council, 1996).

Much AEL will have been enclosed and farmed since the Middle Bronze Age (*c* 1500 BC). The 'Medieval farmland' AEL reflects re-organisation in the medieval period into extensive 'open' or sub-divided field systems, associated with hamlets of co-operating families who each worked open strips of land dispersed in different 'cropping units' or stock proof fields making up the systems. Those documented medieval farming settlements in close proximity to the site include St Enoder, Penhale, Trefullock, Chytane, Tredenbar, Trewheela and Bennallack.

Overall, on the ground, the proposed solar farm fields show some of the detail of their medieval character. Comparing the Tithe Map (Fig 9) with the three fields that exist today shows that two of the early boundaries have been removed since *c*1840.

Standing features including field boundaries still in use, such as all those here at Summercourt can reveal much about the history of this HLC Type. Ground disturbance in 'Medieval Farmland' may reveal buried artefacts and structures or deposits associated with settlement, agriculture and other activity, both medieval and earlier in date. Across Cornwall as a whole, it contains many 'rounds' or later prehistoric to Roman period enclosed settlements. These may survive as earthworks, or as sub-surface remains, which may be visible as 'crop-marks' on aerial photographs, or detected by geophysical survey.

There may have been as many unenclosed prehistoric and Roman era settlements within this area, and though more vulnerable to loss by ploughing or other change during the long and intensive use for farming characteristic of this HLC Type, remains of such activity are increasingly being discovered through geophysical survey, archaeological watching briefs, and trial excavations. Penhale Round and a number of phases of unenclosed prehistoric settlement in its periphery, just 0.5km to the east and typical of such buried sites, were revealed through extensive excavation and demonstrate well the archaeological potential of such sites (Jones, 1994). Smaller undetected buried deposits or artefacts could also be present in 'Medieval farmland' as elsewhere in AEL.

Other HLC Types represented in the surrounding area and visible in Fig 12 include 'Farmland post-medieval' immediately west of the site; more 'Farmland post-medieval' and 'Farmland 20<sup>th</sup> century' to the south-west; 'Twentieth century settlement', expanded from medieval origins, at Summercourt to the south-west and Penhale to the north-east; 'Plantation and scrub' and 'Upland Rough Ground' immediately to the south-east, and both 'Industrial: Disused' and 'Industrial: Working' to the east within the china clay district.

### 7.3.6 Designations

There are no Scheduled Monuments, Listed Buildings or designated areas within the site.

Within the potential viewshed in a 5km radius of the site (a distance within which historic features can still be viewed on the ground) there are eight Scheduled Monuments (see Fig 15), and twelve listed buildings (see Fig 16). These designated heritage assets are listed in the following tables along with a description of their inter-visibility with the site.

***Scheduled Monuments in potential viewshed, within a 5km radius***

<b>Scheduled Monument No.</b>	<b>HBSMR no</b>	<b>Ref</b>	<b>Name</b>	<b>Inter-visibility with the site</b>
30423	DCO954		An Early Christian memorial stone in St Francis churchyard, Indian Queens.	Not visible
CO1070	DCO1150		Queen's Pit preaching pit, IndianQueens	Possibly visible
28461	DCO854		Wayside cross in St Enoder churchyard.	Not visible
32961	DCO1088		Four Bronze Age round barrows 480m north of Besowsa.	Possibly visible
32911	DCO1040		Three bowl barrows north-west of Homer Downs.	Not visible
32904	DCO1033		Bowl barrow 570m south of Mitchell Farm.	Not visible
32905	DCO1034		Two bowl barrows 500m north-west of Hendra Farm.	Not visible
32906	DCO1035		Five bowl barrows 500m north-west of Hendra Farm.	Not visible

***Listed Buildings in potential viewshed, within a 5km radius***

<b>LB Ref no [UID]</b>	<b>HBSMR Ref no</b>	<b>Name</b>	<b>Grade</b>	<b>Inter-visibility with the site</b>
507761	DCO14976	Milestone opposite Madison Place	II	Possibly visible
71310	DCO12944	Milestone at SW 912 586	II	Possibly visible
71320	DCO13447	Fraddon Methodist church with attached Sunday school and coach house	II	Possibly visible
507740	DCO14977	Milestone opposite April Cottage	II	Possibly visible
71309	DCO13892	Milestone at SW 910 576	II	Possibly visible
71318	DCO13890	Trewheela Farmhouse	II	Possibly visible
71307	DCO13444	Milestone at SW 903 566	II	Possibly visible
71291	DCO13894	Medieval church of St Enoder	I	Not visible
71314	DCO13445	St Enoder rectory	II	Not visible
71294	DCO14167	Merifield monument in St Enoder churchyard	II	Not visible
71292	DCO12936	Early medieval cross in St Enoder churchyard	II	Not visible
71293	DCO12937	Gateway with flanking walls at south side of St Enoder churchyard	II	Not visible

Goss Moor lies approximately 4km to the north-east of the site. It is designated as a Site of Special Scientific Interest (SSSI), an Area of Historic Value, an Area of Great Scientific Value (AGSV), a Special Area of Conservation (SAC) and a National Nature Reserve (NNR). Approximately 2km to the south-west of the site there is an Area of Great Landscape Value and 2km to the north-east at Wheal Remfry (within the China Clay District) there is a Regionally Important Geological Site. The land neighbouring the site to the south is part of a Cornwall Wildlife Site and the Historic Settlement of Mitchell lies 4km to the south-west.

The 'Cornish hedges' or boundary banks of the fields making up the site are considered 'important' under the historic criteria of the Hedgerow Regulations. All are recorded on the c1840 Tithe Map.

## 7.4 Policies and Guidance

The following section brings together policies and guidance, or extracts from these, referred to in this report and/or used in the development of the assessment and its methodology.

### 7.4.1 Planning Policy Statement 5 (PPS5), 'Planning for the Historic Environment'

#### 7.4.1.1 Policy HE9.6

HE9.6 'There are many heritage assets with archaeological interest that are not currently designated as scheduled monuments, but which are demonstrably of equivalent significance....The absence of designation for such heritage assets does not indicate lower significance and they should be considered subject to the policies in HE9.1 to HE9.4 and HE10.'

#### 7.4.1.2 Extracts from Policies HE9.1 to HE9.4 and HE10

Policies HE9.1 to HE9.4 and HE10, referred to in Policy HE9, include the following;

- HE9.1 'There should be a presumption in favour of the conservation of designated heritage assets and the more significant the designated heritage asset, the greater the presumption in favour of its conservation should be. Once lost, heritage assets cannot be replaced and their loss has a cultural, environmental, economic and social impact. Significance can be harmed or lost through alteration or destruction of the heritage asset or development within its setting.'
- HE9.2 'Where the application will lead to substantial harm to or total loss of significance local planning authorities should refuse consent unless it can be demonstrated that: (i) the substantial harm to or loss of significance is necessary in order to deliver substantial public benefits that outweigh that harm or loss....'
- HE10.1; 'When considering applications for development that affect the setting of a heritage asset, local planning authorities should treat favourably applications that preserve those elements of the setting that make a positive contribution to or better reveal the significance of the asset. When considering applications that do not do this, local planning authorities should weigh any such harm against the wider benefits of the application....'

### **7.4.1.3 PPS5 English Heritage guidance**

The English Heritage and DCMS (Department for Culture, Media and Sport) document 'PPS5 Planning for the Historic Environment: Historic Environment Planning Practice Guide' provides guidance on PPS5 and its application.

This refers to the need, for decision-making in response to an application for change that affects the historic environment, of providing and assessing, at a level appropriate to the relative importance of the asset affected, information on the asset and its extent, on its setting, and on the significance of both of these aspects. Section 5, 54 states that 'Heritage assets may be affected by direct physical change or by change in their setting. Being able to properly assess the nature, extent and importance of the significance of a heritage asset and the contribution of its setting is very important....'

Section 5 on Policies HE6 to HE 12, 58, notes among appropriate actions (in point 5) 'Seek[ing] advice on the best means of assessing the nature and extent of any archaeological interest e.g. geophysical survey, physical appraisal of visible structures and/or trial trenching for buried remains.'

The section on Policy HE10 defines setting as follows;

113. Setting is the surroundings in which an asset is experienced. All heritage assets have a setting, irrespective of the form in which they survive and whether they are designated or not. Elements of a setting may make a positive or negative contribution to the significance of an asset, may affect the ability to appreciate that significance, or may be neutral.

114. The extent and importance of setting is often expressed by reference to visual considerations. Although views of or from an asset will play an important part, the way in which we experience an asset in its setting is also influenced by other environmental factors such as noise, dust and vibration; by spatial associations; and, by our understanding of the historic relationship between places. For example, buildings that are in close proximity but not visible from each other may have a historic or aesthetic connection that amplifies the experience of the significance of each. They would be considered to be within one another's setting.'

### **7.4.2 Cornwall Structure Plan**

The following policies in the Cornwall Structure Plan relate to the historic environment.

#### **7.4.2.1 Policy 1**

Development should be compatible with:

The conservation and enhancement of Cornwall's character and distinctiveness;

The prudent use of resources and the conservation of natural and historic assets;

A reduction in the need to travel, whilst optimising the choice of modes, particularly opportunities for walking, cycling and the use of public transport;

Through developing the principles of Policy 1 it is intended to integrate environmental values with land use and transport policies, achieving patterns of development that reflect strong environmental protection and stewardship of resources.

#### **7.4.2.2 Policy 2**

Throughout Cornwall, development must respect local character and:

Retain important elements of the local landscape, including natural and semi-natural habitats, hedges, trees, and other natural and historic features that add to its distinctiveness;

Contribute to the regeneration, restoration, enhancement or conservation of the area;

Positively relate to townscape and landscape character through siting, design, use of local materials and landscaping.

The conservation and enhancement of sites, areas, or interests, of recognised international or national importance for their landscape, nature conservation, archaeological or historic importance, including the proposed World Heritage Site, should be given priority in the consideration of development proposals.

### **7.4.3 Former Restormel Local Plan**

Although now part of Cornwall Council, Restormel District Council's policies listed in its local plan continue to be relevant. Those policies concerning the historic environment are listed below.

The Restormel Local Plan contains policies designed to protect the archaeological resource, using the following elements of policy framework:

#### **7.4.3.1 Policy 11**

The Council will seek to conserve and enhance the landscapes, features and habitats of heritage importance within the Borough.

#### **7.4.3.2 Policy 12**

(1) Proposals for interpretation and educational facilities which support greater awareness and incorporate positive management of landscapes, features and habitats of heritage importance will be permitted. (2) Where appropriate, opportunities will be taken to make conditions and enter into agreements relating to their conservation and proper management.

With particular reference to archaeology are the following extracts and policies:

5.88 The importance of preservation of archaeological sites and monuments is accepted at national level as set out in Government Circular 8/87 and PPG 16 (1990).

5.91 Where application is made for planning permission to carry out development which would affect an ancient monument whether scheduled or unscheduled, the desirability of preserving the monument and its setting is of course a material consideration.

5.92 The Planning Policy Guidance Note on Archaeology (PPG 16) expands on circular 8/87.

para 6 - "Archaeological remains should be seen as a finite, and non-renewable resource, in many cases highly fragile and vulnerable to damage and destruction .... They are part of our sense of national identity and are valuable for both their own sake and for their role in education, leisure and tourism."

para 14 - "... the key to the future of the great majority of archaeological sites and historic landscapes lies with local authorities, acting within the framework set by central government ... as well as with the owners of the site themselves. Appropriate planning policies in

development plans and their implementation through development control will be especially important”

5.95 National guidance is reflected in the Cornwall Structure Plan where policy ENV2 seeks to prevent development which will adversely affect sites of archaeological importance.

#### **7.4.3.3 Policy 25**

Development proposals which would damage scheduled ancient monuments or other archaeological remains of national importance or their settings will not be permitted.

#### **7.4.3.4 Policy 26**

Development proposals which adversely affect locally important archaeological sites held on the county sites and monuments record or identified as a result of a prior archaeological investigation will only be permitted where: (1) physical preservation in-situ is not feasible and the importance of the development outweighs the case for preservation of the remains; and (2) satisfactory arrangements are made for the excavation and recording of the remains before or during development.

5.112 In addition to the Scheduled Ancient Monuments, a large number of archaeological sites have been identified by the County Sites and Monuments Record (SMR). This record is being continuously updated and enlarged as a result of historical research, fieldwork, aerial photography and substantiated reports from the general public.

#### **7.4.3.5 Policy 27**

Where there is evidence to suggest that significant remains may exist on the site of a proposed development the extent and importance of which are unknown, an archaeological assessment will be carried out prior to the granting of planning permission.

5.113 In 1984 the Government acknowledged that the Schedule of Ancient Monuments no longer coincided with the consensus of informed opinion as to the monuments which were of most archaeological and historical interest. The fact that nationally only 2% of known sites and monuments were scheduled was considered to indicate the need for a nation wide review of the archaeological resource. In 1986 the Historic Buildings and Monuments Commission for England began work on the Monuments Protection Programme (MPP) which seeks to review and evaluate existing information (largely drawn from the County Sites and Monuments Records) so that those monuments which are of National Importance can be identified and scheduling or other means of protection can be recommended.

5.116 The Planning Authority supports the Cornwall County Council and its Archaeological Unit in their efforts to record, interpret and preserve the County’s historic landscape and has contributed to the costs of providing the new detailed constraint maps.

5.117 Where proposals are submitted affecting a site which has been identified as having archaeological value, the County Archaeological Officer will be involved from the early stages of negotiations with applicants to ensure proper implementation of these policies.

5.118 Policy 27 will enable the Borough Council to make properly informed decisions on proposals which may affect sites of interest. For well researched known sites an assessment will be relatively straightforward and probably based on existing information. For sites with archaeological potential, small scale surveys, trial trenching etc. may be necessary. A geophysical survey can be an important method of evaluating potential sites.

5.122 The preservation in-situ of important archaeological remains is always to be preferred and this should be the primary objective of all negotiations. If preservation in-situ is not feasible an archaeological excavation for the purpose of preservation by record may be an acceptable alternative. This should always be seen as very much a second best option.

5.123 Where the development is permitted on any site considered to be of potential archaeological value, Policy 26(2) requires the developer to make appropriate and satisfactory arrangements for archaeologists to excavate and record the remains before or during development. This could involve investigation and observation prior to and during the work and the recording of any archaeological deposits, features or finds which might be revealed during the course of the development.

5.128 The CAU (HES) has recently reviewed the Historic settlements of Cornwall and suggested additional settlements which although not conforming with the National definition above are worthy of recognition for their historic importance. The CAU (HES) recommends that these settlements should be designated as Conservation areas. In this plan they have been identified as Areas of Local Architectural or Historic Value.

#### **7.4.4 Hedgerow Regulations**

Under the current, 1997 Hedgerow Regulations, owners wishing to remove all or part of a hedgerow considered to be historically important must notify the Local Planning Authority (LPA). Criteria determining importance include whether the hedge marks a pre-1850 boundary, and whether it incorporates an archaeological feature. The LPA may issue a 'hedgerow retention notice' prohibiting removal.

## **7.5 Archaeological results**

### **7.5.1 Chronological summary of the site and its landscape**

The project area is set within a prehistoric landscape. Both within the project area and just outside it there are known prehistoric sites. Within the area there is an Iron Age/ Romano British round (**site 2**) from which a prehistoric stone axe (**site 3**) was recovered and there are also the possible sites of two other prehistoric enclosures (**sites 1 and 5**), although **site 1** was not detected by the geophysical survey and **site 5** lay in an area which did not produce survey results due to magnetic disturbance in the south-west field. However the survey did identify part of a prehistoric field system in the central and north-eastern fields formed by features [10]-[13] shown on the geophysical survey plot (Fig 17). Neighbouring the area to the south-west there is a known Iron Age/ Romano British round (**site 8**) and associated prehistoric field system (**site 9**). The old A30 from Summercourt through Indian Queens which lies along the north-west edge of the area is alleged to follow the course of a Roman road (**site 10**) and immediately north of the road is another possible prehistoric enclosure (**site 11**) identified by the NMP (although this may be a mining feature (Roseveare and Bellomo, 2011)). During excavation carried out in advance of the construction of the new A30 a small Bronze Age settlement (**site 12**) was uncovered just to the north-east of the proposed solar farm area and a little further to the north-east the site of Penhale round and associated settlement remains were excavated following their discovery. It should be noted that although a geophysical survey of the area containing the Bronze Age settlement (**site 12**) was undertaken, the results of the survey did not identify features associated with the site which were later found during groundworks.

In this landscape Iron Age and Romano-British enclosed settlement sites known as 'rounds' with associated field systems have been identified through the National Mapping Programme

(NMP) and can be seen in the surrounding landscape. It has been increasingly noticed in recent years that settlement associated with rounds does not just occur within the enclosure and there is potential for the remains of other unenclosed structures and settlement related features surviving within the site which may not have been detected by the NMP. There is also the potential for the survival of below-ground remains of Bronze Age sites within the area.

The surrounding medieval landscape is typified by small farming settlements with their associated field systems. The farmland within the site was part of the Glebe estate at St. Enoder from at least 1601 (Glebe lands are lands held by a clergyman as part of the endowment of his benefice). Presumably this land was given to the parish priest of St Enoder at an early date since St Enoder is recorded in the Domesday book of 1086 when it is spelt 'Heglosenuder' (The Church of St. Enoder). Other nearby medieval settlements include Trefullock which is first recorded in 1327 when it is spelt 'Trefulek', Chytane which is first recorded in 1296 when it is spelt 'Tywarton' and Trewheela which is first recorded in 1286 when it is spelt 'Trewhyla'.

Both within the area and immediately outside it are the visible remains of medieval ridge and furrow (**sites 6 and 13**) indicating that the field system that exists within the development area (**site 3**) was formed in the medieval period. The ground may contain buried traces of abandoned medieval field boundaries. In addition, it is suggested that the round (**site 2**) may have been a medieval Plain An Gwarry (an enclosure used as a theatre or arena) or reused as one, since Henderson mentions the name 'Playne Place' alias 'Fayre Park' recorded in the glebe terrier of 1601 (Henderson, 1914).

The geophysical survey has identified several features which are likely to be mining related including what appear to be two rock-cut tunnels ([14] and [15]) and a possible shaft ([18]). Although these features are undated they are likely to be associated with prospecting. The nearest known mining activity is a lode working just to the south of the site on the Chytane Lode and also some stream-working on Trefullock Moor.

A process of map regression helps to understand the recent landscape history of the site. Martyn's map of 1748 (Fig 7) is not greatly detailed but shows the development area bound to the north-west and south-west by the existing roads and to the north-east by a stream running from the road southwards. The c1809 OS surveyors' drawing (Fig 8) is not greatly detailed either and again shows the existing roads and stream.

Field boundaries shown on the St. Enoder Tithe Map (Fig 9), dating to c1840, show that the project area includes elements of Medieval strip field systems. The round (**site 2**) is also depicted on the Tithe Map and is listed on the Apportionment as 'Round'. The Apportionment lists all of the fields within the development area as part of the Glebe estate owned in 1840 by Mrs Betty Stephens; they were in use at this date as arable farmland.

The First Edition OS map of c1880 (Fig 10) indicates that no changes had occurred within the area since c1840. The round (**site 2**) was still marked as 'Round' and an area along the south-eastern edges of all the fields was shown as rough ground or marshland. The Second Edition OS map of c1907 again showed that no changes had occurred to the layout of the area since c1880 and the round (**site 2**) was still marked as 'Round'.

During either the early or mid 20<sup>th</sup> century some houses were built on top of the north-west part of the round (**site 2**) fronting the A30 (see Fig 1). In addition, two field boundaries were removed reducing the number of fields within the area from five to three.

## **7.5.2 Inventory of sites within the proposed development area**

(See Fig 14 for site locations)

### **7.5.2.1 Sites within the assessment area**

#### **Site 1. Possible Iron Age/Romano British round, HER No MCO33739, SW 89750 56760 (centre)**

A large curvilinear feature is visible as a faint cropmark on vertical aerial photographs taken in 1946 in the field to the north-east of a known round. The feature appears to be defined by a ditch and is 73m by 55m in size. Morphologically it is similar to other prehistoric round sites, however the faintness of the cropmark means that a natural or modern agricultural origin cannot be ruled out. This feature was not detected by the geophysical survey.

#### **Site 2. Iron Age/Romano British round, HER No MCO8501, SW 89625 56660 (centre)**

A ploughed down univallate round is extant to the south-east of St Enoder. It was marked on the c1840 Tithe Map and indicated by a number of field names in the area on the Apportionment. Thomas noted the site in 1851, as a single bank and ditch enclosing 0.75 acre (Thomas, 1851). The earthwork has been obliterated in the north by house building and the remaining section is only 38m across. The rampart is now only 0.5m high with a ditch still visible on the south at about 0.4m depth. The site lies on a low ridge but has good views over the surrounding land (Henderson, 1914). While ploughing the site in 1935, the farmer found a stone axehead within the round, which is now in Truro museum. The site was plotted from aerial photographs by the National Mapping Programme. It appears to comprise an outer ditched enclosure, 45m across, with traces of an inner enclosure, approximately 30m across. The enclosure ditch and bank were visible during the site visit (January 2011). The area of the round was excluded from the geophysical survey.

#### **Site 3. Stone axe, HER No MCO1396, SW 89620 56660**

While ploughing in the round (**site 2**) in 1935, the farmer found a stone axe head. This is now in Truro museum.

#### **Site 4. Possible medieval Plain An Gwarry, HER No MCO114, SW 89620 56660**

The OS surveyor in 1970 suggested that the round at St Enoder (**site 2**) may have been a medieval playing place or Plen An Gwarry. Henderson mentions the name 'Playne Place' alias 'Fayre Park' recorded in the glebe terrier of 1601 (Henderson, 1914).

#### **Site 5. Undated mound, HER No MCO33738, SW 89510 56490**

A sub-circular feature is visible as faint cropmarks on vertical aerial photographs taken in 1946 170m to the south-west of the round (**site 2**). The feature appears to be a mound surrounded by a ditch, 47m across, it is of uncertain date or function. It is possible that this is a mine shaft as there appear to be others immediately to the south. The geophysical survey of this area gave an unreadable response due to magnetic interference.

#### **Site 6. Early medieval/medieval ridge and furrow, SW 89901 56698 (centre)**

Early medieval/medieval ridge and furrow has been plotted by the National Mapping Programme from aerial photographs in the south-east corner of the central field.

#### **Site 7. Field system, SW 89894 56830**

This is the field system which extends across the site. All the field boundaries that survive within the site pre-date the c1840 Tithe Map. All of the boundaries are stone-faced earth banks (Cornish hedges) overgrown with grass and brambles, gorse, bracken and small trees including oaks. On average the hedges measure 1.3m high by 1m wide at the base. The field boundaries are recorded in detail on the c1840 Tithe Map (Fig 9) and subsequent c1880 and c1907 OS maps (Figs 10 and 11). All the boundaries are likely to have medieval origins. Remains of removed boundaries, and other early elements of the system, may survive below ground, and some have been identified by the geophysical survey (Figs 17 and 18).

### **7.5.2.2 Sites outside the assessment area**

#### **Site 8. Iron Age/Romano British round, HER No MCO8528, SW 89376 56227 (centre)**

This is a univallate round. It was recorded on the c1840 Tithe map and was called 'Round Field' on the Apportionment, and was noted by Thomas in 1851 as a circular entrenchment enclosing about 2 acres (Thomas, 1851). Henderson described it as being perfectly circular and 75m across, with the northern half of the rampart built into a hedge that still stands up to 2.7m high, with an external ditch up to 0.5m deep. The rest of the rampart has since been demolished but the ditch on the south remains clearly visible. It was plotted as part of the National Mapping Programme.

#### **Site 9. Prehistoric field system, HER No MCO33737, SW 89470 56290**

Fragments of a ditched-defined field system are visible as cropmarks on vertical aerial photographs taken in 1946 to the south-west of the site. The features are undated, however their curved shape and proximity to the round (**site 8**) suggest a prehistoric date.

#### **Site 10. Possible Romano-British road, HER No MCO25660, SW 89400 56540**

The old A30 from Summercourt through Indian Queens is alleged to follow the course of a Roman road.

#### **Site 11. Possible Prehistoric enclosure, HER No MCO33740, SW 89940 57040**

A sub-circular feature is visible on vertical aerial photographs immediately to the north of the A30 at St Enoder. The feature, which is 31m across, appears to be a ditch-defined enclosure. However, it is possible this may be a backfilled mine shaft and its surrounding spoil dump.

#### **Site 12. Bronze Age round house, HER No MCO47679, SW 90334 57198**

Fieldwork carried out in 1993-4 in connection with the construction of the A30 Indian Queens bypass located a quantity of flint and pottery in a field to the west of Penhale. A geophysical survey had previously been carried out in the same area, but the results had proved inconclusive. Following the topsoil strip the area was excavated and a small Middle Bronze Age farmstead was revealed consisting of a round house and another structure, rectangular in plan, possibly having a different function. A sizeable collection of MBA pottery was found in association with numerous pits, postholes and sealed deposits, mostly of Trevisker types.

#### **Site 13. Early medieval/medieval ridge and furrow, HER No MCO49307, SW 90181 56936 (centre)**

Traces of ridge and furrow cultivation, with rigs up to 95m long, are visible as a series of low earth banks on aerial photographs and were digitally plotted as part of the NMP.

#### **Site 14. Early medieval streamworks, HER No MCO49332, SW 89960 56519 (centre)**

The fragmentary remains of tin streamworks are visible on aerial photographs and were plotted as part of the NMP. The remains consist of two cuttings, two leats or water channels and a series of spoil banks.

#### **Site 15. Possible post-medieval decoy pond, HER No MCO26030, SW 89900 56500**

A field named 'Fowling Pool Moor' on the Tithe Map c1840 was probably the site of a decoy pond.

### **7.5.3 Further archaeological potential**

In addition to the known sites (Section 7.5.2) other, buried archaeological remains as yet unrecorded may survive within the extent of the proposed solar farm.

Areas of ‘Anciently Enclosed Land’, of the ‘Medieval farmland’ HLC Type have been shown through interventions such as watching briefs and excavations elsewhere in Cornwall to have high archaeological potential. Buried traces of both secular and ceremonial prehistoric sites, as well as of medieval settlement and farming-related activity, may remain in land of this Type. There is also high potential for ‘stray’ or even *in-situ* artefacts such as pottery and flint surviving in the soils.

## 7.5.2 Geophysical survey results

(See Figs 17 and 18)

Following the completion of the majority of the archaeological assessment a geophysical survey was carried out to include the entire proposal area bar the areas of rough ground along the south-eastern boundaries and the area of the round (**site 2**) (Figs 17 and 18). The survey (carried out by ArchaeoPhysica Ltd) was requested by Wardell Armstrong International to satisfy mitigation measures for geophysical survey which had been recommended as part of this work.

The magnetometer survey proved to work well in the north-eastern and central fields but not in the south-western field where magnetic disturbance meant that the survey for most of this field could not be read and therefore was unusable for supplying evidence for buried archaeological sites. However, in the north-east and central fields the survey identified two groups of anomalies that indicate the probable existence of earlier layouts of field systems. One lies alongside the road and seems likely to have been a series of road side closes defined by ditch fills [1] to [4]. The other group seem to have much earlier origins based upon their form. It comprises a series of broad anomalies [10] to [13], probably from ploughed-down earthworks. These would be typical of prehistoric or perhaps early medieval fields and there are hints that they follow a radial pattern about a focus north of (or perhaps beneath?) the present road (Roseveare and Bellomo, 2011). In addition, the survey has identified linear voids [14] and [15] within the north-east field likely to be associated with mine workings (ie adits or tunnels). There are also the possible sites of two shafts [17] (just outside the site at the north end of [15]) and [18] (at the south end of [15]). The results from the south-west field show two former leats or streams [20] and [21] at the far eastern end of the field (Roseveare and Bellomo, 2011).

## 7.6 Significance

The recorded sites can be split into two groups; those that are certain and those that have still to be confirmed. Of the known archaeological sites that are certain both within and adjacent to the proposed solar farm, two Iron Age/ Romano-British rounds (**sites 2 and 8**) and a Bronze Age settlement (**site 12**) are all considered to be of high significance and of national importance. Together, these sites indicate the area was rich in settlement from the Bronze Age through to the Romano-British period. The recorded archaeological sites still to be confirmed which would fall into the category of regionally important are: a possible Iron Age/ Romano-British round (**site 1**) (this was not identified by the geophysical survey), a possible medieval Plain An Gwarry (**site 4**), an undated ditch-enclosed mound (**site 5**), a possible Roman road (**site 10**) and a possible prehistoric enclosure (**site 11**). The results of a geophysical survey have helped to give either more or less certainty about the existence of certain sites. However, it does not give a full picture of surviving below ground features and results from the south-western field proved for the most part to be unreadable.

The field system and areas of ridge and furrow which are of medieval origin (**sites 7, 6 and 13**) are of moderate significance and of local importance as are the stone axe (**site 3**), the medieval streamworks (**site 14**) and possible medieval decoy pond (**site 15**).

The results of the geophysical survey have shown that several previously unknown features exist within the area. Of greatest significance is the probable prehistoric field system (anomalies [10] to [13]) and another of possible medieval origin ([1] to [4]). Also of significance are possible mining features [14], [15], [17] and [18] although these are likely to be some way below the field surface. The survey results do not show any evidence for the existence of the possible Iron Age/Romano-British round (**site 1**).

In terms of its contribution as the setting of important 'heritage assets' *beyond* its limits, the development area has low significance. Only two scheduled monuments have possible inter-visibility with the site; **CO1070** a preaching pit in Indian Queens which is unlikely to be visible and **32961** four Bronze Age barrows north of Besowsa 2.5km to the south-west of the site on private land. None of the other scheduled monuments within the viewshed appear to be visible. Parts of the site may be visible from seven out of the twelve listed buildings within the viewshed, although five of the seven with possible visibility are milestones.

The development area is significant as part of an area of 'Anciently Enclosed Land'. Within the fields there are visible remnants of medieval ploughing. This land has been glebe land associated with the parish church of St Enoder since at least 1601 and it is likely that its association with the church is of medieval origin. The 'Medieval farmland' within the area is associated with high potential for a significant resource of prehistoric or medieval features, artefacts or deposits surviving below ground.

Finally, it should be noted that the Cornish hedges still in use, considered important under the historic criteria of current hedgerow regulations, contribute to the significance of the proposed solar farm area in several, related ways. The boundaries may contain early fabric and may seal buried soils with evidence of past environments. They also indicate the time depth of the historic landscape here.

## 7.7 Archaeological Impact

### 7.7.1 Types and scale of impact

Two general types of archaeological impact associated with solar farm developments have been identified and summarised by Sharpe (2010) as follows.

#### 7.7.1.1 Types of impact; construction phase

Construction of a solar farm would have direct, physical impacts on the above-ground or buried archaeology of the site: through construction of solar arrays and associated control plant, with undergrounding of cables, and through provision of any works compound/s, and permanent or temporary vehicle access ways into and within the site.

Current plans indicate that the creation of the solar arrays within the project area will entail the driving of piles or anchors on which to site the individual arrays. In addition, linear trenching will be required to house the conduits carrying the cabling linking up the individual arrays. These various works could involve considerable ground disturbance up to around 1m in depth.

Plans of the proposed solar farm at Summercourt show arrays running in rows east-west over perhaps around three quarters of the ground area of the site, leaving corners and margins around the fields (Fig 6). A wider margin between the edge of the fields and the arrays is shown along the south-east side to avoid rough ground and in the area of **site 2** to avoid the round.

### 7.7.1.2 Types of impact; operational phase

A solar farm may be expected to have a visual impact during the operational phase, with tightly-packed arrays of dark glass photovoltaic panels, together forming a surface in the region of 2m above ground level, extending across much of the site.

It is understood that the solar farm is regarded as a temporary development, but that its operational phase might extend for some twenty years, which may be regarded in terms of peoples' experiences of it as a generation.

### 7.7.1.3 Scale and duration of impact

As noted by Sharpe (2010) the impacts of a solar farm on the historic environment may include positive as well as adverse effects. For the purposes of assessment these are evaluated on a seven-point scale:

**positive/substantial**

**positive/moderate**

**positive/minor**

**neutral**

**negative/minor**

**negative/moderate**

**negative/ substantial**

with the additional **negative/unknown** used where an adverse impact is predicted but where, at the present state of knowledge, its degree cannot be evaluated satisfactorily.

The assessment also distinguishes where possible between **permanent** and **temporary** effects, or between those that are **reversible** or **irreversible**, as appropriate, in the application of the scale of impacts.

### 7.7.1.4 Potential and residual impacts

Potential adverse impacts may be capable of mitigation through archaeological recording or other interventions. In the assessments forming the following Section 7.7.2, where appropriate, both 'potential' and 'residual' impacts are given; that is, expected impacts 'before' and 'after' such work. A proposed mitigation strategy is outlined below in Section 7.8.

## 7.7.2 Assessment of impact

Overall, the proposed solar farm on the archaeological resource is assessed as having a potential impact scored as **negative/moderate** without appropriate recording and other mitigating work, and a **negative/minor** residual impact provided that the recommended mitigation is undertaken.

The assessments supporting this general statement are outlined in the following sub-sections. To comply with current policies and guidance (Section 7.4) these provide assessments of impact in terms of different aspects of the archaeological resource - its individual sites, the settings of sites, HLC, and field boundaries. There are inevitably areas of overlap between these categories of impact (the field pattern of the area forming at once a significant individual site, the setting of adjoining assets, and an intrinsic feature of the historic landscape, while including individual historic boundaries, for example); the assessment is adjusted accordingly to avoid 'double counting' of impacts.

### 7.7.2.1 Impact on known individual archaeological sites within the project area

Ground disturbance associated with the installation of supports for solar arrays or cables or with ancillary works could result in permanent, irreversible loss of upstanding or below ground remains of the known archaeological sites within the area, or elements of these. The works if up to around a metre deep might affect buried cut features.

The scale of impact will vary with the significance of the individual site, and with the proportion of the whole site which would be affected. Notably, buried features associated with the possible round (**site 1**) (although, unlikely to be present), the ditch-enclosed mound (**site 5**), the field system (**site 7**), the ridge and furrow (**site 6**) and the probable prehistoric field system identified by the geophysical survey could be disturbed, truncated or removed. Any buried remains of early elements of the medieval field system such as strip field boundaries could be affected. (Potential impacts on historic field boundary banks, the upstanding components of **site 7**, are considered separately, in Section 7.7.2.5.) Impacts on the round and possible playing place (**sites 2 and 4**) should not occur as the layout of the solar arrays has been designed to exclude this area.

Altogether this impact is considered to be potentially **negative/moderate**, with a residual impact of **negative/minor** provided that any significant features identified through assessment are avoided, and/or that appropriate recording and other mitigating work is carried out.

### 7.7.2.2 Impact on the project area as the setting of surrounding key heritage assets

The proposed solar farm is considered to have an impact on the setting of key surrounding heritage assets, summarised as a **negative/minor** impact overall, as follows (see Figs 15 and 16, for locations of SMs and LBs referred to);

- During its operational phase the solar farm would detract from the visibility and understanding of the area as ancient farmland, and so obscure aspects of the significance - as an early farming settlement working this land.
- In operation the solar farm would also possibly have some adverse impact on the settings of Scheduled Monuments (SMs CO1070 and 32961) within the generated viewshed within 5km from the site. Inter-visibility between these SMs and the solar farm site is unclear due to distance and other obscuring objects.
- The above effects would be limited because any direct impact on buried remains identified could be avoided or adequately mitigated (see Section 8) and because the visual impact could be reversible.
- During the operational phase the solar farm could also impact on the settings of up to seven out of the twelve listed buildings within the generated viewshed within the 5km radius. The following listed buildings are possibly inter-visible with the site: 507761, 71310, 71320, 507740, 71309, 71318 and 71307.

### 7.7.2.3 Impact on Historic Landscape Character

A solar farm at Summercourt can be predicted to degrade the historic character of the landscape. The expected effect on HLC is **negative/minor**. Factors contributing to this assessment are as follows;

- Land-take for the project would be substantial but relatively small in comparison with the very large area of the HLC Unit of Medieval Farmland of which it forms part.

- Impact in terms of physical loss during the construction phase of the upstanding boundaries which form the visible components of HLC would be **neutral** or **negative/minor**.
- Visual impact throughout the operational phase would mean the loss of visibility of historic open farmland, reduced visibility of semi-natural hedgerows, and low but extensive introduction of modern design and materials.
- Some scope for mitigating measures to reduce or avoid this impact on HLC has been identified. (These relate to treatment of the historic boundary banks which form the major tangible component of HLC here; see Sections 7.8.2 and 7.8.5).
- However the impacts on the legibility of HLC could be largely or wholly reversible should the solar farm installations be removed in the future.

#### **7.7.2.4 Other archaeological impact**

Any ground disturbing works here could encounter significant buried prehistoric or medieval remains (see Section 7.5), resulting in permanent, irreversible loss of these, or elements of them. This potential impact is assessed as **negative/unknown** as specific evidence for the nature and extent of any such remains is limited to that of aerial photography and geophysical survey. It is likely that it could be mitigated satisfactorily through archaeological recording, reducing the residual impact to **neutral** or **negative/minor**.

#### **7.7.2.5 Impact on historic field boundaries**

It is understood that it is proposed that the solar farm scheme would not involve removal of the historic field boundaries, which show derivation from a medieval strip-derived field system. However without full details of any proposed undergrounded cable ways, works access routes etc. which might entail disturbance to the Cornish hedges or their gateways, there remains a potential **negative/minor** impact on these features. It is likely that it could be mitigated satisfactorily through archaeological recording, and if appropriate, careful, guided reconstruction; reducing the residual impact on boundaries to **neutral**.

## **7.8 Mitigation Strategy**

### **7.8.1 Development of pre-construction recording; geophysical survey**

A geophysical (magnetometer/gradiometer) survey was recommended for the whole area and has since been undertaken. This has allowed:

- Identification of buried sites, not visible on the ground or on the NMP plot, allowing sensitive ground to be identified as closely as possible without disturbance in this area of high archaeological potential.

To follow on from the full results of the geophysical survey a Written Scheme of Investigation (WSI) should be prepared and agreed to establish and direct a programme of mitigating archaeological work. This should follow a Brief set by Cornwall Council's Historic Environment Advice Team, which would set out the scope of any further work required. It is likely to include the elements outlined below.

### **7.8.2 Close design of proposed works to reduce impact**

The archaeological assessment indicates that careful design of the proposed solar farm to avoid or reduce particular impacts should be considered;

- **Field system (Site 7)** Disturbance (through works such as cable laying, gateway opening or widening) of the fabric of the upstanding elements of the medieval field system, the Cornish hedges still in use as field boundaries, should be avoided or minimised to reduce loss of early features and of their contribution to HLC (see also Section 7.7.5).

### **7.8.3 Controlled soil stripping and archaeological watching brief**

Controlled soil stripping (direction by an archaeologist of mechanical topsoil and subsoil stripping) is recommended either where any large areas of ground are to be disturbed (including works compounds) or in areas where significant geophysical survey results have been identified and which remain proposed for ground disturbance in the final scheme design. This would provide for preservation by record of buried archaeological features or artefacts, and would also allow identification of any further recording or other needs such as wider excavation or sampling. In other areas where narrow trenches or small areas of ground disturbance are proposed, an archaeological watching brief during groundworks may be more suitable.

### **7.8.4 Excavation**

Archaeological excavation may be appropriate in advance of any ground disturbance in areas where features of high significance are found during the geophysical survey or controlled soil strip.

### **7.8.5 Boundary recording and reconstruction**

Any of the historic field boundaries or parts of these disturbed by the works should be recorded in advance. Where sections of boundaries are to be taken down to allow access for construction vehicles or for cable routes, sections through them should be drawn at a suitable scale. Boundaries should also be sampled for buried soils and palaeoenvironmental evidence if considered appropriate by the recording archaeologist. If possible boundaries so disturbed should be re-instated using original or similar local rubble stone, and in the existing style.

### **7.8.6 Analysis and presentation of findings**

The results of the mitigating archaeological recording outlined above should be compiled and analysed, and significant findings should be presented as required, with publication to professional standards as appropriate.

## **7.9 References**

### **7.9.1 Primary sources**

Cornwall HER

Thomas Martyn, 1748. Map of Cornwall (photocopy at HE)

Ordnance Survey, c1809. *2 Inch Drawing*

Tithe Map and Apportionment, c1840. *Parish of St. Columb Major* (digital and microfiche copies at HE)

Ordnance Survey, c1880. *25 Inch Map* First Edition (licensed digital copy at HE)

Ordnance Survey, c1907. *25 Inch Map* Second Edition (licensed digital copy at HE)

Ordnance Survey, 2007. *Mastermap Digital Mapping*

## 7.9.2 Publications

Cornwall County Council 1994. *Cornwall Landscape Assessment* Truro

Gover, J E B, 1948. *Placenames of Cornwall*. Typescript held by the Courtney Library, RCM

Henderson, C. 1914. Notebooks of Parochial Antiquities. MS At RIC. 172-173

Jones, A in Jones, Jones, Nowakowski and Thorpe, 1994. *Penhale Moor Excavation 1994 Archive Report* CAU report Truro

Padel, O, 1985. *Cornish Place-Name Elements*, English Place-name Society: Nottingham

Parkes, C, 2010. *Proposed Brill Solar Farm, Constantine, Cornwall Archaeological Assessment* Cornwall Council: Truro

Roseveare, MJ and Bellomo, T, 2011. *Summercourt, Cornwall, Geophysical Survey Report* ArchaeoPhysica Ltd, Hereford

Sharpe, A, 2010. *Proposed Four Burrows Solar Farm, Cornwall Archaeological Assessment* Cornwall Council: Truro

Sturgess, J, 2010. *Proposed Kerow Solar Farm, Newquay, Cornwall, Archaeological Assessment* Cornwall Council: Truro

Sturgess, J, 2010. *Proposed Penhale Solar Farm, Wadebridge, Cornwall, Archaeological Assessment* Cornwall Council: Truro

Thomas, R. 1851. *Letters to the West Briton*. At CSL, Redruth. NO 40

## 7.9.3 Project archive

The HE project number is **2010119**

The project's documentary, photographic and drawn archive is housed at the offices of Historic Environment, Cornwall Council, Kennall Building, Old County Hall, Station Road, Truro, TR1 3AY. The contents of this archive are as listed below:

1. A project file containing site records and notes, project correspondence and administration.
2. Digital photographs and map drawings stored in the directory R:\Historic Environment (Images)\SITES.Q-T\Summercourt solar farm 2010119
3. Viewshed mapping stored in the directory L:\Historic Environment (Data)\HE\_Information\Viewsheds\Solar\_Panels\Summercourt\_solar\_multiple\_views hed.shp
4. This report text is held in digital form as: G:\Historic Environment (Documents)\HE Projects\Sites\Sites S\Summercourt solar farm assessment 2010119\report 2010119\report 2010119

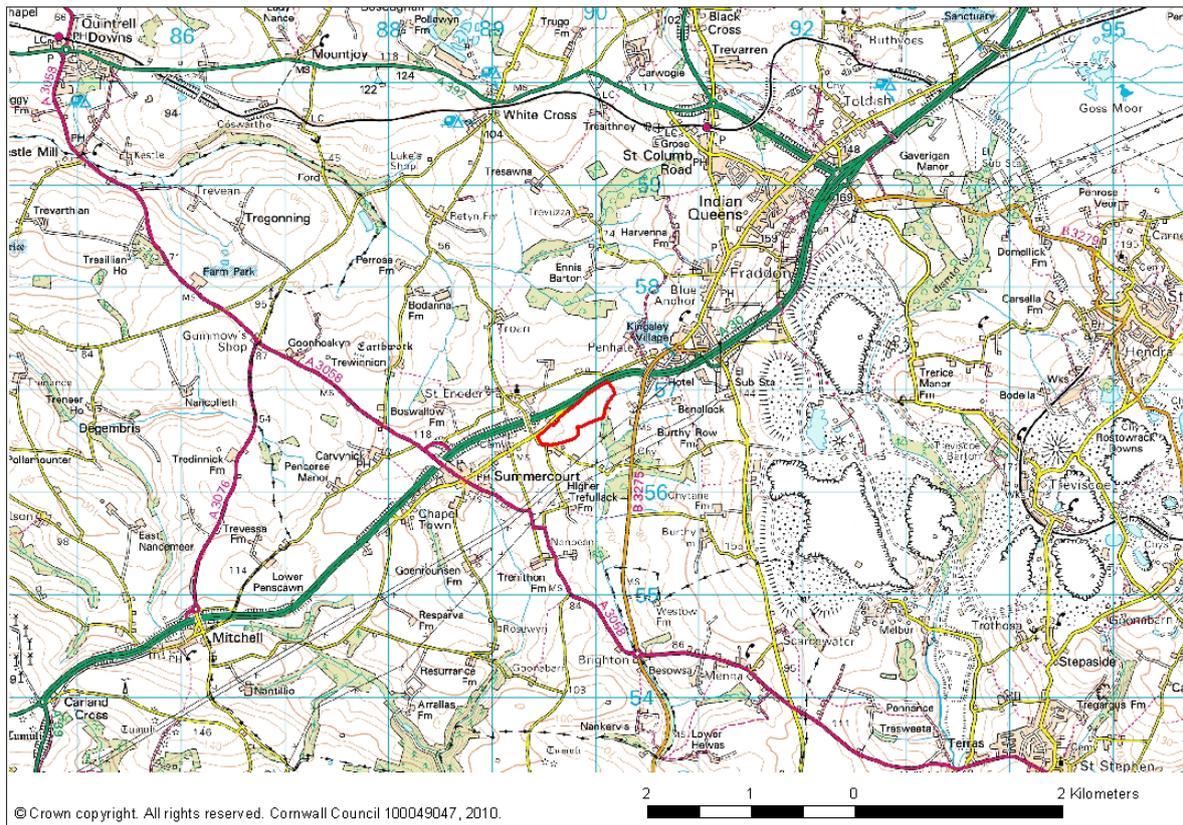


Fig 5 Location map

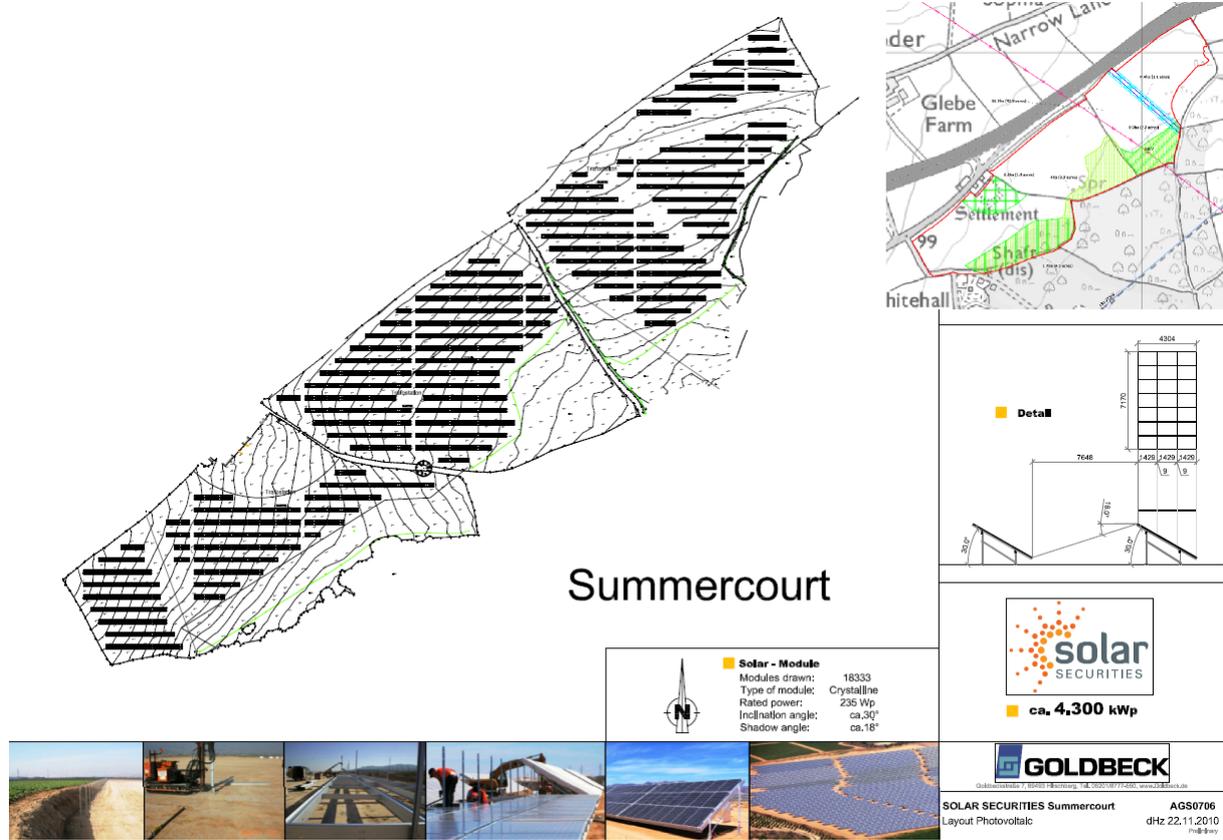


Fig 6 Plan of the proposed solar farm, showing solar arrays with a buffer zone around the round (site 2) on the northern edge.

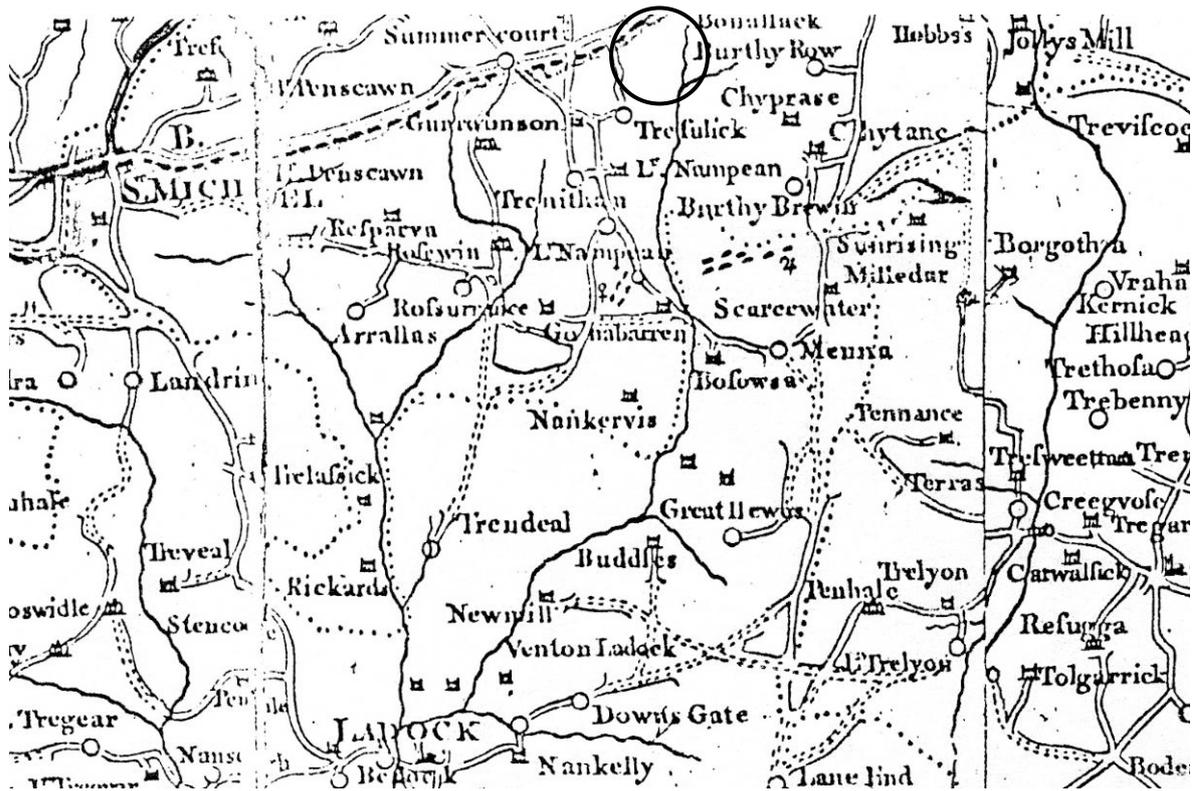


Fig 7 Thomas Martyn's map of 1748

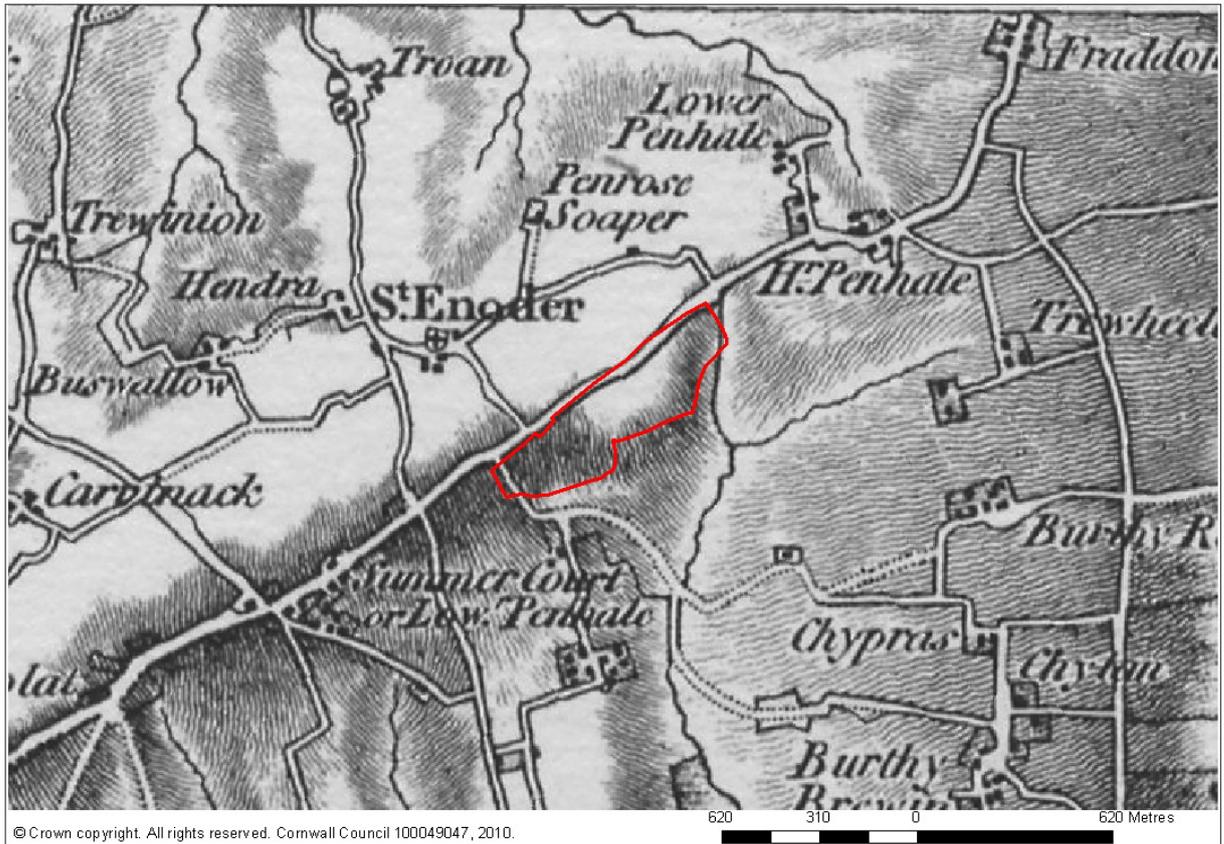


Fig 8 The area on the 1809 OS Surveyors' drawing

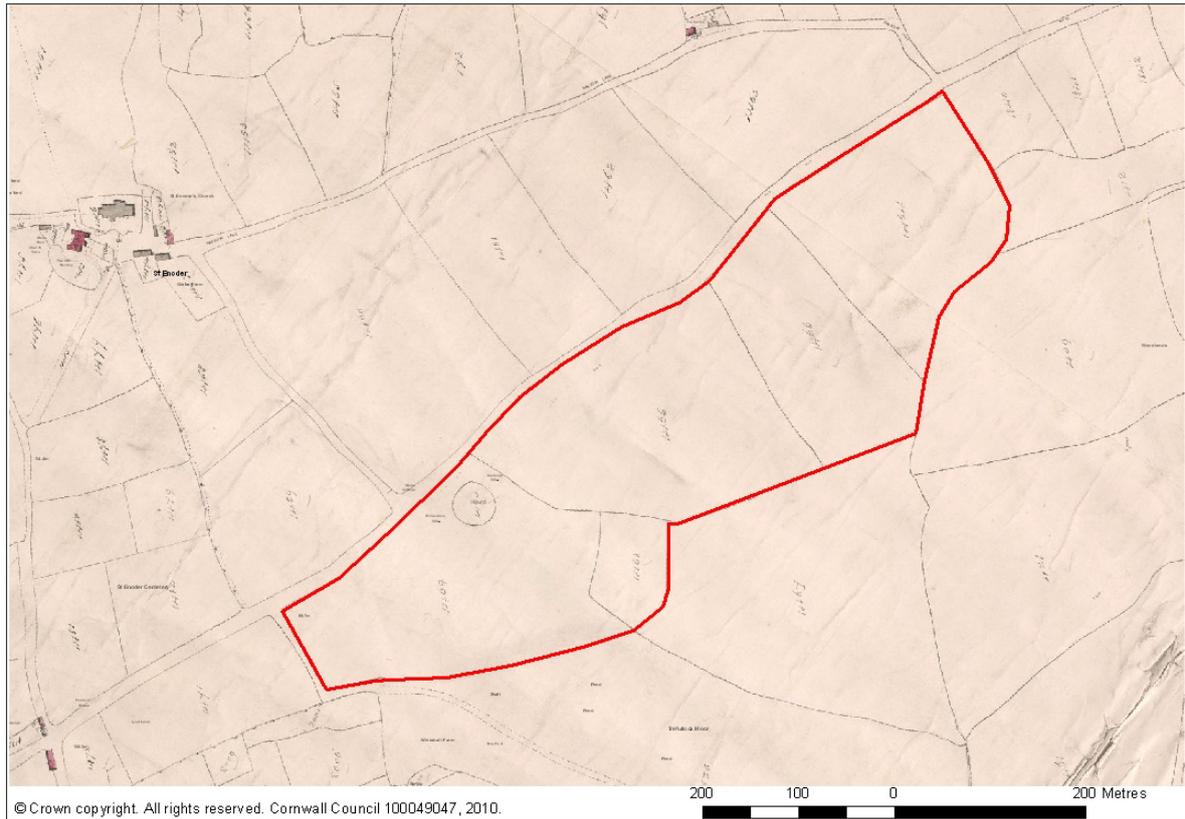


Fig 9 Tithe map c1840 for the Parish of St Enoder showing the round (site 2), left centre.

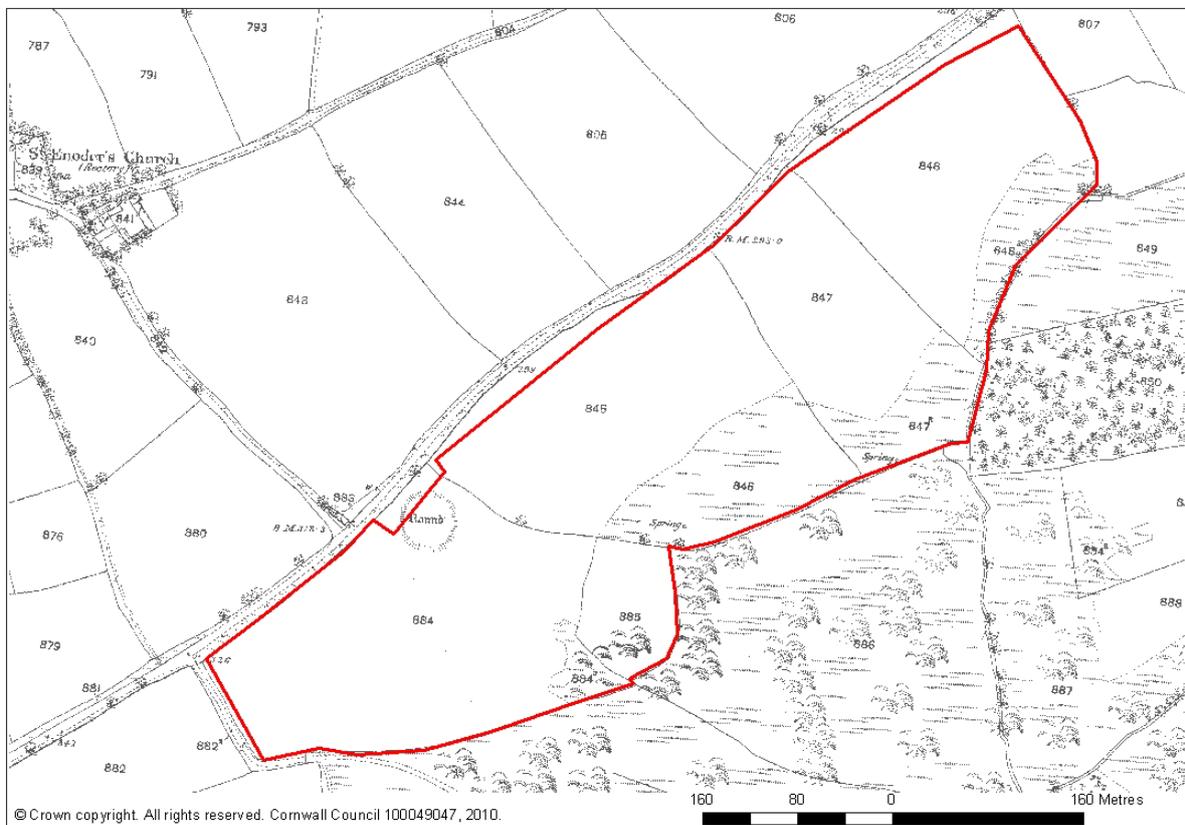


Fig 10 First edition OS map of c1880 again showing the round (site 2).

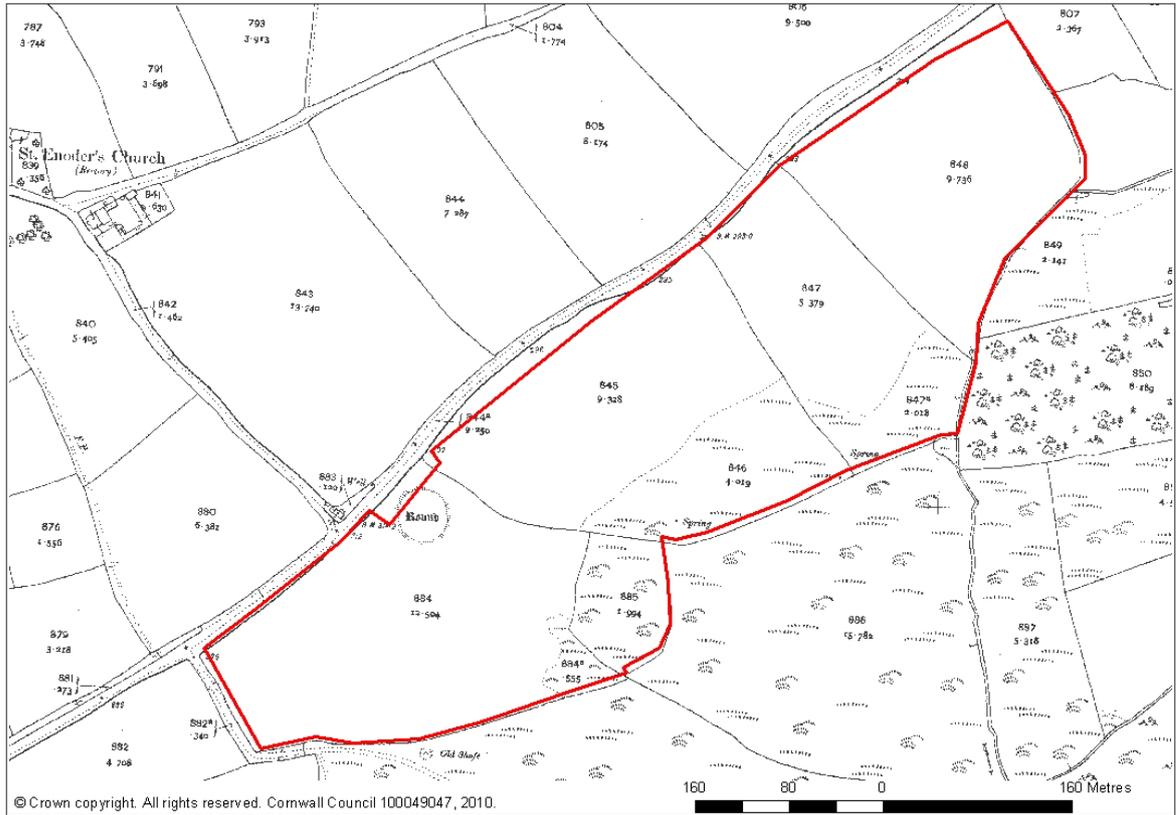


Fig 11 Second edition OS map of c1907

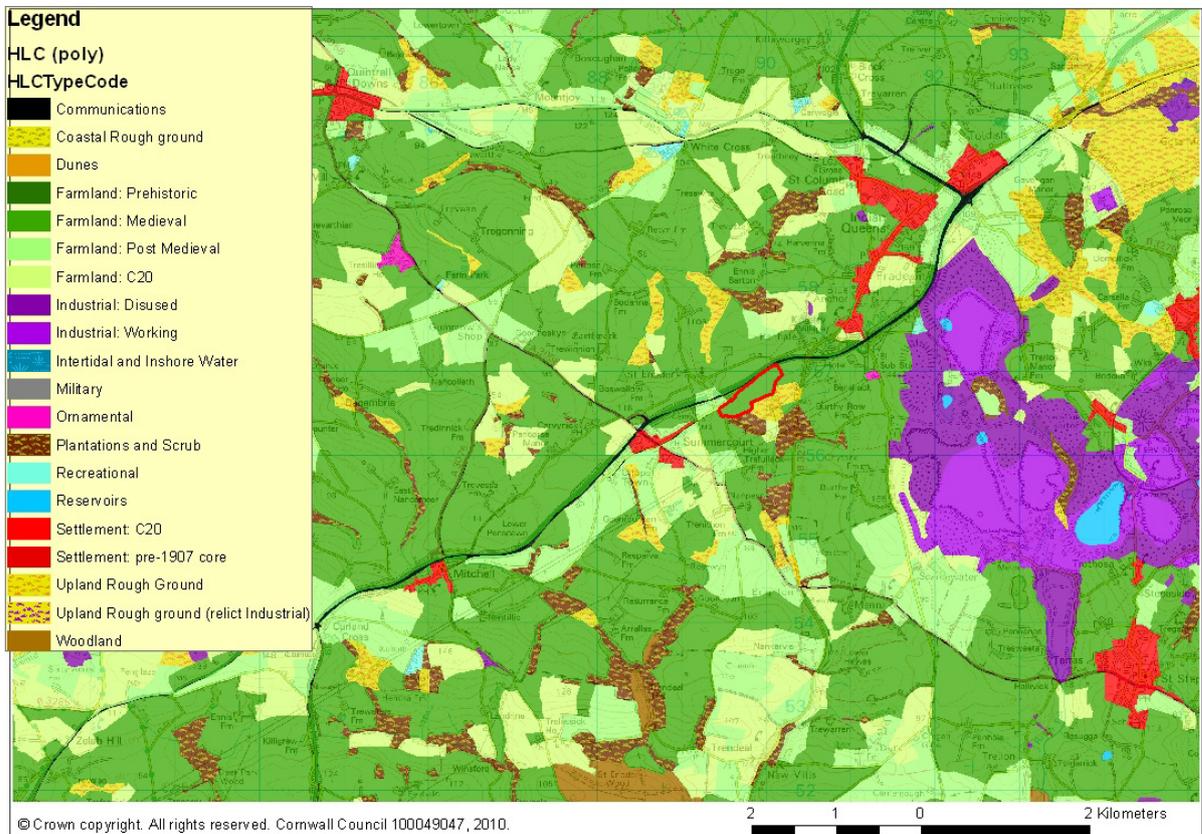


Fig 12 The 1994 HLC mapping, showing the site within a large tract of 'Medieval farmland'

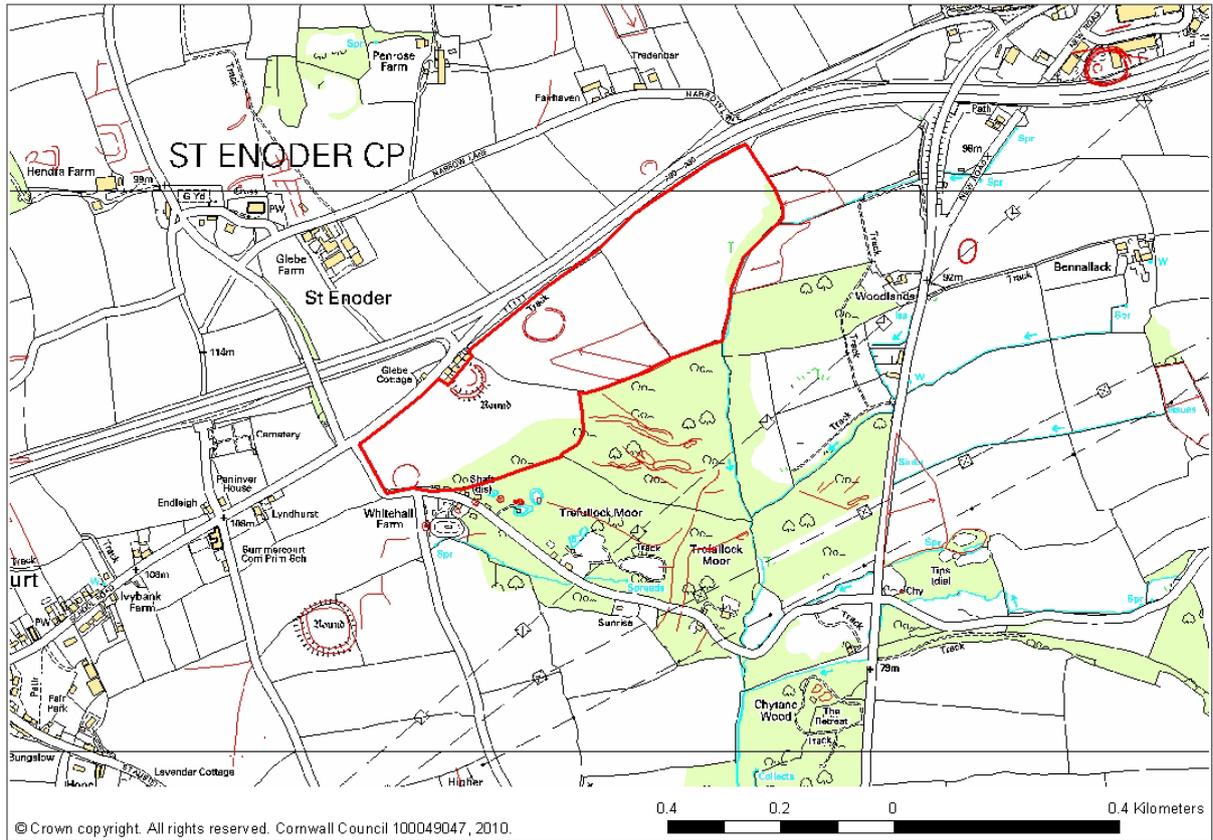
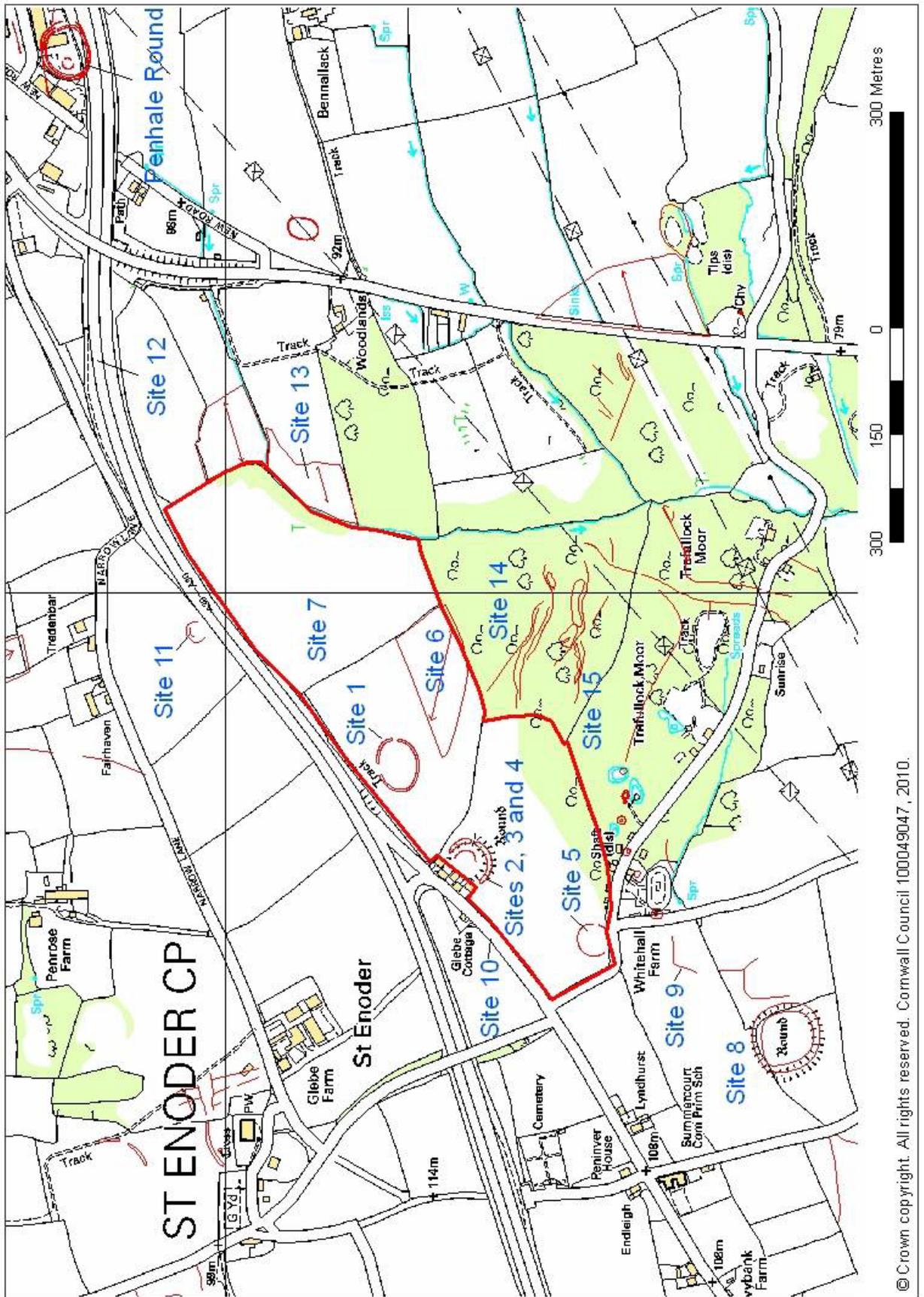


Fig 13 Distribution of Iron Age/Romano-British rounds/enclosures plotted by the NMP within a 1km radius of the site.



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Fig 14 Archaeological sites location map

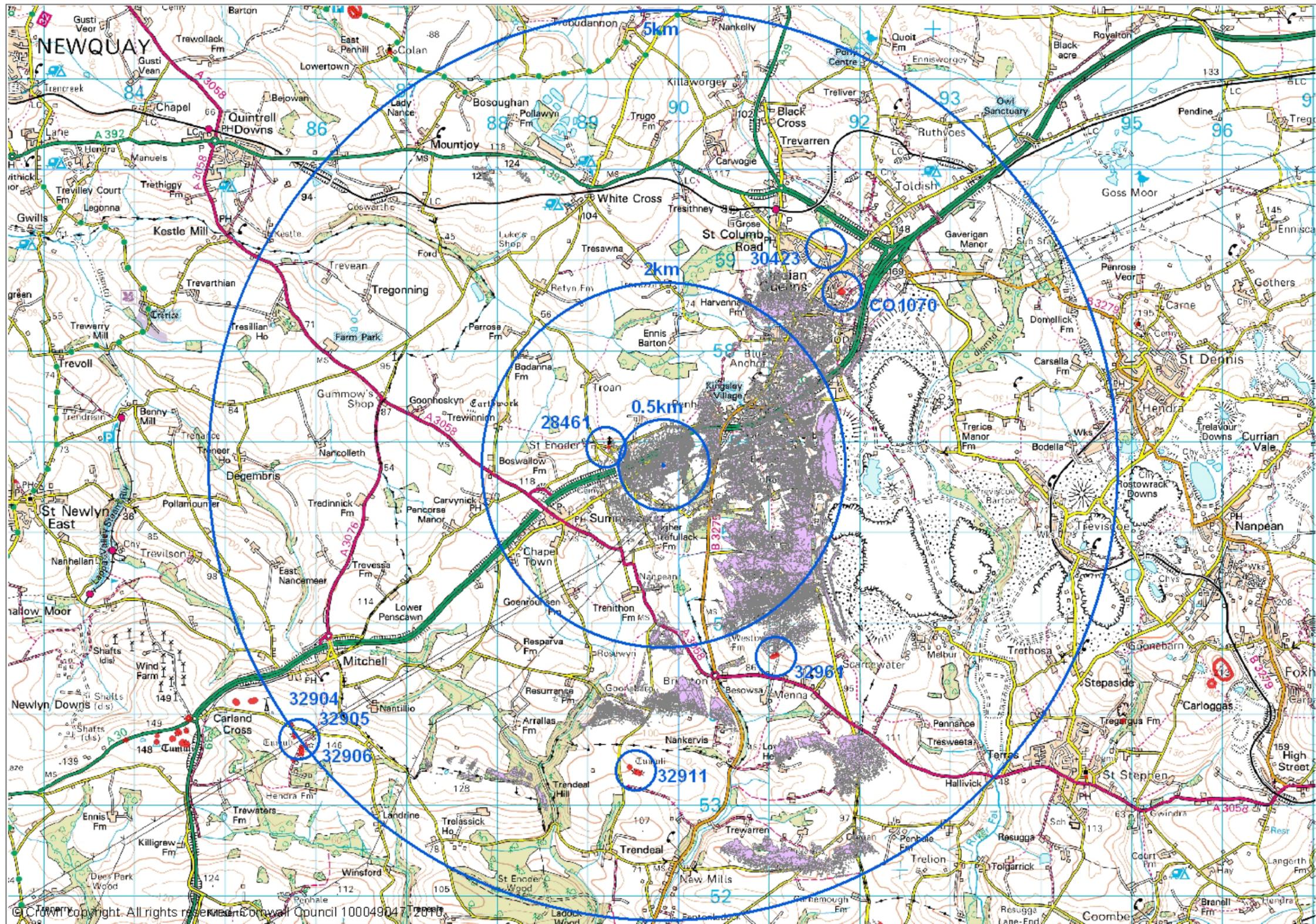


Fig 15 Map showing the computer generated views of the proposed solar farm (in purple), and Scheduled Monuments (red but circled in blue) within a 5km radius



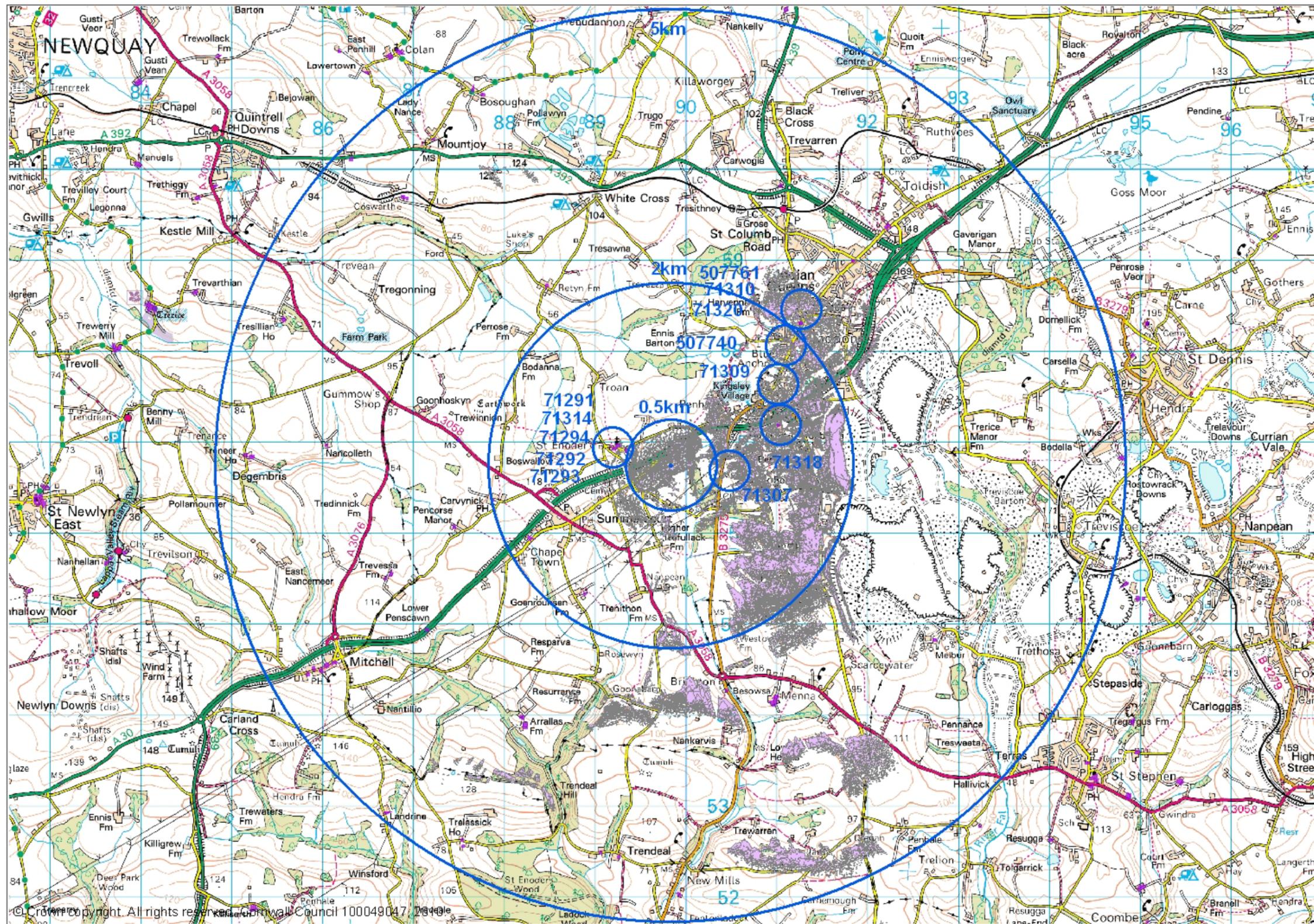


Fig 16 Map showing the computer generated viewsbed of the proposed solar farm (in purple), and listed buildings (dark purple but circled in blue) potentially visible within a 5km radius



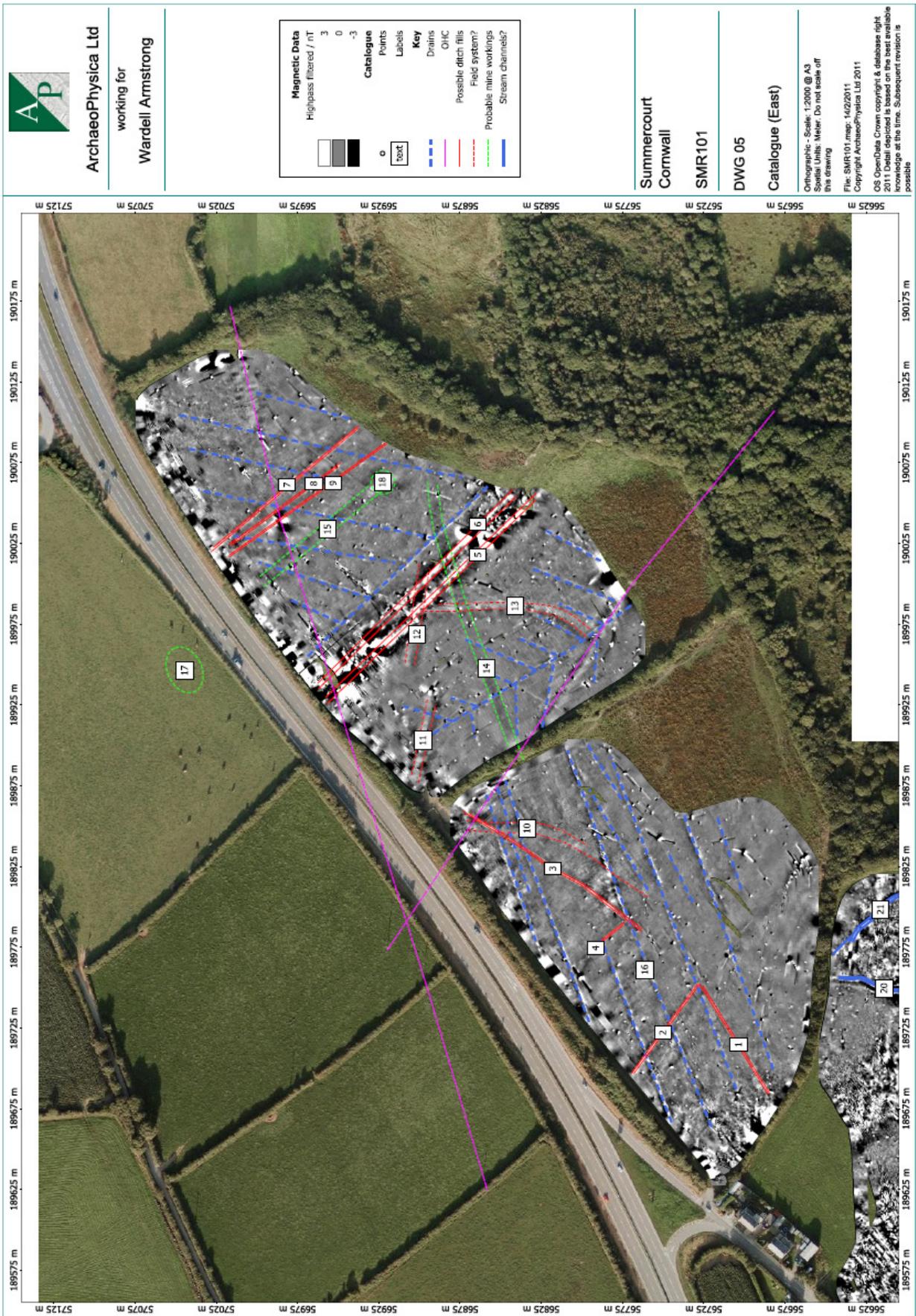


Fig 17 Geophysical survey with overlying interpretation of north-east and central fields (© ArchaeoPhysica Ltd)

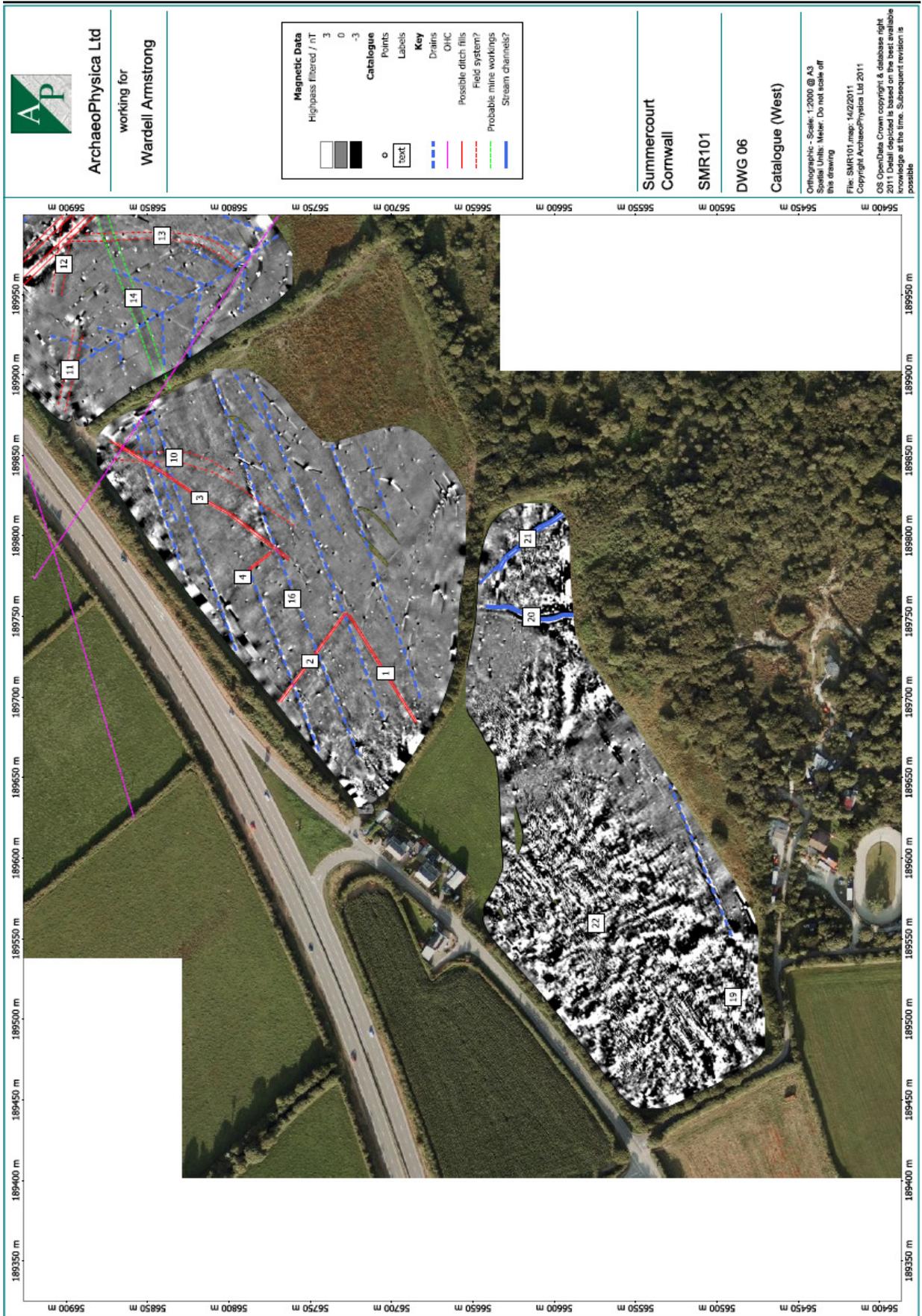


Fig 18 Geophysical survey with overlying interpretation of central and south-west fields (© ArchaeoPhysica Ltd)