LAND WEST OF PENCOOSE FARM
STITHIANS
CORNWALL

Results of a Heritage Impact Assessment

South West Archaeology Ltd. report no. 220223

ARCHAEOLOGICAL SERVICES & HISTORIC BUILDING RECORDING
SOUTHWEST ARCHAEOLOGY

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Land west of Pencoose Farm, Stithians, Cornwall

Results of a Heritage Impact Assessment

By F. Balmond MCIfA & Peter Webb

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Work undertaken by SWARCH for a Private Client

SUMMARY

This report presents the results of a heritage impact assessment carried out by South West Archaeology Ltd. (SWARCH) for a proposed PV development at Land west of Pencoose Farm, Stithians, Cornwall.

The site lies in the parish of Stithians which derives its name from an unknown female saint. The nearest manor recorded at Domesday was Tregoose, to the south-east of the site; a small manor held by King William at Domesday having been held by Earl Harold in 1066 as overlord with a number of Lords recorded. Lysons records the Manor of Stithians as having been held in the reign of Edward II by Matthew Penfern, passing to the Carminows, the Arundells of Lanhearne until 1800 when it was sold to three brothers named Bath. The tithe apportionment of 1840 shows the majority of the proposed site to have been in the ownership of Lady Frances Basset at this time, with two plots being held by William Martin, who was also the occupier of the majority of the plots owned by Lady Basset.

It is proposed to install a c.7.4 hectare PV development on this site. This assessment has shown that the site and surrounding area has been subject to limited change during the 19th and 20th century, the main notable change being the removal of a number of field boundaries within and around the site, and more recently the construction of a PV development to the north of the site. It does not appear that the site itself has been subject to any archaeological investigation, although a heritage assessment was carried out for the fields to the north prior to the grant of planning permission for the PV development. Within a 1km radius of the site there are 24 Listed Buildings (1 Grade II). The closest Scheduled Monument to the site is a round 280m south west of Trebowland, to the north west of the site. Two scheduled crosses are also located within Stithians, close to the churchyard. The Gwennap mining district of the Cornwall and West Devon Mining Landscape World Heritage Site lies c.660m to the north east of the site.*

*The results of the geophysical survey would suggest that the archaeological potential for the site is moderate. The majority of the identified features relate to historic phases of field-system which are tentatively suggested as being medieval and post-medieval in date, though the presence of possible prehistoric settlement features on the site and within the surrounding landscape means that a prehistoric or Romano-British date cannot be ruled out. The overall impact of the proposed development can be assessed as **Moderate Adverse**. Recommendations and proposed mitigation measures have been made as part of this assessment which have the potential to reduce the impact of the proposed development to Slight Adverse. The impact of the development on any buried archaeological resource would be **irreversible.***

February 2023

CONTENTS

LIST OF FIGURES

LIST OF TABLES

LIST OF APPENDICES

ACKNOWLEDGEMENTS

THE LANDOWNER, FOR ACCESS
THE CLIENT

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1.0 INTRODUCTION

LOCATION: LAND WEST OF PENCOOSE FARM
PARISH: STITHIANS
COUNTY: CORNWALL
CENTROID NGR: SW 73462 37993
PLANNING NO. PRE PLANNING
SWARCH REF. SPBC22
OASIS REF. southwes1-510982

1.1 PROJECT BACKGROUND

South West Archaeology Ltd. (SWARCH) was commissioned to undertake a heritage impact assessment for a proposed solar PV development on Land west of Pencoose Farm, Stithians, Cornwall. This work was undertaken in accordance with best practice and CIfA guidelines.

1.2 TOPOGRAPHY AND GEOLOGY

The proposal site is located *c*.1km to the north of the settlement of Stithians, c.1.8km to the west of Ponsanooth and *c*.2.3km south east of Lanner. The plot lies west of Pencoose Farm at a height of *c*.140m AOD. The soils are the well-drained gritty loamy soils of the Moretonhampstead association (SSEW 1983), which overlie granite of the Carnmenellis Intrusion (BGS 2022).

1.3 HISTORICAL & ARCHAEOLOGICAL BACKGROUND

The site lies in the parish of Stithians which derives its name from an unknown female saint (University of Nottingham 2022). The nearest manor recorded at Domesday was Tregoose, to the south-east of the site, a small manor held by King William at Domesday having been held by Earl Harold in 1066 as overlord with a number of Lords recorded. Lysons records the Manor of Stithians as having been held in the reign of Edward II by Matthew Penfern, passing to the Carminows, the Arundells of Lanhearne until 1800 when it was sold to three brothers named Bath (Lysons 1814). The tithe apportionment of 1840 shows the majority of the proposed site to have been in the ownership of Lady Frances Basset at this date, with two plots being held by William Martin, who was also the occupier of the majority of the plots owned by Lady Basset. William Martin appears to have been a considerable land owner in his own right, owning around 25 plots in the parish and occupying almost 100 more.

The proposal site and surrounding area has been subject to limited change during the 19th and 20th century, the main notable change being the removal of a number of field boundaries within and around the site, and more recently the construction of a solar PV development to the north. The site falls into an area classified as *Farmland: Medieval* by the Cornwall and Scilly Historic Landscape Characterisation, although the small fields shown on the tithe map and the prosaic field names could suggest it is an area of later enclosure. It does not appear that the site itself has been subject to any archaeological investigation, although a heritage assessment was carried out for the fields to the north prior to the grant of planning permission for the solar PV development. A geophysical survey and watching brief was also carried out at this site. The geophysical survey (Stratascan 2014) identified a number of linear features which were considered to relate to field boundaries and footpaths. Modern anomalies of magnetic debris, ferrous objects etc were also recorded. The watching brief confirmed the presence of boundaries shown on the geophysical survey, several of which were also visible on historic mapping (Cotswold Archaeology 2015).

Within a 1km radius of the site there are 24 Listed Buildings (1 Grade II*). The closest Scheduled Monument to the site is a round 280m south-west of Trebowland, to the north-west of the site.

Two scheduled crosses are also located within Stithians, close to the churchyard. The Gwennap mining district of the Cornwall and West Devon Mining Landscape World Heritage Site lies *c*.660m to the north-east of the site. There are no Registered Parks and Gardens within 1km of the site.

1.4 METHODOLOGY

This archaeological assessment was undertaken in accordance with best practice. The heritage assessment follows the guidance outlined in: Conservation Principles: policies and guidance for the sustainable management of the historic environment (English Heritage 2008), The Setting of Heritage Assets (Historic England 2015), Seeing History in the View (English Heritage 2011), Managing Change in the Historic Environment: Setting (Historic Scotland 2010), and with reference to Guidelines for Landscape and Visual Impact Assessment 3rd Edition (Landscape Institute 2013). The impact assessment also follows the guidance outlined in the Principles of Cultural Heritage Impact Assessment in the UK produced by CIfA, IHBC and IEMA in July 2021.

The geophysical (gradiometer) survey follows the guidance outlined in *Geophysical Survey in Archaeological Field Evaluation* (English Heritage 2008b); *Standard and Guidance for Archaeological Geophysical Survey* (CIfA 2014b); *EAC Guidelines for the use of geophysics in Archaeology: Questions to Ask and Points to Consider* (Europae Archaeologiae Consilium/European Archaeological Council 2016).

'Archaeological geophysical survey uses non-intrusive and non-destructive techniques to determine the presence or absence of anomalies likely to be caused by archaeological features, structures or deposits, as far as reasonably possible, within a specified area or site on land, in the inter-tidal zone or underwater. Geophysical survey determines the presence of anomalies of archaeological potential through measurement of one or more physical properties of the subsurface.' (Standard and Guidance for Archaeological Geophysical Survey 2014).

The results of the survey will, as far as possible, inform on the presence or absence, character, extent and in some cases, apparent relative phasing of buried archaeology to inform a strategy to mitigate any threat to the archaeological resource.

FIGURE 1: SITE LOCATION. ORDNANCE SURVEY © CROWN COPYRIGHT 2022. ALL RIGHTS RESERVED. LICENCE NUMBER 100022432

2.0 HERITAGE IMPACT ASSESSMENT

2.1 HERITAGE IMPACT ASSESSMENT - OVERVIEW

The purpose of heritage impact assessment is twofold: Firstly, to understand – insofar as is reasonably practicable and in proportion to the importance of the asset – the significance of a historic building, complex, area, monument or archaeological site (the 'heritage asset'). Secondly, to assess the likely effect of a proposed development on the heritage asset (direct impact) and/or its setting (indirect impact). The methodology employed in this assessment is based on the approach outlined in the relevant DoT guidance (DMRB LA 104 2020), used in conjunction with the ICOMOS (2011) guidance and the staged approach advocated in *The Setting of Heritage Assets* (GPA3 2nd Ed Historic England 2017). The methodology employed in this assessment can be found in Appendix 2.

2.2 NATIONAL POLICY

General policy and guidance for the conservation of the historic environment are now contained within the *National Planning Policy Framework* (Department for Communities and Local Government 2021). The relevant guidance is reproduced below:

Paragraph 189
Heritage assets range from sites and buildings of local historic value to those of the highest significance, such as World Heritage Sites which are internationally recognised to be of Outstanding Universal Value. These assets are an irreplaceable resource and should be conserved in a manner appropriate to their significance, so that they can be enjoyed for their contribution to the quality of life of existing and future generations.

Paragraph 194
In determining applications, local planning authorities should require the applicant to describe the significance of any heritage assets affected, including the contribution made by their setting. The level of detail should be proportionate to the assets' importance and no more than is sufficient to understand the potential impact of the proposal on their significance. As a minimum the relevant historic environment record should be consulted and the heritage assets assessed using appropriate expertise where necessary. Where a site on which a development is proposed includes or has the potential to include heritage assets with archaeological interest, local planning authorities should require developers to submit an appropriate desk-based assessment and, where necessary, a field evaluation.

Paragraph 195
Local planning authorities should identify and assess the particular significance of any heritage asset that may be affected by a proposal (including by development affecting the setting of a heritage asset) taking account of the available evidence and any necessary expertise. They should take this assessment into account when considering the impact of a proposal on a heritage asset, to avoid or minimise conflict between the heritage asset's conservation and any aspect of the proposal.

Paragraph 206
Local planning authorities should look for opportunities for new development within Conservation Areas and World Heritage Sites, and within the setting of heritage assets, to enhance or better reveal their significance. Proposals that preserve those elements of the setting that make a positive contribution to the asset (or which better reveal its significance) should be treated favourably.

A further key document is the Planning (Listed Buildings and Conservation Areas) Act 1990, in particular section 66(1), which provides *statutory protection* to the setting of Listed buildings:

In considering whether to grant planning permission for development which affects a listed building or its setting, the local planning authority or, as the case may be, the Secretary of State shall have special regard to the desirability of preserving the building or its setting or any features of special architectural or historic interest which it possesses.

Paragraph 207
Not all elements of a Conservation Area or World Heritage Site will necessarily contribute to its significance. Loss of a building (or other element) which makes a positive contribution to the significance of the Conservation Area or World Heritage Site should be treated either as substantial harm under paragraph 201 or less than substantial harm under paragraph 202, as appropriate, taking into account the relative significance of the element affected and its contribution to the significance of the Conservation Area or World Heritage Site as a whole.

2.3 LOCAL POLICY

Policy 24: *Cornwall Local Plan: Strategic Policies 2010-2030*:

Policy 24: Historic environment
Development proposals will be permitted where they would sustain the cultural distinctiveness and significance of Cornwall's historic rural, urban and coastal environment by protecting, conserving and where appropriate enhancing the significance of designated and non-designated assets and their settings.

Development proposals will be expected to:
- *sustain designated heritage assets;*
- *take opportunities to better reveal their significance;*
- *maintain the special character and appearance of Conservation Areas, especially those positive elements in any Conservation Area Appraisal;*
- *conserve and, where appropriate, enhance the design, character, appearance and historic significance of historic parks and gardens;*
- *conserve and, where appropriate, enhance other historic landscapes and townscapes, including registered battlefields, including the industrial mining heritage;*
- *protect the historic maritime environment, including the significant ports, harbours and quays.*

Development within the Cornwall and West Devon Mining Landscape World Heritage Site (WHS) and its setting should accord with the WHS Management Plan. Proposals that would result in harm to the authenticity and integrity of the Outstanding Universal Value, should be wholly exceptional. If the impact of the proposal is neutral, either on the significance or setting, then opportunities to enhance or better reveal their significance should be taken.

All development proposals should be informed by proportionate historic environment assessments and evaluations (such as heritage impact assessments, desk-based appraisals, field evaluation and historic building reports) identifying the significance of all heritage assets that would be affected by the proposals and the nature and degree of any effects and demonstrating how, in order of preference, any harm will be avoided, minimised or mitigated.

Great weight will be given to the conservation of the Cornwall's heritage assets. Where development is proposed that would lead to substantial harm to assets of the highest significance, including undesignated archaeology of national importance, this will only be justified in wholly exceptional circumstances, and substantial harm to all other nationally designated assets will only be justified in exceptional circumstances.

Any harm to the significance of a designated or non-designated heritage asset must be justified. Proposals causing harm will be weighed against the substantial public, not private, benefits of the proposal and whether it has been demonstrated that all reasonable efforts have been made to sustain the existing use, find new uses, or mitigate the extent of the harm to the significance of the asset; and whether the works proposed are the minimum required to secure the long term use of the asset.

In those exceptional circumstances where harm to any heritage assets can be fully justified, and development would result in the partial or total loss of the asset and/or its setting, the applicant will be required to secure a programme of recording and analysis of that asset, and archaeological excavation where relevant, and ensure the publication of that record to an appropriate standard in a public archive.

Proposals that will help to secure a sustainable future for the Cornwall's heritage assets, especially those identified as being at greatest risk of loss or decay, will be supported.

2.4 STRUCTURE OF ASSESSMENT – DIRECT AND INDIRECT IMPACTS

This assessment is broken down into two main sections. Section 3.0 addresses the *direct impact* of the proposed development i.e. the physical effect the development may have on heritage assets within, or immediately adjacent to, the development site. Designated heritage assets on or close to a site are a known quantity, understood and addressed via the *design and access statement* and other planning documents. Robust assessment, however, also requires a clear understanding of the value and significance of the *archaeological* potential of a site. This is achieved via the staged process of archaeological investigation detailed in Section 3.0. Section 4.0 assesses the likely effect of the proposed development on known and quantified designated heritage assets in the local area. In this instance the impact is almost always indirect i.e. the proposed development impinges on the *setting* of the heritage asset in question and does not have a direct physical effect.

2.5 DEVELOPMENT PROPOSALS

The proposed development comprises a PV development of approximately 7.4 hectares.

3.0 DIRECT IMPACTS

3.1 STRUCTURE OF ASSESSMENT

For the purposes of this assessment, the *direct effect* of a development is taken to be its direct physical effect on the buried archaeological resource. In most instances the effect will be limited to the site itself. However, unlike designated heritage assets (see Section 4.0) the archaeological potential of a site, and the significance of that archaeology, must be quantified by means of a staged programme of archaeological investigation. Sections 3.2-3.7 examine the documentary, cartographic and archaeological background to the site; Section 3.8 summarises this information in order to determine the significance of the archaeology, the potential for harm, and outlines mitigation strategies as appropriate. Appendix 3 details the methodology employed to make this judgement.

3.2 DOCUMENTARY HISTORY

The site lies in the parish of Stithians which derives its name from an unknown female saint (University of Nottingham 2022). The nearest manor recorded at Domesday was Tregoose, to the south-east of the site, a small manor held by King William at Domesday having been held by Earl Harold in 1066 as overlord with a number of Lords recorded. Lysons records the Manor of Stithians as having been held in the reign of Edward II by Matthew Penfern, passing to the Carminows, the Arundells of Lanhearne until 1800 when it was sold to three brothers named Bath (Lysons 1814). The tithe apportionment of 1840 suggests that there were a number of significant landowners in Stithians parish, the Basset family of Tehidy owning a small area of land in the part of the parish where the proposed site lies. Francis Bassett 1st Baron de Dunstanville of Tehidy died in 1835 leaving his estates to his only heir, his daughter Frances. She never married and the barony became extinct upon her death. The Bassetts of Tehidy were documented as the fourth largest landowner in Cornwall in 1873 as a result of their vast wealth acquired through their ownership of mines including Dolcoath, one of the richest copper mines in England. The majority of the proposed site appears to have been in the ownership of Lady Frances Basset at the date of the tithe survey, with two plots being held by William Martin, who was also the occupier of the majority of the plots owned by Lady Basset. William Martin appears to have been a considerable land owner in his own right, owning around 25 plots in the parish and occupying almost 100 more. The Martin family appear to have been a well-established family in Stithians, as attested to by the publication of a book by Edward Martin in 2012 'The Martin Family of Stithians in Cornwall'. A William Martin, aged 25 is recorded as a farmer residing at Trewithen, to the east of the site, with his wife and family. It is unclear if this is the William Martin who owned/occupied the plots within the site although the geographical proximity makes it possible. Several William Martins are recorded in Stithians parish however in 1841 including one, a 44 year old Yeoman residing at Carnmear, to the south of Stithians. It is possible he could be the land owner of these plots. A William Martin was recorded in the 1832 voters list for Stithians (indicating landownership), as having the freehold of Burncoose (Cornwall OPC 2022), although no William Martin is documented there in the 1841 census. This William Martin is likely to be the one recorded as a Yeoman living at Carnmear. A number of wills belonging to William Martins of Stithians are held at Kresen Kernow and it is possible one of these could contain further information on this. The occupier of two of the plots, comprising the site was Richard Goodman. The 1841 census records him as a 50 year old farmer residing at Trewithen with his wife and family.

It appears that although just to the west of Pencoose Farm, the land on which the site lies does not appear to have been part of its holding, at least in the mid-19th century. Pencoose appears to have been a relatively low status holding, occupied in 1861 by William Swan (farm labourer) and his family, Thomas Sparge (invalid) and his family, John Crowgey (farm labourer) and his family and William Thomas (farm labourer) and his family. By 1881 however it has become the residence of

William Gluyas, (a farmer of 33 acres and his family) and William Dunstan, (an agricultural labourer) and his family. The 1911 census suggests Pencoose had a relatively large farmhouse by this date, recorded as having 12 rooms in addition to bathrooms etc and was the residence of Francis Gluyas (farmer) and his family. He is not recorded as an employer however suggesting the land holding was still relatively small. He had been resident in 1901, along with his father William. Henry Holloway (36) is also recorded as living at Pencoose in 1911 with his wife and family. He is documented as a tin miner and also an army pensioner.

3.3 CARTOGRAPHIC DEVELOPMENT

The site lies close to the edge of the 1809 Ordnance Survey surveyor's draft map for Redruth and shows it rather schematically as an area of enclosed land, possibly comprising large fields, with roads to the east site of the block of land it comprises. The farmstead of Trewithen is shown to the east, with a number of buildings indicated. The farmstead at Pencoose is named Burncoose on this map, although another Burncoose is labelled to the north-east (still known as Burncoose). This could be a mapping error introduced by the surveyor mishearing the name of the farmstead rather than necessarily meaning it changed its name, although the reference to a William Martin owning the freehold to Burncoose in 1832 (above) could also accord with this.

FIGURE 2: EXTRACT FROM THE OS SURVEYORS DRAFT MAPS FOR REDRUTH AND HELSTON; THE APPROXIMATE SITE IS INDICATED (BL).

The 1841 Tithe map for Stithians shows the site as comprising all or part of 12 distinct small plots. They have prosaic field names and relatively straight sided boundaries. Most of the field names surrounding the site are also prosaic or else personal/place names. The historic landscape characterisation for this area classifies it as medieval farmland although it is possible these small

fields have been subdivided from larger fields. A courtyard arrangement of buildings is visible at Pencoose, to the east and Trewithen is shown as a considerable size settlement consisting of a number of buildings roughly arranged along a north-south oriented road.

TABLE 1: EXTRACT FROM THE 1840 TITHE APPORTIONMENT FOR STITHIANS SHOWING PLOTS WITHIN THE PROPOSAL AREA.

Plot No.	Landowner	Occupier	Plot Name	Cultivation
1205	The Lady Basset	Richard Goodman	Lane Field	Arable
1264			Middle Field	
1268		William Martin	Field above Croft	
1269		Richard Goodman	Croft Field	
1270		William Martin	Higher Rockey Field	
1271			Lower Rockey Field	
1272			Lower Long Croft	
1273			Square Field	
1274			Three Cornered Field	
1542	William Martin		Second Plot	
1543	The Lady Basset		Croft	
1549	William Martin		Third Plot	

FIGURE 3: EXTRACT FROM THE STITHIANS TITHE MAP; THE APPROXIMATE SITE IS INDICATED (TNA).

The First Edition OS map surveyed c.1877 (Figure 4) shows the removal of field boundaries that took place in the later 19th century with 12 small fields amalgamated to form six larger fields. The trackway across the southern part of the site from Trewithen to Pencoose, shown on the tithe map, is still shown on this map. The field pattern within the wider landscape appears to have been subject to the same removal of boundaries to create fewer, larger fields. Some changes are evident to the east of the site at Pencoose, where the eastern building comprising a courtyard arrangement had clearly been removed by the later 19th century. There is also a suggestion of formal gardens on the south side of the main farmhouse on the First Edition map. This would tie in with the occupation of the farmstead by William Gluyas and his family and suggest some reorganisation of the buildings took place at this time, moving from a settlement for a number of farm labourers and their families to just two households at the end of the 19th century, one of whom was recorded as a farmer suggesting a higher social status. The Second Edition Ordnance Survey map (Figure 5) shows no

change within the area of the proposed site. Limited changes are visible in the surrounding landscape although an additional building appears to have been constructed on the eastern side of the yard at Pencoose. The settlement at Trewithen appears to have shrunk considerably between the tithe map and the First Edition map, with several of the buildings apparently demolished and the settlement consolidating into more of a courtyard arrangement farmstead. Further loss of buildings appears to have taken place prior to the early 20th century with buildings constructed to the south, eventually forming Higher Trewithen (the original settlement of Trewithen) and Lower Trewithen.

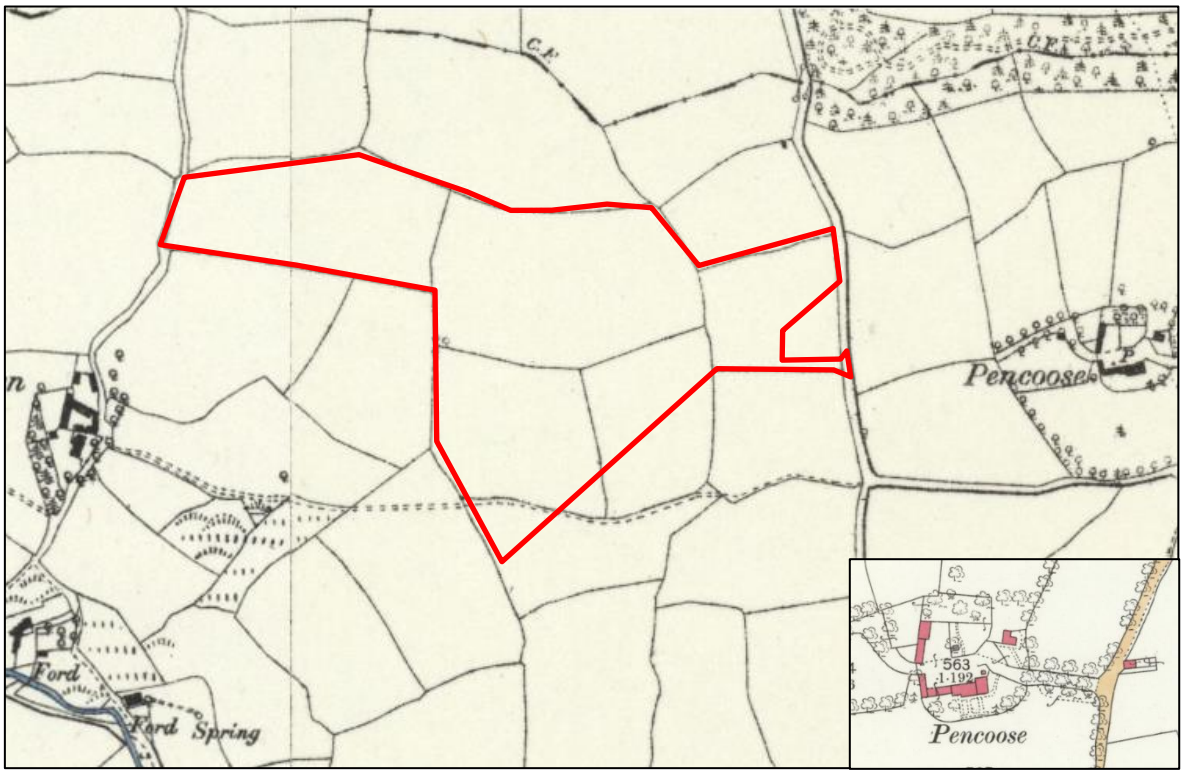

FIGURE 4: EXTRACT FROM THE 1878 1ST EDITION OS 6" MAP WITH INSET SHOWING PENCOOSE FARMSTEAD FROM 25" 1ST EDITION OS MAP 1877; THE APPROXIMATE SITE IS INDICATED (NLS).

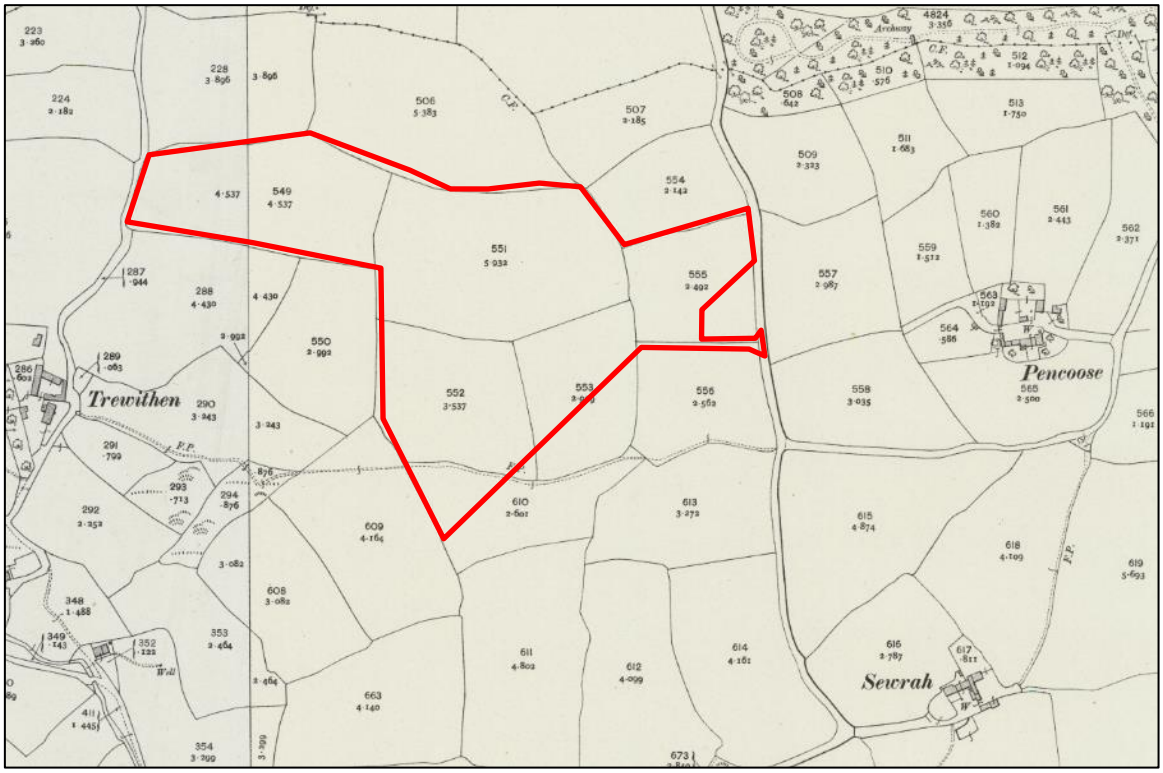

FIGURE 5: EXTRACT FROM THE 1906 2ND EDITION OS 25" MAP; THE APPROXIMATE SITE IS INDICATED (NLS).

3.4 ARCHAEOLOGICAL BACKGROUND

The proposal site and surrounding area has been subject to limited change during the 19th and 20th century, the main notable change being the removal of a number of field boundaries within and around the site, and more recently the construction of a solar PV development to the north of the site. The site falls into an area classified as *Farmland: Medieval* by the Cornwall and Scilly Historic Landscape Characterisation, although the small fields shown on the tithe map and the prosaic field names could suggest it is an area of later enclosure. It does not appear that the site itself has been subject to any archaeological investigation, although a heritage assessment was carried out for the fields to the north prior to the grant of planning permission for the PV development. A geophysical survey and watching brief was also carried out at this site. The geophysical survey (Stratascan 2014) identified a number of linear features which were considered to relate to field boundaries and footpaths. Modern anomalies of magnetic debris, ferrous objects etc were also recorded. The watching brief confirmed the presence of boundaries shown on the geophysical survey, several of which were also visible on historic mapping (Cotswold Archaeology 2015).

A 1km radius around the site has been considered. There are 24 Listed Buildings (1 Grade II*) within 1km of the site. The closest Scheduled Monument to the site is a round 280m south west of Trebowland, to the north west of the site. Two scheduled crosses are also located within Stithians, close to the churchyard. The Gwennap mining district of the Cornwall and West Devon Mining Landscape World Heritage Site lies *c*.660m to the north east of the site. There are no Registered Parks and Gardens within 1km of the site.

3.4.1 PREHISTORIC 4000BC - AD43

There is relatively extensive evidence for prehistoric activity in the landscape around the site with a possibly Bronze Age barrow located to the south of the site at Sewrah Moor (MCO35499) and possible prehistoric standing stone (MCO52954) located to the south-east at Seaureaugh. Three further possible standing stones or stone locations are identified to the east of the site and a further to the south. A scheduled round lies to the north-west of the site at Trebowland (MCO8568) with

two further possible rounds located to the south at Stithians (MCO7953) and Crellow (MCO7896). Excavations at Hendra revealed a Bronze Age cremation pit and Bronze Age ditches (MCO67202; MCO67203).

3.4.2 ROMANO-BRITISH AD43 – AD409

There is no documented evidence for Romano-British activity in the vicinity of the site although use of features of Iron Age date such as the rounds discussed above may have continued into this period.

3.4.3 MEDIEVAL AD410 – AD1540

Many of the farmsteads around the site appear to have their origins in the Medieval period and a number of Medieval field systems are also recorded in the wider landscape of the site suggesting a relatively intensively utilised and settled landscape during this period. The settlements of Trewithen and Pencoose to the west and east of the site respectively both originated in this period. The parish church of St Stithian may be located on the site of an Early Medieval Lann (MCO24905) and a number of medieval crosses or locations of are recorded in and around Stithians.

3.4.4 POST-MEDIEVAL AD1540 -1899

A number of heritage assets of Post Medieval date are identified in the wider landscape of the site although none within close proximity to the site itself. A number are bridges crossing the river Kennel and others relate to the infrastructure such as non-conformist chapels and schools required to accommodate the growing population of this area involved in mining and related occupations. A 19th century wrestling ring is documented on the northern side of Stithians (MCO64974).

3.4.5 MODERN 1900-PRESENT AND UNKNOWN

Few assets of modern date are recorded in the landscape around the site. Two 20th century finger posts lie to the south of the site at Sewrah (MCO49292) and Kennall Farm (MCO55760).

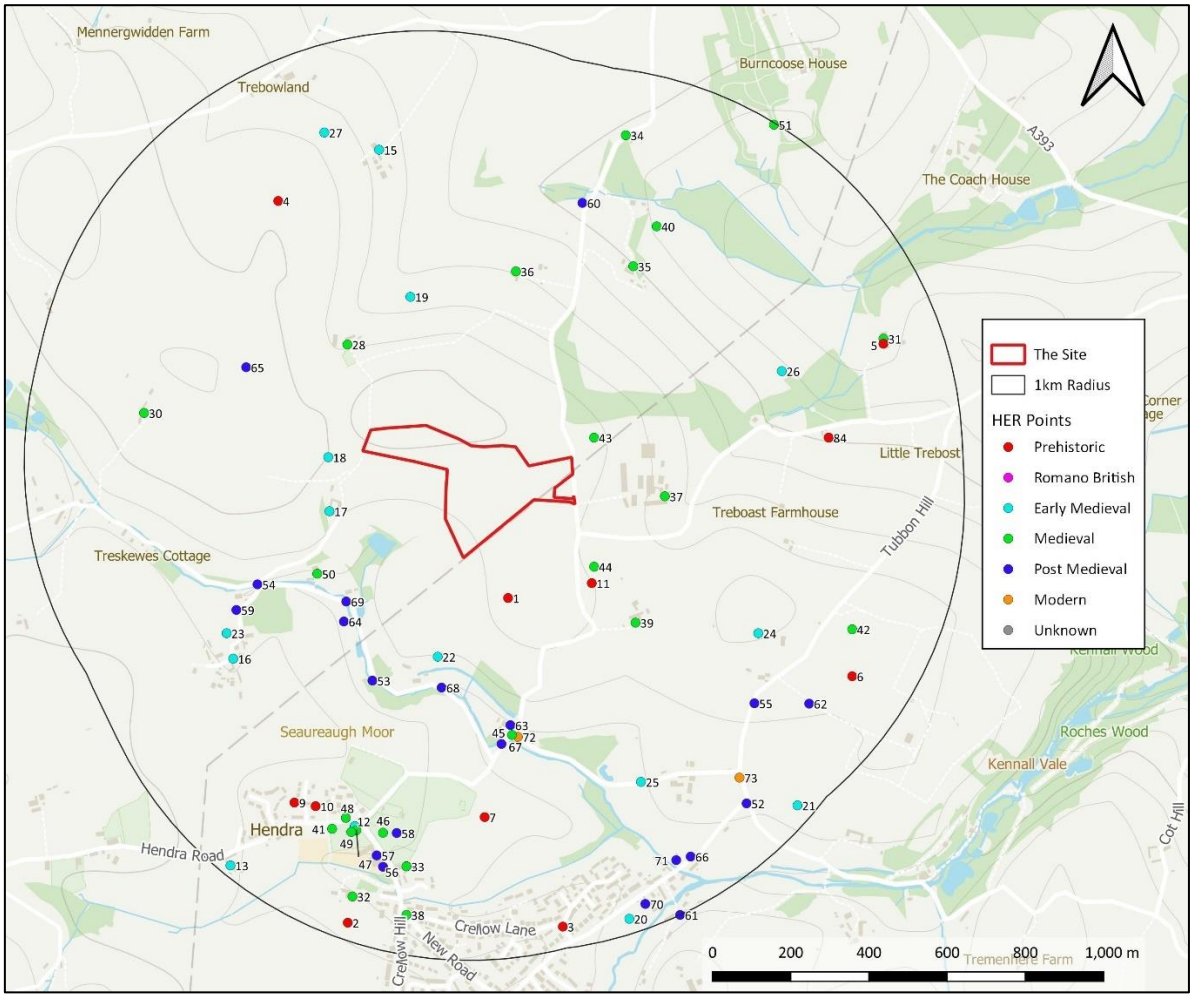

FIGURE 6: HERITAGE ASSETS WITHIN 1KM OF THE PROPOSAL AREA RECORDED IN THE CORNWALL AND SCILLY HER CONTAINS ORDNANCE SURVEY DATA © CROWN COPYRIGHT AND DATABASE RIGHT 2022. THE APPROXIMATE SITE IS INDICATED.

TABLE 2: TABLE OF NEARBY HERITAGE ASSETS (SOURCE: CORNWALL AND SCILLY HER).

No	HER No	Name	Summary
1	MCO35499	SEWRAH MOOR -	The possible site of a barrow, visible as cropmarks on vertical aerial photographs.
2	MCO7896	CRELLOW - Iron Age round, Romano British round	The place-name Crellow suggests the site of a round but there are no remains.
3	MCO7953	FOUNDRY - Iron Age round, Romano British round	The field-name 'Round Meadow' suggests the site of a round but there are no remains.
4	MCO8568	TREBOWLAND - Iron Age/Romano British round	A sub-circular round, approx. 90m diameter with 2.3m high rampart and 1.5m ditch to the west, with vestiges of an outer ditch.
5	MCO7387	CROSSPOST - Neolithic standing stone, Bronze Age standing stone	A possible site of a menhir, as suggested by the placename Crosspost.
6	MCO7429	KENNALL - Neolithic standing stone, Bronze Age standing stone	The field name 'Great Stone Close' recorded on the Tithe Award map, suggests the possible site of a standing stone.
7	MCO7505	STITHIANS - Neolithic standing stone, Bronze Age standing stone	A possible site of a standing stone, suggested by the field name 'Post Field'.
8	MCO7514	TREBOST - Neolithic standing stone, Bronze Age standing stone	A possible menhir, as suggested by the placename Trebost.
9	MCO67202	STITHIANS - Middle Bronze Age/Late Bronze Age cremation pit	A cremation pit dated to the Middle/Late Bronze Age was excavated by Cotswold Archaeology.
10	MCO67203	STITHIANS - Middle/Late Bronze Age ditches	Two ditches excavated by Cotswold Archaeology, the eastern-most Ditch A, the western-most Ditch B, both dated to the Middle or Late Bronze Age.
11	MCO52954	SEAUREAUGH - Prehistoric standing stone	Possible prehistoric granite megalith, freestanding in the middle of a field.
12	MCO24905	STITHIANS - Early Medieval lann	Stithians church may be on the site of a lann.
13	MCO14831	HENDRA - Early Medieval settlement, Medieval settlement	The settlement of Hendra is first recorded in 1302.
14	MCO17090	TREBOST - Early Medieval settlement,	The settlement of Trebost is first recorded in 1278.

No	HER No	Name	Summary
		Medieval settlement	
15	MCO17092	TREBOWLAND - Early Medieval settlement, Medieval settlement	The settlement of Trebowland is first recorded in 1327.
16	MCO17527	TREMBROATH - Early Medieval settlement, Medieval settlement	The settlement of Trembroath is first recorded in 1356.
17	MCO18075	TREWITHEN - Early Medieval settlement, Medieval settlement	The settlement of Trewithen is first recorded in 1315.
18	MCO35443	HIGHER TREWITHEN -	
19	MCO35444	ANGEAR -	
20	MCO35497	STITHIANS -	
21	MCO35505	KENNALL FARM -	
22	MCO35508	SEWRAH MOOR -	
23	MCO35509	PEMBROATH -	
24	MCO35510	SEWRAH FARM -	
25	MCO35511	TREMENHERE SKINNER -	
26	MCO35512	TREBOST -	
27	MCO35523	TREBOWLAND -	
28	MCO13277	ANGEAR - Medieval settlement	The settlement of Angear is first recorded in 1579.
29	MCO13733	CARBIS - Medieval settlement	The settlement of Carbis is first recorded in 1327.
30	MCO13901	CASCADDEN - Medieval settlement	The settlement of Cascadden is first recorded c1460.
31	MCO14182	CROSSPOST - Medieval settlement	The settlement of Crosspost is first recorded in 1305.
32	MCO14155	CRELLOW - Medieval settlement	The settlement of Crellow is first recorded in 1356.
33	MCO14393	ENNIS - Medieval settlement	The settlement of Ennis is first recorded in 1522.
34	MCO14503	GEAR - Medieval settlement	The settlement of Gear is first recorded in 1394.
35	MCO14525	GILLLEY - Medieval settlement	The settlement of Gilly is first recorded in 1311.
36	MCO14528	GILLYVEAN - Medieval settlement	The settlement of Gillyvean is first recorded in 1311.
37	MCO16061	PENCOOSE - Medieval settlement	The settlement of Pencoose is first recorded in 1278.
38	MCO16900	STITHIANS - Medieval settlement	The settlement of Stithians is recorded in 1268. The name is derived from the saint's name.
39	MCO16746	SEUREAUGH - Medieval settlement	The settlement of Sewrah is first recorded in 1386.
40	MCO35445	GILLY FARM -	
41	MCO5357	HENDRA HILL - Medieval cross	The former site of a wheel-headed cross now at Trevales House.
42	MCO5400	KENNALL - Medieval cross	The field-name 'Cross Close' suggests the site of a cross but there are no remains.
43	MCO5624	PENCOOSE - Medieval cross	The field-name 'Gwell Crows' suggests the site of a cross but there are no remains.
44	MCO5773	SEWRAH - Medieval cross	The field-name 'Well Crow' suggests the site of a cross and may be where a cross now standing in Stithians churchyard was found.
45	MCO5774	SEWRAH - Medieval cross	The former location of a cross now standing in Stithians churchyard.
46	MCO5894	STITHIANS - Medieval cross	The field-name 'Cross Park' suggests the site of a cross but there are no remains.
47	MCO5895	STITHIANS - Medieval cross	A cross now standing by the east side of Stithians Church, possibly found at Sewrah.
48	MCO5896	STITHIANS - Medieval cross	A cross found buried in Stithians churchyard now standing in the grounds of the former vicarage.
49	MCO6502	STITHIANS - Medieval church	Stithians parish church.
50	MCO24913	TREWITHEN - Medieval corn mill, Post Medieval corn mill	Trewithen Mill is first recorded in 1370.
51	MCO312	BURNCOOSE - Medieval/Post Medieval findspot	A post medieval mortar stone is now situated in the garden of Burncoose.
52	MCO24970	KENNALL FARM - Post Medieval signpost	A granite guide stone, approx. early C19, inscribed "Helston" and "Kennall Mills & C", indicated by a pointing hands survives on an unclassified junction NW of Kennall Farm.
53	MCO48073	LITTLE SEAUREAUGH - Post Medieval footbridge	A footbridge, early C19 crosses a stream south west of Little Seaureaugh.
54	MCO48076	TREMBROATH - Post Medieval bridge	A late C19 early C20 clapper bridge survives north of Trembroath.
55	MCO49103	TUBBINS - Post Medieval milestone	A milestone, approx. early C19, survives on the SE of an unclassified road approx. 80m south of Tubbins - TRURO 8.
56	MCO51355	STITHIANS - Post Medieval school	A Junior and Infants school originally one of two separate boys girls schools recorded on the OS 1st and 2nd Edition 1:2500 maps (see also 175499).
57	MCO51356	STITHIANS - Post Medieval school	A Junior and Infants school originally one of two separate boys girls schools recorded on the OS 1st and 2nd Edition 1:2500 maps (see also 175498).
58	MCO64974	STITHIANS - C19 wrestling ring	Recorded location of C19 Cornish wrestling tournaments and matches.
59	MCO56880	TREMBROATH - C19 well and pump	C19 well and cast iron pump set within a recess off the road.

No	HER No	Name	Summary
			Concrete floor and concrete blockwork wall on three sides.
60	MCO32176	GILLY - Post Medieval nonconformist chapel	Wesleyan wayside chapel, now converted to house and much altered from its original appearance.
61	MCO24910	TREBARVETH - Post Medieval factory	
62	MCO24901	KENNALL - Post Medieval fulling mill	
63	MCO24911	SEWRAH - Post Medieval corn mill, Post Medieval water wheel	Sewrah Mill is recorded on the Stithians Tithe Map and has a surviving water wheel.
64	MCO24912	TREMBROATH - Post Medieval wheel pit	The name 'Wheel Pit Field' is recorded by the Tithe Award at this location.
65	MCO35440	ANGEAR -	
66	MCO4671	FOUNDRY - Post Medieval foundry	The site of this Hammer Mills is reflected in the local place name 'Foundry', first recorded in 1832.
67	MCO48071	SEWRAH - Post Medieval bridge	A road bridge is recorded on the 1st Edition OS map c1880 at the south of Sewrah Mill (AKA Seaureaugh Mill).
68	MCO48072	LITTLE SEAUREAUGH - Post Medieval bridge	A road bridge is recorded on the 1st Edition OS map c1880 at the south of Little Seaureaugh. It is a clapper bridge with modern railings.
69	MCO48074	TREWITHEN - Post Medieval bridge	A ford is recorded at this location on the Tithe Map c1840, a single span granite slab bridge over roughly faced and sorted granite rubble abutment was built between approximately 1880 and 1907.
70	MCO52193	FOUNDRY, STITHIANS - Post Medieval nonconformist chapel	
71	MCO9060	FOUNDRY - Post Medieval blacksmiths workshop	
72	MCO49292	SEWRAH - Modern fingerpost	A cast iron fingerpost by Oatley and Martyn Ltd. of Wadebridge survives at an unclassified road junction, Sewrah.
73	MCO55760	KENNALL FARM - C20 signpost	A cast iron fingerpost survives on the western side of an unclassified road NW of Kennall Farm, possibly manufactured by Oatley and Martyn Ltd. of Wadebridge.
74	MCO35441	ANGEAR -	
75	MCO35442	ANGEAR -	
76	MCO35498	STITHIANS -	
77	MCO35500	STITHIANS -	
78	MCO35519	TREDEAGUE -	

TABLE 3: DETAILS OF DESIGNATED HERITAGE ASSETS SHOWN IN FIGURE 7 (HE).

No	List Entry	Name	Grade
1	1020102	Round 280m south west of Trebowland	SAM
2	1004649	Cross in the Vicarage Garden	SAM
3	1016288	Wayside cross in St Stithians churchyard	SAM
4	1162143	Church of St Stythian	II*
5	1142026	Churchyard Walls To West, North And East Of Church Of St Stedian [should be St Stithian]	II
6	1142027	Gate Piers And Flanking Walls At Road Entrance To The White Cottage (Former Vicarage)	II
7	1142028	Seven Stars Public House	II
8	1142029	Crellow House	II
9	1142049	Footbridge At Sw731375	II
10	1142050	Guide Post At Sw741371	II
11	1142055	Hendra Cottage Mabel's Cottage	II
12	1142061	Cross At East End Of Church Of St Stedian [should be St Stithian]	II
13	1142062	Chest Tomb At Approximately 4 Metres South Of West End Of Church Of St Stedian [should be St Stithian]	II
14	1142063	Francis Headstone At Approximately 10 Metres South West Of Church Of St Stedian [should be St Stithian]	II
15	1161928	Guide Post At Sw735373	II
16	1162016	Hendra Farmhouse	II
17	1142025	Vestry At Approximately 50 Metres South West Of Church Of St Stedian [should be St Stithian]	II
18	1162146	Chest Tomb At Approximately 5 Metres South Of Church Of St Stedian [should be St Stithian]	II
19	1162150	Bath Headstone At Approximately 8 Metres South Of West End Of Church Of St Stedian [should be St Stithian]	II
20	1162155	Reed And Hocker Tomb At Approximately 12 Metres South Of South Doorway Of Church Of St Stedian [should be St Stithian]	II
21	1162159	Gate Piers, Gates And Walls Flanking Gateway At Approximately 15 Metres East Of Church Of St Stedian [should be St Stithian]	II
22	1264448	Milestone At Sw741374	II
23	1309880	Seaureaugh Mill And Barn Immediately To West	II
24	1312799	Cascadden Farmhouse	II
25	1328442	Martin Headstones At Approximately 6 Metres North West Of Church Of St Stedian [should be St Stithian]	II

No	List Entry	Name	Grade
26	1328443	War Memorial At Approximately 15 Metres East Of Church Of St Stedian [should be St Stithian]	II
27	1328462	Gate Piers, Gates And Walls Flanking Gateway At Approximately 30 Metres North West Of Church Of St Stedian [should be St Stithian]	II

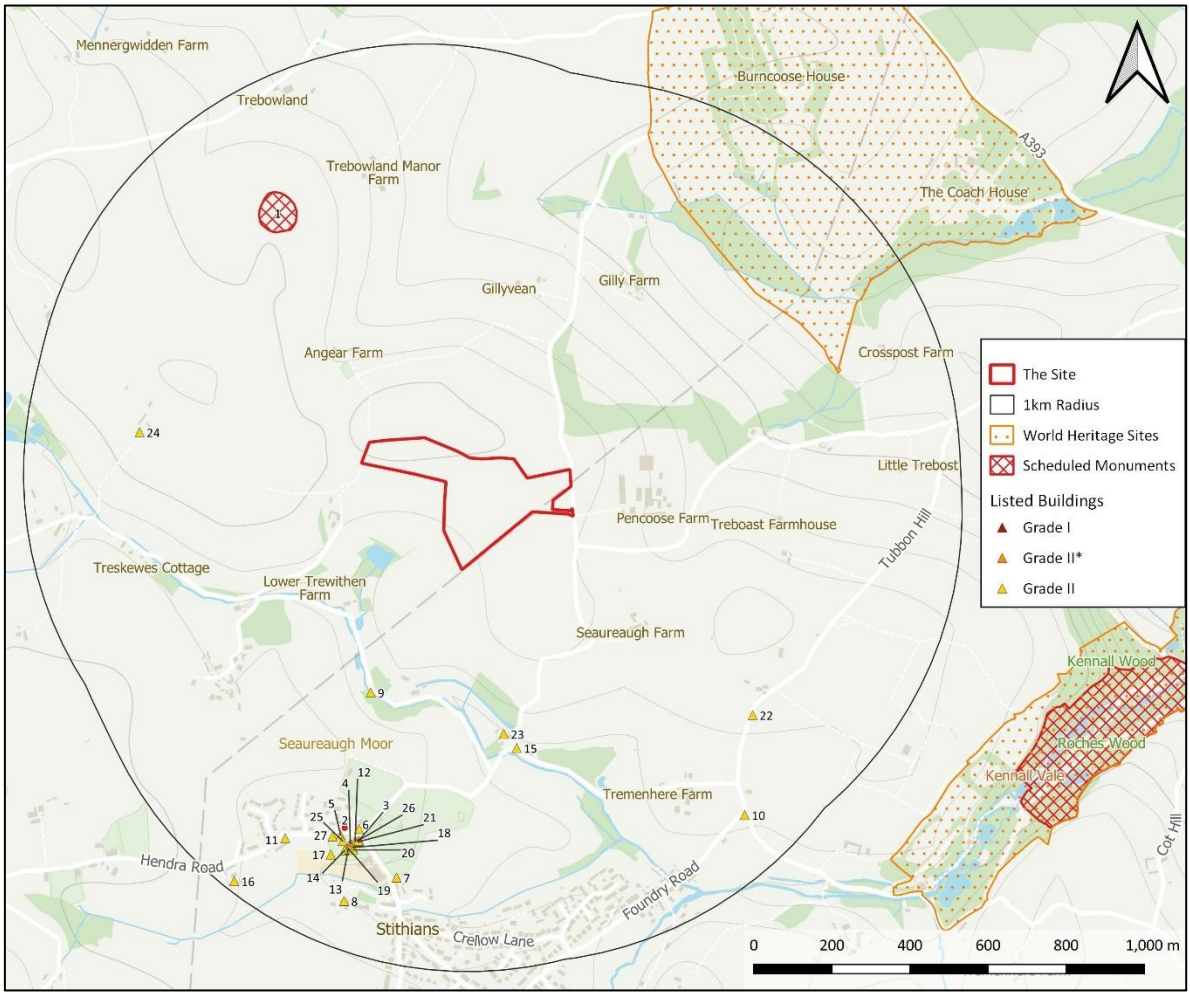

FIGURE 7: DESIGNATED HERITAGE ASSETS WITHIN 1KM OF THE PROPOSAL AREA RECORDED IN THE NATIONAL HERITAGE LIST FOR ENGLAND (NHLE) © HISTORIC ENGLAND 2022. CONTAINS ORDNANCE SURVEY DATA © CROWN COPYRIGHT AND DATABASE RIGHT 2022. THE HISTORIC ENGLAND GIS DATA CONTAINED IN THIS MATERIAL WAS OBTAINED ON 19.07.2022. THE MOST PUBLICLY AVAILABLE UP TO DATE HISTORIC ENGLAND GIS DATA CAN BE OBTAINED FROM HTTP://HISTORICENGLAND.ORG.UK. THE APPROXIMATE SITE IS INDICATED.

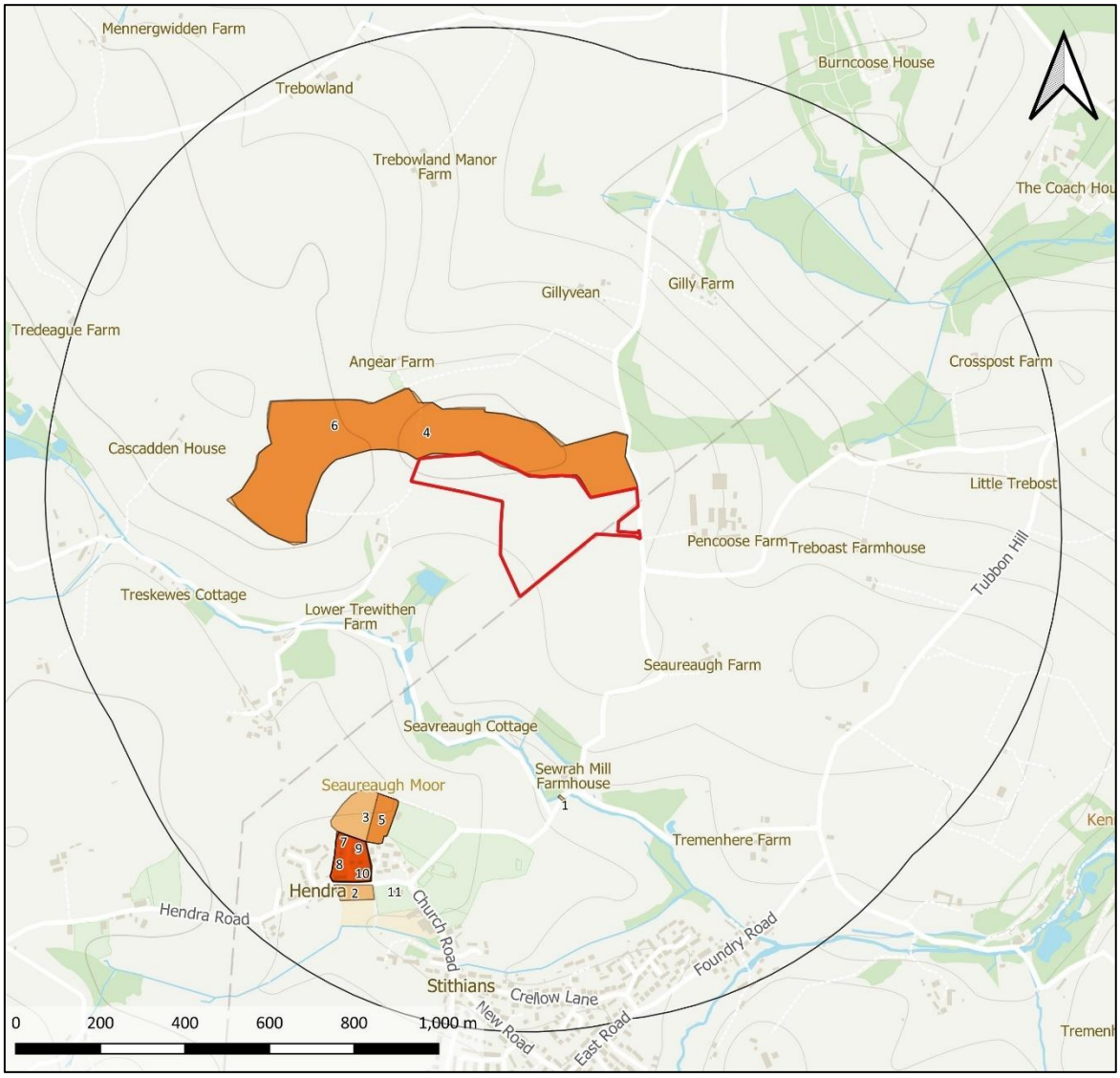

FIGURE 8: HERITAGE INTERVENTIONS WITHIN 1KM OF THE PROPOSAL AREA RECORDED IN THE CORNWALL AND SCILLY HER CONTAINS ORDNANCE SURVEY DATA © CROWN COPYRIGHT AND DATABASE RIGHT 2022. THE APPROXIMATE SITE IS INDICATED.

TABLE 4: DETAIL OF HERITAGE INTERVENTIONS SHOWN IN FIGURE 8 (HE).

No	Event ID	Event Type	Name
1	ECO2357	Assessment	Sewrah Mill Bridge Assessment
2	ECO5273	Geophysical Survey	Hendra Road, Stithians, Cornwall
3	ECO4267	Geophysical Survey	New Cemetery, Stithians, Cornwall: Geophysical Survey Report
4	ECO4498	Watching Brief	Pencoose Farm
5	ECO4582	Geophysical Survey	Proposed cemetery site, Stithians, Cornwall
6	ECO4660	Geophysical Survey	Pencoose Farm, Cornwall
7	ECO4769	Evaluation	Land at Hendra Road
8	ECO4874	Geophysical Survey	Land off Hendra Road, Hendra
9	ECO5823	Assessment	Land at Hendra Road
10	ECO5824	Excavation	Hendra Road
11	ECO934	Site Survey	Stithians Church

3.5 AERIAL PHOTOGRAPHY

An aerial photograph from 2014 (Figure 9) shows a removed field boundary visible on historic mapping. No other archaeological features are visible however a recent photograph shows the solar PV development to the north of the proposed site (Figure 10).

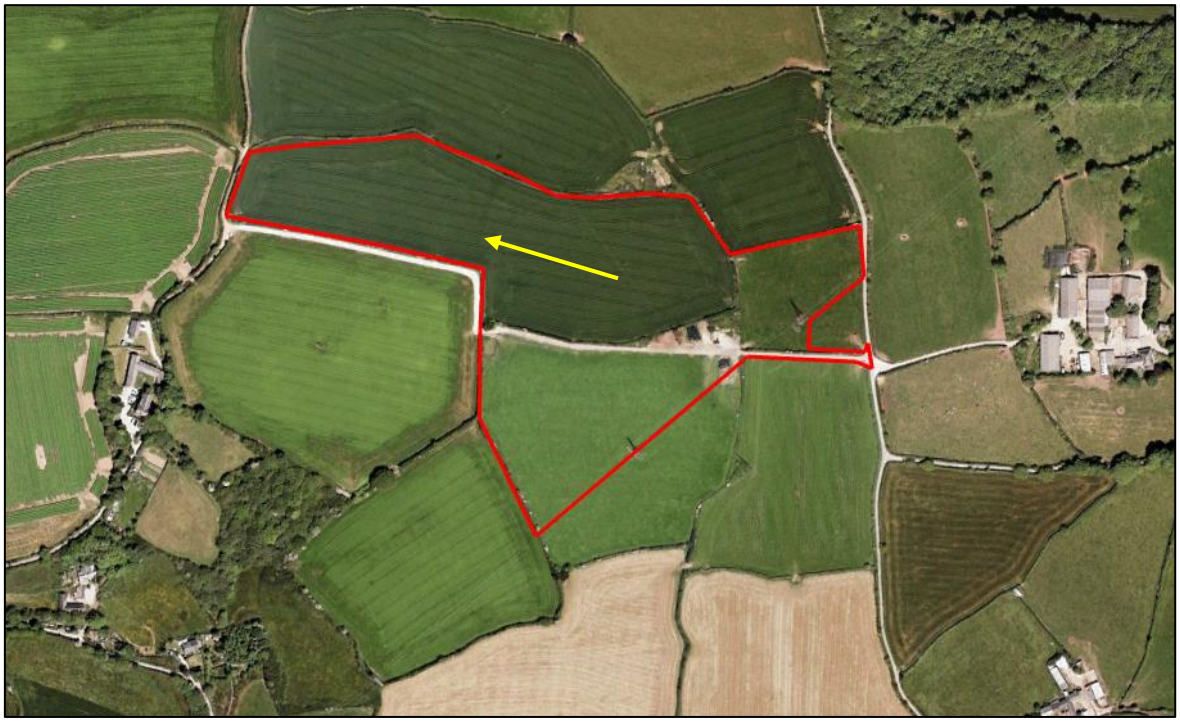

FIGURE 9: AERIAL PHOTOGRAPH FROM 2005 (©2022 GETMAPPING PLC). THE APPROXIMATE SITE IS INDICATED.

FIGURE 10: AERIAL PHOTOGRAPH FROM 2022 (©GOOGLE 2022) SHOWING PV DEVELOPMENT TO THE NORTH. THE APPROXIMATE SITE IS INDICATED.

LiDAR data is available at a survey interval of 1m for the site and surrounding area (2020 dataset). LiDAR digital surface model (DSM) (Figures 11) and digital terrain model (DTM) (Figure 12) data has been processed and examined.

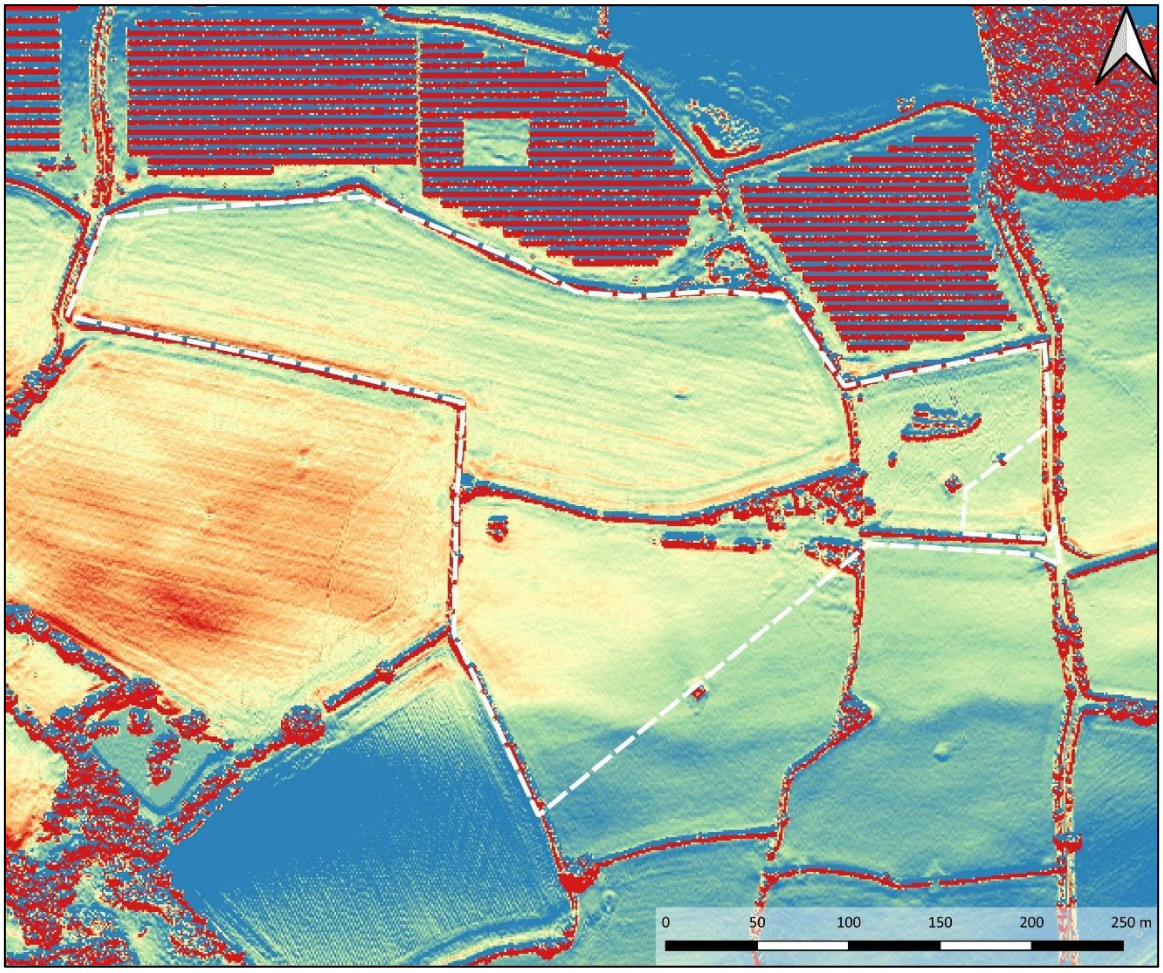

FIGURE 11: 1M LIDAR DSM DATA. PROCESSED USING QGIS 3.22 AND RVT MULTIHILLSHADE 315_35_2. CONTAINS ENVIRONMENT AGENCY DATA USED UNDER THE OPEN GOVERNMENT LICENSE 3.0. THE APPROXIMATE SITE IS INDICATED.

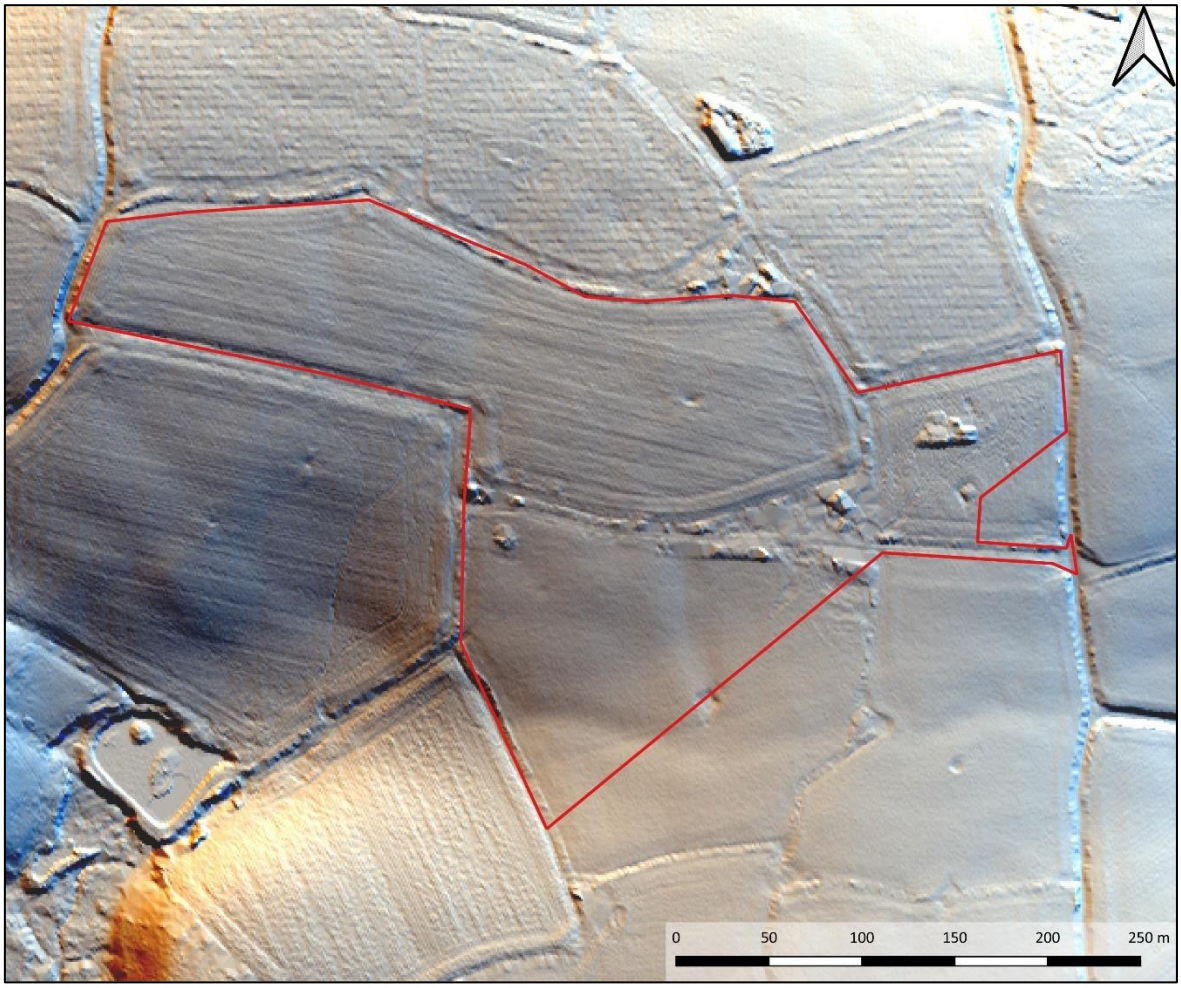

FIGURE 12: 1M LIDAR DTM DATA. PROCESSED USING QGIS 3.22 AND RVT MULTIHILLSHADE 315_35_2. CONTAINS ENVIRONMENT AGENCY DATA USED UNDER THE OPEN GOVERNMENT LICENSE 3.0. THE APPROXIMATE SITE IS INDICATED.

3.6 WALKOVER SURVEY

A walkover survey of the site was undertaken between 14th and 15th November 2022 by P. Bonvoisin in mixed conditions. The site was under a mix of arable (Field 3) and pastoral cultivation as grazing for sheep (F1-F2). The field boundaries are formed of a combination of fences, hedgebanks and walls, some of which are tree-lined and subject to varying degrees of being overgrown. Earthworks were visible across the site. Additional photographs can be found in Appendix 2.

TABLE 5: STATE OF CULTIVATION; FEATURES IDENTIFIED DURING WALKOVER SURVEY BY FIELD.

Field	Current Cultivation	Comments
1	Pasture	Short grass. Linear earthwork features and pylon.
2	Pasture	Short grass. Pylon
3	Arable	Recently sowed.

3.6.1 FIELD 1

3.20ha (2ha within proposal area). Field 1 is located at the southern end of the proposal area, to the east of Lower Trewithin Farm; south-west of field F2 and south of field F2. It is sub-rectangular to irregular in shape, set on a broad east to west alignment, with gently curving hedgebank partially tree-lined boundaries. The proposal and survey areas comprised the north-western three-quarters of the field, *c.*2ha in size. To the north is an access track and field F3, bounded by a post and wire fence (a hedgebank forms the boundary of field F3); whilst to the east, south and west is further agricultural land all bounded by partially overgrown hedgebanks with internal post and wire fences.

A very few trees are present along all of these boundaries. Access is along the northern boundary from the track, with an additional gated access point in the western boundary.

Two earthwork features were identified within the field, one shallow linear ditch orientated approximately west-north-west to east-south-east towards the northern end of the field; and a shallow linear bank similarly orientated approximately west-north-west to east-south-east towards the southern end of the field. A modern electricity pylon also stands in the middle of the field.

FIGURE 13: F1, VIEW ALONG THE SHALLOW LINEAR DITCH FEATURE; VIEWED FROM THE WEST-NORTH-WEST (NO SCALE).

FIGURE 14: F1, VIEW ALONG THE LOW LINEAR BANK EARTHWORK FEATURE; VIEWED FROM THE WEST-NORTH-WEST (NO SCALE).

3.6.2 **FIELD 2**

1ha. Field 2 is located at the eastern end of the proposal area, to the west of Pencoose Farm; north-east of field F1 and east of field F2. It is sub-square to sub-rectangular in shape, set on a broad north to south alignment, with gently curving hedgebank partially tree-lined boundaries. To the north is the eastern limit of the existing Pencoose Solar PV site, to the west field F1, to the south an access track and to the east an unnamed road between Stithians and Burncoose; agricultural fields and Pencoose Farm beyond. All of the boundaries are partially overgrown hedgebanks with internal post and wire fences. A very few trees are present along each of these boundaries. Gated access is from all four corners of the field.

No earthwork features were identified within the field, though a modern electricity pylon is present towards the middle of the field and a fenced-off concrete blockwork structure in the north-eastern corner.

3.6.3 **FIELD 3**

4.30ha. Field 3 is located along the northern edge of the proposal area, to the west of field F2 and to the north of field F1. It is sub-rectangular to irregular in shape, set on a broad east to west alignment, with gently curving hedgebank partially tree-lined boundaries. To the north is the existing Pencoose Solar PV site, to the east field F2, to the south an access track and field F1 and to the west agricultural land. All of the boundaries are partially overgrown hedgebanks with internal post and wire fences. A very few trees are present along each of these boundaries. Gated access is from two points along the southern boundary and one along the eastern boundary of the field.

No earthwork features were identified within the field, though a detailed survey was not possible due to the presence of a recently sown crop. Modern pylons are present across the field.

FIGURE 15: F2, VIEW OF THE CONCRETE BLOCKWORK STRUCTURE IN THE NORTH-EASTERN CORNER OF THE FIELD, WITH DETAIL OF THE HEDGEBANK AND FENCE-LINE BOUNDARIES; VIEWED FROM THE SOUTH (NO SCALE).

FIGURE 16: F3, VIEW ACROSS THE FIELD ALONG THE SOUTHERN BOUNDARY; VIEWED FROM THE WEST-SOUTH-WEST (NO SCALE).

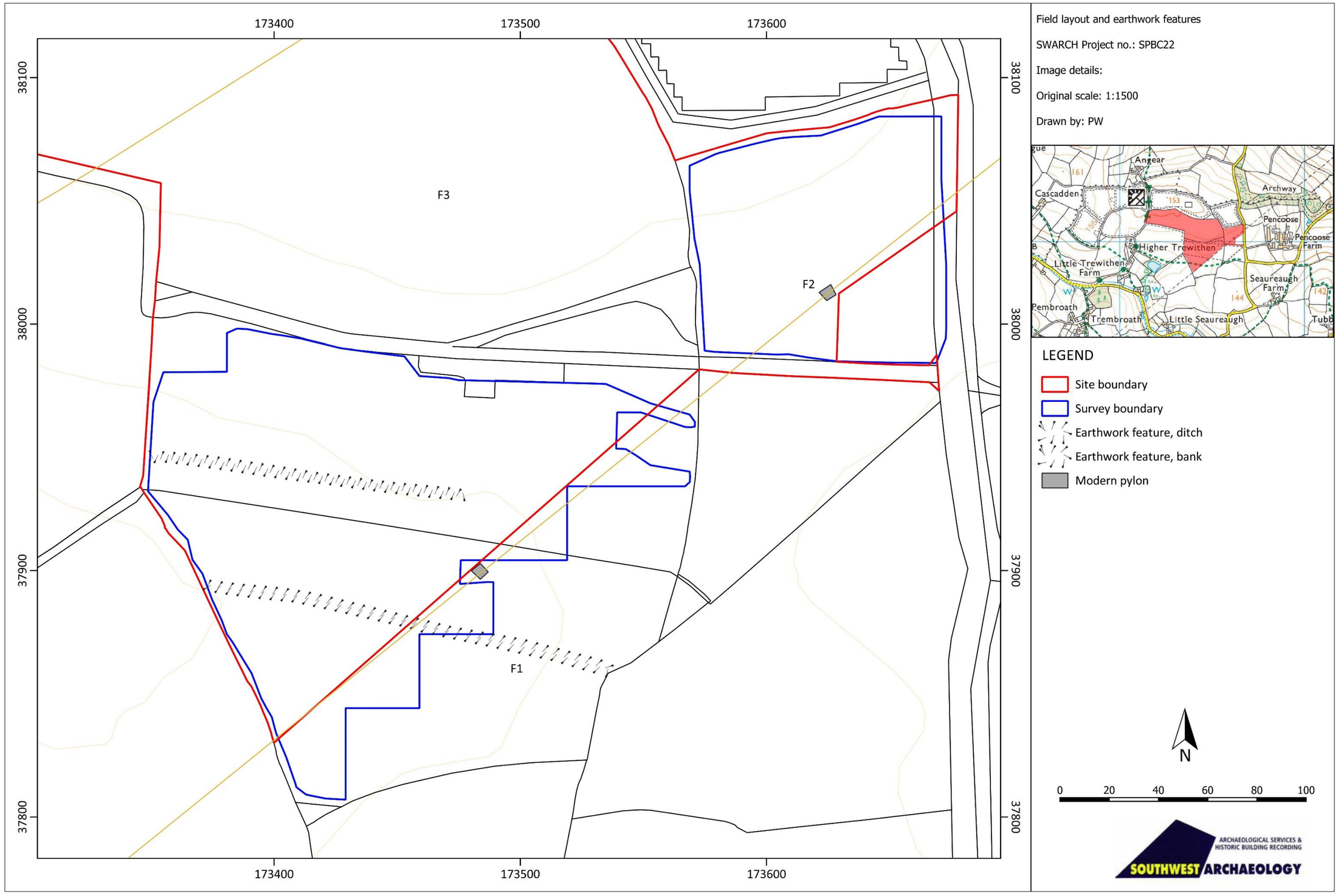

FIGURE 17: APPROXIMATE LOCATION OF EARTHWORK FEATURES IDENTIFIED DURING THE WALKOVER SURVEY. CONTAINS ORDNANCE SURVEY DATA © CROWN COPYRIGHT AND DATABASE RIGHT 2022.

3.7 GEOPHYSICAL SURVEY

3.7.1 INTRODUCTION

An area of *c.*8.50ha (*c.*6.75ha surveyed) across three fields (F1-F3) was the subject of a magnetometry (gradiometer) survey. The purpose of this survey was to identify and record magnetic anomalies within the proposed site. Identified anomalies may relate to archaeological deposits and structures but the dimensions of the recorded anomalies may not correspond directly with associated features. The following discussion attempts to clarify and characterise the identified anomalies. The survey was undertaken on 14th and 15th November 2022 and the data processed by P. Bonvoisin; and the report written by P. Webb.

3.7.2 METHODOLOGY

The gradiometer survey follows the general guidance as outlined in: *EAC Guidelines for the use of geophysics in Archaeology: Questions to Ask and Points to Consider* (Europae Archaeologiae Consilium/European Archaeological Council 2016) and *Standard and Guidance for Archaeological Geophysical Survey* (CIfA 2014b).

The survey was carried out using two twin-sensor fluxgate gradiometers (Bartington Grad601). These machines are sensitive to depths of up to 1.50m. The survey parameters were: sample intervals of 0.25m, traverse intervals of 1m, a zigzag traverse pattern, traverse orientation was circumstantial, grid squares of 30×30m. The gradiometer was adjusted ('zeroed') every 0.5-1ha. The survey grid was tied into the Ordnance Survey National Grid- and set out using a Leica CS15 GNSS Rover GPS. The data was downloaded onto *Grad601 Version 3.16* and processed using *TerraSurveyor Version 3.0.36.0.* The primary data plots and analytical tools used in this analysis were *Shade* and *Metadata*. The details of the data processing are as follows:

Processes:
Clip +/- 1SD; removes extreme data point values.
DeStripe all traverses, median; used to equalise underlying differences between grids (potentially caused by instrument drift or orientation, directional effects inherent in magnetic instrument, or differences in instrument set up during survey e.g. using two gradiometers).
DeStagger selected grids, all traverses out- and inbound by +/-0.25m to 1m; reduces staggering effects within data derived from zig-zag collection method.

TABLE 6: SURVEY DETAILS (UNADJUSTED).

Field	Area Surveyed (ha)	Max (nT)	Min (nT)	Standard Deviation (nT)	Mean (nT)	Median (nT)
F1	2.0195	108.80	-198.06	5.27	0.02	0.00
F2	0.8437	78.63	-100.00	4.87	-0.05	0.00
F3	3.8954	98.39	-100.00	4.68	0.98	0.87

3.7.3 RESULTS

Table 7 with the accompanying Figures 18-19 show the analyses and interpretation of the geophysical survey data. Detailed survey data can be found in Appendix 3; and additional graphic images of the survey data and numbered grid locations in Appendix 4.

TABLE 7: INTERPRETATION OF GRADIOMETER SURVEY DATA.

Anomaly Group	Class and Certainty	Form	Archaeological Characterisation	Comments
F1				
1	Weak to moderate positive & negative, probable	Linear	Historic boundary – double ditch & bank	Indicative of cut and infilled features such as ditches flanking central banked/compacted material typical of traditional Cornish hedgebank construction. Orientated approximately west-north-west to east-south-east and north-east to south-west. Depicted on historic mapping. Responses of between -

Anomaly Group	Class and Certainty	Form	Archaeological Characterisation	Comments
				14.11nT to -0.01nT and +0.18nT to +12.01nT.
2	Weak to moderate positive & negative, probable	Linear	Historic boundary – double ditch & bank	Indicative of cut and infilled features such as ditches flanking central banked/compacted material typical of traditional Cornish hedgebank construction. Orientated approximately north-north-west to south-south-east and west-north-west to east-south-west. Depicted on historic mapping. Responses of between -14.08nT to -0.04nT and +0.02nT to +16.23nT.
3	Weak positive & negative, probable	Linear	Double ditch & bank	Indicative of cut and infilled features such as ditches flanking central banked/compacted material typical of traditional Cornish hedgebank construction. Orientated between approximately north-north-west to south-south-east and north-west to south-east. Responses of between -7.58nT to -0.01nT and +0.02nT and +10.22nT.
4	Weak positive & negative, probable	Linear	Ditch or drainage	Indicative of a cut and infilled feature such as a ditch with associated banked/compacted material. Or possibly of a stone lined drain within a cut trench. Orientated approximately east-south-east to west-south-west. Responses of between -6.77nT to -0.05nT and +0.08nT to +7.57nT.
5	Weak positive, possible	Linear	Ditch	Indicative of cut and infilled features such as ditches. Orientated between east-north-east to west-south-west and north-west to south-east. Responses of between +0.01nT and +7.83nT.
6	Very weak positive, possible	Penannular	Ring-ditch/drip-gully or natural features	Indicative of sections of a cut and infilled feature such as a ring-ditch/drip-gully with associated banked/compacted material indicating prehistoric settlement. Weak responses may indicate natural features. Responses of between +0.17nT and +5.04nT.
7	Weak positive, possible	Discrete	Pit	Indicative of discrete cut and infilled features such as pits. Weaker responses may indicate natural features such as tree-throws. Location within possible ring-ditch/drip gully may suggest associated internal features. Responses of between +0.12nT and +8.43nT
8	Weak positive, possible	Discrete	Pit	Indicative of discrete cut and infilled features such as pits. Weaker responses may indicate natural features such as tree-throws. Responses of between +0.23nT and +11.41nT.
9	Very strong bipolar (mixed response)	Discrete	Pylon	Indicative of a proximity to metallic disturbance/debris. Adjacent to a modern pylon. Responses of between -9.76nT to -0.13nT and +0.40nT to +95.05nT.
10	Very weak positive, possible	Linear	Agricultural activity/ditch	Indicative of cut and infilled features such as ditches. Weak responses and directionality suggests possible deeper cut examples of agricultural activity. Orientated approximately east-north-east to west-south-west. Responses of between +0.11nT and +3.58nT.
	Very weak positive & negative, possible	Linear	Agricultural activity	Linear striations covering the entire field with regularity. Indicative of ploughing. Weak mixed positive and negative responses suggest shallow ploughing. Aligned approximately east-north-east to west-south-west and north-north-west to south-south-east. Responses of between -4.04nT to -0.07nT and +0.01nT to +4.82nT.
	Strong dipolar (mixed response)	Discrete	Ferrous anomaly	Indicative of metallic objects. Responses of between +/-109nT
	Strong bipolar (mixed response)	Irregular	Modern disturbance	Indicative of disturbed ground and disturbance caused by proximity to metallic fences and debris. Responses of between +/-155nT.
F2				
11	Weak positive & negative, probable	Linear	Historic boundary – double ditch & bank	Indicative of cut and infilled features such as ditches flanking central banked/compacted material typical of traditional Cornish hedgebank construction. Orientated approximately east-north-east to west-south-west. Depicted on historic mapping.

Anomaly Group	Class and Certainty	Form	Archaeological Characterisation	Comments
				Responses of between -6.87nT to -0.01nT and +0.02nT to +6.06nT.
12	Very weak positive & negative, possible	Linear	Double ditch & bank	Indicative of cut and infilled features such as ditches flanking central banked/compacted material typical of traditional Cornish hedgebank construction. Orientated approximately north-north-west to south-south-east. Responses of between -1.68nT to -0.01nT and +0.05nT and +3.90nT.
13	Weak positive, possible	Linear	Ditch	Indicative of cut and infilled features such as ditches with associated banked/compacted material. Orientated approximately north to south and north-east to south-west. Responses of between +0.13nT and +6.15nT.
14	Weak positive, possible	Linear	Ditch	Indicative of a cut and infilled feature such as a ditch. Orientated approximately north-east to south-west. Responses of between +0.12nT and +4.45nT.
15	Very weak positive, possible	Penannular	Ring-ditch/drip-gully or natural features	Indicative of sections of a cut and infilled feature such as a ring-ditch/drip-gully indicating prehistoric settlement. Weak responses may indicate natural features. Responses of between +0.14nT and +2.31nT.
16	Weak positive, possible	Discrete	Pit	Indicative of discrete cut and infilled features such as pits. Weaker responses may indicate natural features such as tree-throws. Location within possible ring-ditch/drip gully may suggest associated internal features. Responses of between +0.01nT and +5.38nT
17	Weak positive, possible	Discrete	Pit or post-hole	Indicative of cut and infilled features such as pits or post-holes. Weaker responses may indicate natural features such as tree-throws. Arranged in possible sub-circular pattern suggesting possible structural components of a roundhouse. Responses of between +0.19nT and +11.92nT.
18	Weak positive, possible	Discrete	Pit	Indicative of cut and infilled features such as pits. Weaker responses may indicate natural features such as tree-throws. Responses of between +0.40nT and +10.03nT.
19	Very strong bipolar (mixed response)	Discrete	Pylon	Indicative of a proximity to metallic disturbance/debris. Adjacent to a modern pylon. Responses of between -41.04nT to -0.18nT and +0.06nT to +39.80nT.
	Very weak positive & negative, possible	Linear	Agricultural activity	Linear striations covering the entire field with regularity. Indicative of ploughing. Weak mixed positive and negative responses suggest shallow ploughing. Aligned approximately north-east to south-west and north-north-west to south-south-east. Responses of between -4.02nT to -0.06nT and +0.09nT to +2.24nT.
	Strong dipolar (mixed response)	Discrete	Ferrous anomaly	Indicative of metallic objects. Responses of between +/-80nT
	Strong bipolar (mixed response)	Irregular	Modern disturbance	Indicative of disturbed ground and disturbance caused by proximity to metallic fences and debris. Responses of between +/-100nT.
F3				
20	Weak to moderate positive & negative, probable	Linear	Historic boundary – double ditch & bank	Indicative of cut and infilled features such as ditches flanking central banked/compacted material typical of traditional Cornish hedgebank construction. Orientated between approximately east-north-east to west-south-west and east-south-east to west-north-west. Depicted on historic mapping. Responses of between -6.97nT to -0.12nT and +0.10nT to +12.42nT.
21	Weak to moderate positive & negative, probable	Linear	Historic boundary – double ditch & bank	Indicative of cut and infilled features such as ditches flanking central banked/compacted material typical of traditional Cornish hedgebank construction. Orientated approximately north-north-east to south-south-west. Depicted on historic mapping. Responses of between -11.52nT to -0.16nT and +0.03nT to +12.10nT.

Anomaly Group	Class and Certainty	Form	Archaeological Characterisation	Comments
22	Weak to moderate positive & negative, probable	Linear	Historic boundary – double ditch & bank	Indicative of cut and infilled features such as ditches flanking central banked/compacted material typical of traditional Cornish hedgebank construction. Orientated between approximately north-north-east to south-south-west and north-north-west to south-south-east; and east-north-east to west-south-west. Depicted on historic mapping. Responses of between -16.35nT to -0.03nT and +0.02nT to +15.33nT.
23	Weak to moderate positive & negative, probable	Linear	Double ditch & bank	Indicative of cut and infilled features such as ditches flanking central banked/compacted material typical of traditional Cornish hedgebank construction. Orientated between approximately north-north-east to south-south-west and east to west. Responses of between -13.75nT to -0.05nT and +0.05nT to +13.78nT.
24	Weak to moderate positive & negative, probable	Linear	Ditch & bank	Indicative of cut and infilled features such as ditches with flanking banked/compacted material. Orientated between approximately north-west to south-east and east-north-east to west-south-west. Responses of between -11.78nT to -0.05nT and +0.12nT and +15.57nT.
25	Weak positive & negative, possible	Linear	Ditch & bank	Indicative of cut and infilled features such as ditches with flanking banked/compacted material. Orientated between approximately north to south and north-north-west to south-south-east. Responses of between -6.09nT to -0.04nT and +0.31nT to +9.33nT.
26	Weak positive & negative, probable	Linear	Ditch & bank	Indicative of cut and infilled features such as ditches with flanking banked/compacted material. Orientated between approximately north-east to south-west and north-west to south-east. Responses of between -5.88nT to -0.01nT and +0.18nT to +10.66nT.
27	Weak positive, probable	Linear	Ditch	Indicative of cut and infilled features such as ditches. Orientated between approximately north-east to south-west and east to west. Responses of between +0.05nT and +8.84nT.
28	Weak to moderate positive, possible	Discrete	Ovoid	Indicative of cut and infilled features such as pits. Weaker responses may indicate natural features such as tree-throws. Responses of between +0.27nT and +14.36nT.
29	Weak positive, possible	Linear	Agricultural activity/ditch	Indicative of cut and infilled features such as ditches. Weak responses and directionality suggests possible deeper cut examples of agricultural activity. Orientated approximately north-north-east to south-south-west. Responses of between +0.37nT and +7.28nT.
	Very weak positive & negative, possible	Linear	Agricultural activity	Linear striations covering the entire field with regularity. Indicative of ploughing. Weak mixed positive and negative responses suggest shallow ploughing. Aligned between approximately north-north-west to south-south-east and west-north-west to east-south-east. Responses of between -3.71nT to -0.19nT and +0.10nT to +4.32nT.
	Strong dipolar (mixed response)	Discrete	Ferrous anomaly	Indicative of metallic objects. Responses of between +/-102nT
	Strong bipolar (mixed response)	Irregular	Modern disturbance	Indicative of disturbed ground and disturbance caused by proximity to metallic fences and debris. Responses of between +/-103nT.

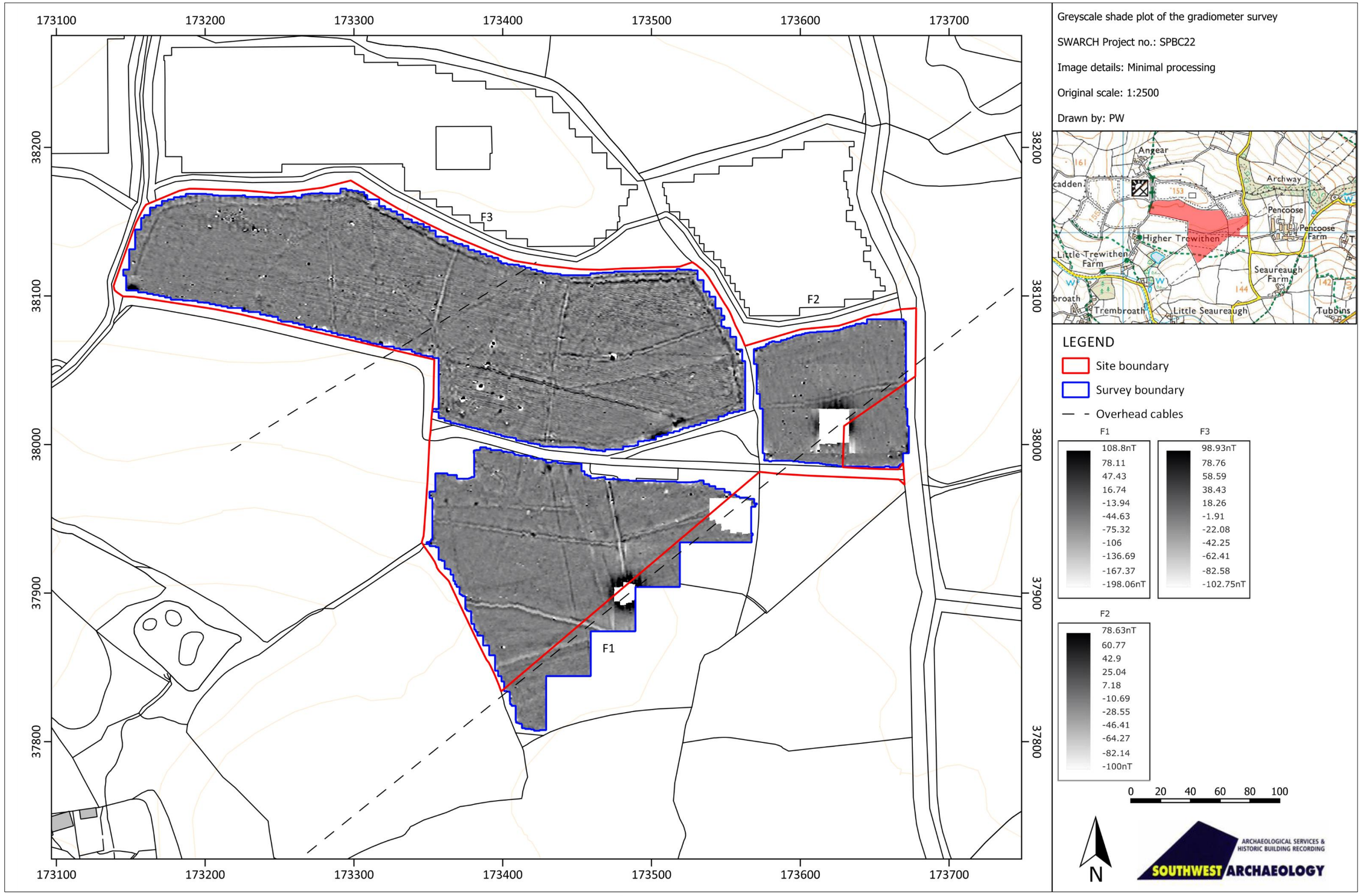

FIGURE 18: GREYSCALE SHADE PLOT OF THE GRADIOMETER SURVEY DATA; MINIMAL PROCESSING. CONTAINS ORDNANCE SURVEY DATA © CROWN COPYRIGHT AND DATABASE RIGHT 2022.

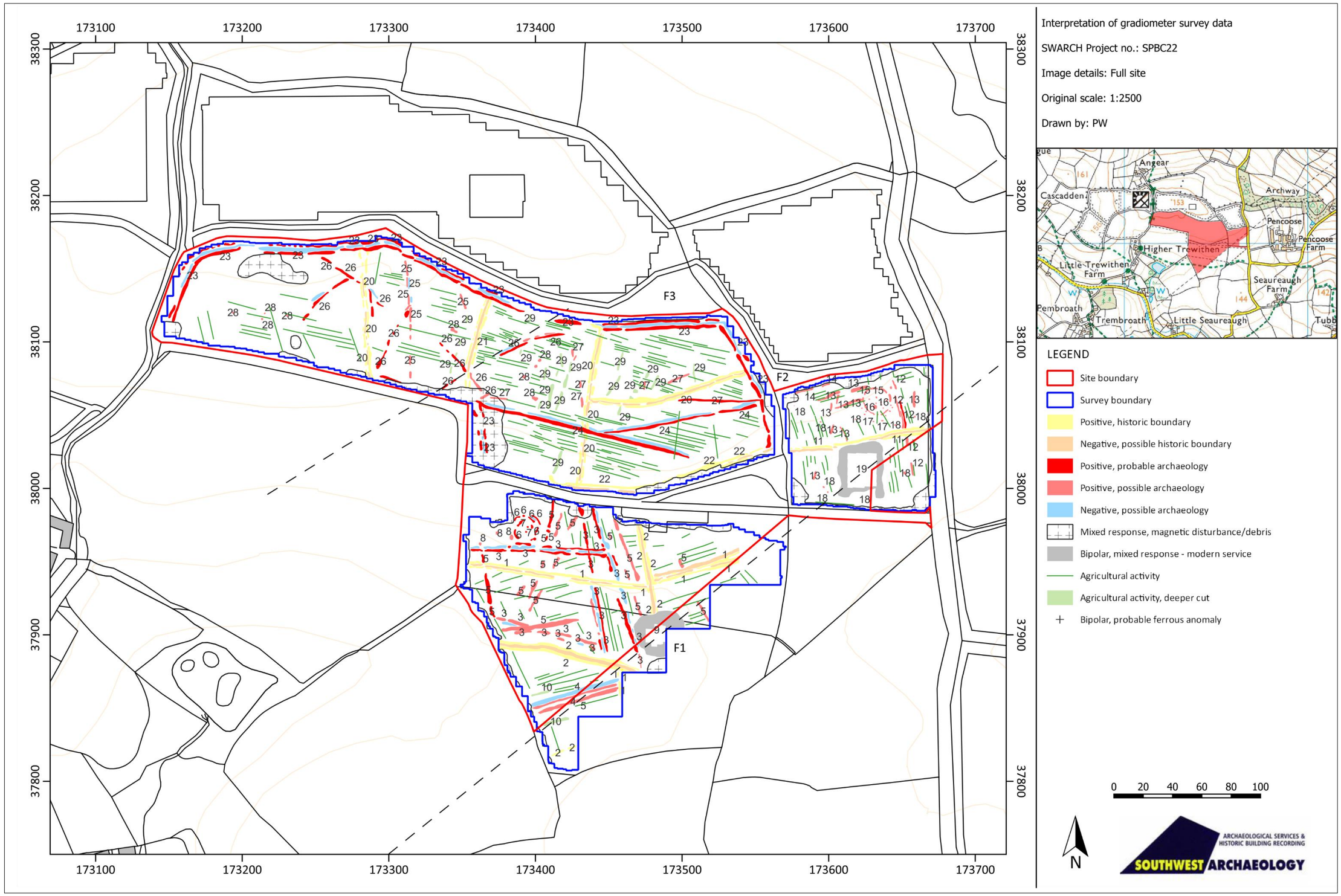

FIGURE 19: INTERPRETATION OF THE GRADIOMETER SURVEY DATA. CONTAINS ORDNANCE SURVEY DATA © CROWN COPYRIGHT AND DATABASE RIGHT 2022.

3.7.4 DISCUSSION

The survey identified 29 groups of anomalies across three fields. These were predominantly linear ditch and/or bank features associated with phases of the existing and historic field-system; possible ring-ditch/drip-gully and post-hole roundhouse structures; and possible pits. Anomalies associated with agricultural activity, metallic debris and ground disturbance were also identified.

The general response variation across the site was between +/-3nT with occasional clear background geological variation up to +/-5nT. The response strength of identified anomalies was weak (+/-15nT). The weak responses of some of the anomalies may indicate that these are only likely to survive to a shallow depth.

3.7.5 ARCHAEOLOGICAL POTENTIAL

Whilst none of the identified features can at this stage be dated, the location of several of the anomaly groups corresponds with boundaries depicted on historic mapping, indicating that these features were in use from at least the middle of the 19th century, with some removed by 1878 (Groups 1, 11 and 20) or during the 20th century (Groups 2 and 21). Other ditch and/or bank features represent only minor shifts in the positions of boundaries, both mapped (Group 22) and unmapped features (Groups 14 and 23) running close to and parallel to the current field boundaries.

The surrounding historic field-pattern is characterized as medieval farmland with either medieval or prehistoric origins, the surviving boundaries of which are represented in the gently curving elements of the existing field-system. It is likely that many of the remaining ditch and/or bank features form part of these earlier field-systems, having been removed by the mid-19th century. Some are more in congruence with the existing field-layout (Groups 3, 5, 12-13, 24-25 and 27) and may form elements of an earlier phase of the same field-system; whilst others appear offset (Groups 5 and 26) and may be even earlier.

Two penannular/circular features within fields F1 (Group 6) and F2 (Group 15) are suggestive of the ring-ditches or drip-gullies of prehistoric (Iron Age) roundhouse construction; a third group within F2 (Group 17) comprising a circular arrangement of possible pit/post-holes which may reflect the post construction of an additional structure. Further groups of possible pits features (Groups 7 and 16) may represent internal features within these structures. Whilst the weak nature and incomplete form of these anomalies indicates that they are likely natural in origin, the discovery of Iron Age settlement to the north-west at Trebowland provides the possibility that they may fit within a wider landscape of prehistoric settlement. If they do prove to be prehistoric roundhouse structures, it would be expected that they would have been situated within an associated contemporary field-system, to which some of the identified linear features in the surrounding fields may have belonged, particularly those that are offset to the existing field system (Group 26).

Examples of possible pit features are present across the site (Groups 8, 18 and 28), though the weak nature of many of these responses suggests that they may be natural in origin, perhaps features such as tree-throws.

The remaining features identified across the site reflect historic episodes of ploughing, either plough scarring or perhaps the furrows of historic ridge and furrow type agriculture.

The degree of preservation of the identified features appears to be mixed. Many of the anomaly responses are weak, with some intermittent and barely discernible from the background geology. This suggests that many of the identified features only survive to a shallow depth, their intermittent nature suggesting only partial survival. However, it is possible that additional, even more ephemeral features, are masked by the background geology.

The results of the geophysical survey would suggest that the archaeological potential for the site is *moderate*. The majority of the identified features relate to historic phases of field-system which are tentatively suggested as being medieval and post-medieval in date, though the presence of *possible* prehistoric settlement features on the site and within the surrounding landscape means that a prehistoric or Romano-British date cannot be ruled out.

3.7.6 IMPACT SUMMARY

The direct *effect* of the development would be the possible disturbance or destruction of archaeological features or deposits present within the footprint of the development; the *impact* of the development would depend on the presence and significance of archaeological features and deposits.

Given the historic use of the site as agricultural land it is considered likely that should archaeological features survive, these are likely to only be the larger and deeper cut examples. The results of the geophysical survey would suggest that features of archaeological origin are present, the survey identifying a series of features, including historic boundaries depicted on historic mapping as well as other linear (probable) boundary features and features indicating potential prehistoric settlement activity, though at present all of these features are undated.

Any development of the site is likely to encounter and destroy the buried archaeological resource; the results of the geophysical survey would suggest that further archaeological mitigation in the form of (in the first instance) targeted evaluation trenching would validate and clarify the results of the geophysical survey.

TABLE 8: SUMMARY OF DIRECT IMPACTS.

Asset	Type	Distance	Value	Magnitude of Impact	Assessment	Overall Assessment
Direct Impacts						
Unidentified archaeological features	U/D	On site	Unknown (possibly high)	Major adverse	Large/Very Large adverse	Major Adverse
After mitigation			Negligible	Minor adverse	Neutral/Slight	Neutral/Negligible adverse

4.0 INDIRECT IMPACTS

4.1 STRUCTURE OF THE ASSESSMENT

For the purposes of this assessment, the *indirect effect* of a development is taken to be its effect on the wider historic environment. The principal focus of such an assessment falls upon identified designated heritage assets like Listed buildings or Scheduled Monuments. Depending on the nature of the heritage asset concerned, and the size, character and design of a development, its effect can impact on designated assets up to 20km away.

The staged approach for the assessment of indirect impacts references the *Setting of Heritage Assets* (Historic England 2017, para 9). The aim of this assessment is to identify the designated heritage assets outside the redline boundary that might be impacted upon by the proposed development, determine if an effect on their significance via setting is possible, and establish the level of impact. The staged approach advocated by GPA3 contains the following steps (Historic England 2017, para 9):

1. Identify which heritage assets and their settings are affected.
2. Assess the degree to which these settings make a contribution to the significance of the heritage asset(s) or allow significance to be appreciated.
3. Assess the effects of the proposed development, whether beneficial or harmful, on that significance or on the ability to appreciate it.
4. Explore ways to maximise enhancement and avoid or minimise harm.
5. Make and document the decision and monitor outcomes.

Step one is to identify the designated heritage assets that might be affected by the development. The first stage of that process is to determine an appropriate search radius, and this would vary according to the height, size and/or prominence of the proposed development. For instance, the search radius for a wind turbine, as determined by its height and dynamic character, would be much larger than for a single house plot or small agricultural building. For this assessment, the second part of the process is to examine the heritage assets within the search radius and assign them to one of three categories:

- Category #1 assets: Where proximity to the proposed development, the significance of the heritage asset concerned, or the likely magnitude of impact, demands detailed consideration.
- Category #2 assets: Assets where location and current setting would indicate that the impact of the proposed development is likely to be limited, but some uncertainty remains.
- Category #3 assets: Assets where location, current setting, significance would strongly indicate the impact would be no higher than negligible and detailed consideration both unnecessary and disproportionate. These assets are scoped out of the assessment but may still be listed in the impact summary table.

Dependant on the nature of the development, this work may be informed, but not governed, by a generated ZTV (zone of theoretical visibility).

Pursuant to *Steps Two* and *Three*, a series of site visits are made to the designated heritage assets of Categories #1 and #2. Each asset is considered separately and appraised on its significance, condition, and setting/context by the assessor. The potential impacts the development are assessed for each location, taking into account site-specific factors and the limitations of that assessment (e.g. no access, viewed from the public road etc.). Photographic and written records are compiled during these visits. If a ZTV has been used in the assessment, the accuracy of the ZTV is corroborated with reference to field observations.

Step 4 is possible where the required information is available from the developer/client/agent, and where design is an iterative process rather than *fait accompli*. In many instances, adverse outcomes (and more rarely, beneficial outcomes) are unavoidable, as mitigation would have to take place at the heritage asset concerned or within an intervening space, and not the proposed site itself.

Assessment and documentation, *Step 5*, takes place within this document. The individual asset tables are completed for each assessed designated heritage asset, and, with an emphasis on practicality and proportionality (Historic England 2017, para 2, 17, 19, 21, 23, 41), assets are grouped by category (e.g. churches, historic settlements, funerary remains etc.) and provided with a generic preamble that avoids repetitious narrative. This initial preamble establishes the baseline sensitivity of a given category of monument or building to the potential effect; the individual entries that follow then elaborate on local circumstance and site-specific factors. The individual assessments are to be read in conjunction with the overall discussion, as the assessment of impact is reflection of both.

4.2 QUANTIFICATION

A 1km radius has been considered suitable for the assessment of any likely impacts upon heritage assets as a result of the proposed development. There are 24 Listed Buildings (1 Grade II*), 3 Scheduled Monuments and one World Heritage Site within 1km of the site. With the exception of the Grade II listed Cascadden Farmhouse, Scheduled Round 280m south west of Trebowland and Gwennap Mining District area of the Cornwall and West Devon Mining Landscape World Heritage Site the remainder were scoped out of the assessment following the site visit due to the screening effects of topography.

Based on perceived value, location relative to the site, and the extent of the work, the round 280m south west of Trebowland has been treated as a *Category #1* asset, Cascadden Farmhouse and the Gwennap Mining District Area of the Cornwall and West Devon Mining Landscape World Heritage Site have been treated as *Category #2* assets. All other designated heritage assets within the vicinity of the site were scoped out of the assessment following a site visit due to the lack of visibility of the site to and from their locations as a result of topography and screening effects of other structures.

With an emphasis on practicality and proportionality (see *Setting of Heritage Assets* p15 and p18), only those assets where there is the possibility for an effect greater than negligible (see Table 4 in Appendix 2) are considered here in detail and in summary Table 5. All other Scheduled and Listed assets can be seen listed and mapped in section 3.1, although they have been scoped out of this assessment due to their neutral relationship to the proposed development.

- Category #1 assets: Round 280m south west of Trebowland
- Category #2 assets: Cascadden Farmhouse, Gwennap Mining District Area of the Cornwall and West Devon Mining Landscape World Heritage Site
- Category #3 assets: All other Scheduled Monuments, World Heritage Site Areas and Listed Buildings within 1km of the site

4.3 IMPACT BY CLASS OF MONUMENT OR STRUCTURE

4.3.1 **PREHISTORIC SETTLEMENTS**

Enclosures, 'rounds', hut circles

Rounds are a relatively common form of enclosed settlement in Cornwall and, to a lesser extent, in Devon, where they are often referred to as hillslope enclosures. These settlements date to the Iron Age and Romano-British periods, most being abandoned by the sixth century AD. Formerly regarded as the primary settlement form of the period, it is now clear these unenclosed – essentially invisible on the ground – settlements (e.g. Richard Lander School) were occupied alongside the enclosed settlements, implying the settlement hierarchy is more complex than originally imagined.

These monuments are relatively common, which would suggest that decisions about location and prospect were made on a fairly local level. Despite that – and assuming most of these monuments were contemporary – visual relationships would have played an important role in interactions between the inhabitants of different settlements. Such is the density of these earthwork and cropmark enclosures in Cornwall (close to one every 1km^2), it is difficult to argue that any one example – and particularly those that survive only as a cropmarks – is of more than local importance, even if it happens to be Scheduled.

Prehistoric farmsteads – i.e. hut circles – tend to be inward-looking and focused on the relationship between the individual structures and the surrounding fieldsystems, where they survive. The setting of these monuments does contribute to their wider significance, but that setting is generally quite localised; the relevance of distance prospects and wider views has not been explored for these classes of monument, and it is thus difficult to assess the impact of, for example, a wind turbine at some distance removed.

Asset Name: **Round 280m south west of Trebowland**	
Parish: Gwennap	*Value*: High
Designation: SM	*Distance to Development*: *c*.590m
Summary: *Scheduling*: *The round 280m south west of Trebowland survives well. Despite partial reduction and limited modification of the earthworks, these remain substantially intact. The underlying old land surface, and remains of any buildings, structures, and other deposits associated with this and with the upstanding earthworks and ditch, will survive. The association with post- medieval inter-parish games illustrates one form of reuse of this monument type.* *The monument includes a later prehistoric to Romano-British round, reused for hurling matches in the post-medieval period, and situated on level ground on top of a prominent ridge south east of Lanner. The round is sub-circular in plan, measuring approximately 94m across overall. Around the west side, it has an enclosing bank 7.3m wide and 1.2m high inside, 1.8m-2.1m high outside, with a dip 4.5m wide and up to 0.2m deep at the edge of the interior within it, and an external ditch 4m wide and averaging 1m deep. On the south side, the bank's outer face has a post-medieval type stone revetment, and the external ditch beyond this is modified to form a trackway. On the east side, the earthworks are visible as a scarp approximately 6.6m wide and 0.9m high, with a slight depression some 3.5m wide beyond. The bank material, exposed in places on the west side, is earth and stone. The interior is generally level. A literary source from 1845 provides evidence for the round's reuse for inter-village hurling matches. The modern trackway surface, water tank, telegraph pole and wires, fencing, and dumped stone are excluded from the scheduling, although the ground beneath them is included.*	
Conservation Value: The round has evidential value in its below ground archaeological remains and some historical illustrative value in its contribution to the narrative of prehistoric settlement and occupation in this area as well as in its subsequent reuse for hurling matches. Its aesthetic and communal values are limited as there appears to be no public access to the site and it comprises earthwork remains. There is no known historical associational value.	
Authenticity and Integrity: The monument comprises an earthwork which is relatively well preserved and is considered highly likely to contain sealed archaeological deposits.	
Setting: The round near Trebowland sits in an elevated position with relatively extensive views to the surrounding countryside. A concrete structure is located at the south western corner of the round.	
Contribution of Setting to the Significance of the Asset: The extensive views afforded by the siting of this	

monument would have been a consideration in its original placement, along with factors such as the territorial limits of its inhabitants; it continues to enjoy extensive open views of the surrounding landscape. It can therefore be considered that it derives some of its significance from its setting.
Scale of Change: The proposed development is located beyond an existing PV development which is just visible with the naked eye from the monument in extensive landscape views to the south east. There is the possibility that additional PV panels could enhance the visibility of the site, particularly if the angle of the sun reflects directly off them, however they would largely be screened by the existing panels.
Significance of Effects: High value asset and *negligible* change = **Slight** effect
Professional Judgement: **Slight Adverse**

4.3.2 LISTED COTTAGES AND STRUCTURES WITHIN HISTORIC SETTLEMENTS

Clusters of Listed Buildings within villages or hamlets; occasionally Conservation Areas

The context of the (usually) Grade II Listed buildings within settlement is defined by their setting within the village settlement. Their significance is determined by their architectural features, historical interiors or role/function in relation to the other buildings. The significance of their setting to the experience of these heritage assets is of key importance and for this reason the curtilage of a property and any small associated buildings or features are often included in the Listing and any changes must be scrutinised under relevant planning law.

Most village settlements have expanded significantly during the 20th century, with rows of cottages and modern houses and bungalows being built around and between the older 'core' Listed structures. The character of the settlement and setting of the heritage assets within it are continually changing and developing, as houses have been built or farm buildings have been converted to residential properties. The setting of these heritage assets within the village can be impacted by new residential developments especially when in close proximity to the settlement. The relationships between the houses, church and other Listed structures will not be altered, and it is these relationships that define their context and setting in which they are primarily to be experienced.

The larger settlements and urban centres usually contain a large number of domestic and commercial buildings, only a very small proportion of which may be Listed or protected in any way. The setting of these buildings lies within the townscape, and the significance of these buildings, and the contribution of their setting to that significance, can be linked to the growth and development of the individual town and any associated industries. The original context of any churches may have changed significantly since construction, but it usually remains at the heart of its settlement. Given the clustering of numerous individual buildings, and the local blocking this inevitably provides, a distant development is unlikely to prove particularly intrusive.

What is important and why

Historic settlements constitute an integral and important part of the historic landscape, whether they are hamlets, villages, towns or cities. The physical remains of previous occupation may survive beneath the ground, and the built environment contains a range of vernacular and national styles (evidential value). Settlements may be archetypal, but development over the course of the 20th century has homogenised most, with streets of terraced and semi-detached houses and bungaloid growths arranged around the medieval core (limited historical/illustrative value). As dynamic communities, there will be multiple historical/associational values relating to individuals, families, occupations, industry, retail etc. in proportion to the size and age of the settlement (historical/associational). Settlements that grew in an organic fashion developed fortuitously into a pleasing urban environment (e.g. Ledbury), indistinguishable suburbia, or degenerate urban/industrial wasteland (aesthetic/fortuitous). Some settlements were laid out quickly or subject to the attention of a limited number of patrons or architects (e.g. late 19th century Redruth and the architect James Hicks, or Charlestown and the Rashleigh family), and thus strong elements of design and planning may be evident which contribute in a meaningful way to the experience of

the place (aesthetic/design). Component buildings may have strong social value, with multiple public houses, clubs, libraries (communal/social), chapels and churches (communal/spiritual). Individual structures may be commemorative, and whole settlements may become symbolic, although not always in a positive fashion (e.g. the Valleys of South Wales for post-industrial decline) (communal/symbolic). Settlements are complex and heterogeneous built environments filled with meaning and value; however, beyond a certain size threshold distant sight-lines become difficult and local blocking more important.

Almost every village or town will have a public house, usually several. They may have been specially constructed perhaps by a landowning industrialist as a means of profiting from travellers or his own workforce; or arose organically, being converted from a residential property. Their setting is often local in character, along thoroughfares with a clear concern for visibility from the road. An important facet of these buildings is its communal value: places where disparate elements of the population could meet and serving as a focus for local sentiment.

Asset Name: **Cascaddon Farmhouse**	
Parish: Gwennap	*Value*: Medium
Designation: Listed Grade II	*Distance to Development*: *c*.550m
Summary: *Listing*: *Cascadden Farmhouse - GV II Farmhouse. C17, remodelled circa early C18 and again in the mid C19. Granite and elvan rubble with granite lintels and slate sills. Asbestos slate roof with brick chimneys over gable ends. Originally probably 3-room through passage plan, remodelled circa early C18 as 2 small houses. Left-hand house (south) later converted to farm building and reduced to single storey in C20. Right-hand part, originally the upper end, i.e. hall and inner room, remodelled circa early C18 as 2- room house with central passage plus narrow service room under outshut to rear of larger room, right, finally new central stair, floors and roof in the C19. 2 storeys. Nearly symmetrical 3-window east front. All openings grouped towards left. Doorway with ledged door with inserted light, rises higher than flanking window openings. All window openings square and very small with circa late C19 6- pane horned sashes except for 4-pane horned sash over doorway. Evidence of ragged joint to left and right of where rebuilt front circa early C18 joins older walling. Interior is simple with C19 carpentry and joinery except for C18 2-panel door with fielded panels to left of passage and linked to C18 pine muntin and plank partition. Large chimney breast in right-hand room probably C17. Roof structure not inspected but said to retain rough rounded trusses.*	
Conservation Value: The building is likely to hold aesthetic value but as it lies out of site from public roads along a private drive it was not inspected in the course of this survey. It has clear evidential value within its fabric (interior not inspected) and historical illustrative value as part of the narrative of the development of the farmstead 17th-20th centuries. As a private house it is unlikely to have communal value.	
Authenticity and Integrity: The building appears to have been recorded in good condition and may have been subject to site visits as part of a listed buildings survey. Its listing description describes several phases of evolution from its 17th century origins.	
Setting: The setting of Cascadden Farmhouse comprises the farmyard and agricultural land surrounding it.	
Contribution of Setting to the Significance of the Asset: The setting of Cascadden Farmhouse is derived from the landscape immediately around it, which belongs (or historically belonged) to its land holding. There may be some views outwards however the siting of the farmhouse is likely to have been practical rather than to permit views in to it.	
Scale of Change: The proposed development represents an extension of an existing area of solar panels however there are PV panels sited closer to Cascadden as part of the existing development than the proposed development would be. It is possible the increased area of panels would have a slight cumulative impact in terms of massing on views out to the east however the asset does not derive significance from its setting in terms of extensive views outwards in this direction.	
Significance of Effects: Medium value asset and *Negligible* change = **Neutral/Slight** effect	
Professional Judgement: **Neutral/Slight Adverse**	

4.3.3 WORLD HERITAGE SITE

Mines, Engine Houses, Smallholdings, Ports, Harbours, Canals, Railways, Tram roads and waste heaps.

Much of the landscape of Cornwall and West Devon was transformed in the 18th and early 19th centuries as a result of the rapid growth of pioneering copper and tin mining. Its deep underground mines, engine houses, foundries, new towns, smallholdings, ports and harbours, and their ancillary industries together reflect prolific innovation which, in the early 19th century, enabled the region to produce two-thirds of the world's supply of copper. The substantial remains are a testimony to the contribution Cornwall and West Devon made to the Industrial Revolution in the rest of Britain and to the fundamental influence the area had on the mining world at large. Cornish technology embodied in engines, engine houses and mining equipment was exported around the world. Cornwall and West Devon were the heartland from which mining technology rapidly spread (unesco.org).

What is important and why

The mining landscape of Cornwall and west Devon, and particularly its characteristic engine houses and beam engines as a technological ensemble in a landscape, reflect the substantial contribution the area made to the Industrial Revolution and formative changes in mining practices around the world.

Asset Name: **Gwennap Mining District - (Area A6 of the Cornwall and West Devon Mining Landscape World Heritage Site)**	
Parish: Gwennap/Stithians	*Value:* Very High
Designation: World Heritage Site	*Distance to Development: c*.660m
Description: *Statement of outstanding universal value:* *Area A6 (50008'53"N, 05039'21"W) - this western rural landscape, the Copper Kingdom of the Old World (mineralogically the most significant in the Site), the home of the Lemons and Williams mining dynasties, one of the most important proving grounds for Boulton & Watt engines, one of the most extensive mineral transport infrastructures, home to Cornwall's 'third' iron and engine foundry (Perran), premier gunpowder works and, at Gwennap Pit, its Methodist icon.* *• Produced a major proportion of the world's supply of copper during the 18th and first half of the 19th century.* *• Sited some of its earliest beam engines such as those produced by Newcomen, Smeaton and Watt.* *• Includes the Methodist icon of Gwennap Pit, one of Britain's three most important Methodist sites.* *• Includes the Perran Foundry complex, one of the 19th century world's most important engine foundries.* *• The Kennall Vale Gunpowder Works is one of the largest and most complete gunpowder works to be found anywhere in Britain.* *• The Williams' family great houses, estates and gardens is the most important grouping of associated attributes of their type within the Site. Such a concentration of great estates within a mining district is unique. Carclew, the ruins of the great house and estate established by one of the greatest of all Cornwall's mining magnates, Sir Charles Lemon, a key figure in the development of the Gwennap mines. The magnificent house, set above the Carnon Creek to the south of Devoran, was sadly reduced to a ruin by fire in 1934, but its park and gardens, historically so important to British* *horticulture, remain open to the public.* *• Is the source of some of the most historically, scientifically and culturally important copper mineralogy in the world.* *• At Restronguet Creek, sub-estuarine mining in tin gravels was carried out.* *• Includes some of the oldest engine houses to survive anywhere in Cornwall with direct connections to the able and successful mining entrepreneur John Taylor.* *• Includes the mining port of Devoran.* *• Large areas of mineworkers' smallholdings occupy its north and east, once the site of a huge expanse of downland but subsequently laid out to smallholdings, the boundaries of many of its tiny fields planted with oaks and hawthorns.* *• Sites some of the starkest industrial landscapes to be found anywhere in the Site – hectares of shaft littered*	

heathland, the sprawling un-revegetated mine dumps of Poldice and the poisoned, ochre stained valley of Wheal Maid, each giving a small indication of the sheer scale of industrial activity which took place here during the 18th century and the early 19th century. *• The Area includes the Mining villages of Chacewater, St Day and Carharrack. Each is distinct and different in character, the histories of Chacewater and St Day being linked to the early period of Cornwall's industrialisation, that of Carharrack to its mature period.*
Conservation Value: The Gwennap Mining District with Devoran and Perran and Kennall Vale contains evidential value in its built heritage as well as its archaeological sites, the remains of mine workings and associated industries. The refinement of mineral extraction in Cornwall and its related technological innovations influenced later commercial mining around the world. The products from Cornish mining helped fuel the industrial revolution. The historical value of the Gwennap mining district, as part of the World Heritage Site, is recognised as of international significance. The WHS has historical illustrative value through its role in understanding the development of Cornish mining and some parts of this area of the WHS have historical associative value (e.g., through its links with methodism). Some communal value is likely, particularly among local residents or former residents who have links with mining activities at sites within this area, or at sites within the WHS area which are publicly accessible.
Authenticity and integrity: As one of the more rural parts of the WHS it has maintained an agricultural character giving way to post-industrial landscapes in some areas. Larger settlements include Chacewater and Carharrack. This area is noted as containing several attributes of the OUV of the WHS, namely Mine Sites, Mine Transport infrastructure, Ancillary industries, Mining settlements and social infrastructure, Great houses and miners smallholdings.
Setting: The setting of this area of the WHS is largely agricultural in character, although the Camborne and Redruth Mining District Area of the WHS lies close to its western side.
Contribution of Setting to the Significance of the Asset: The majority of the industrial elements of the WHS were located due to the proximity to the ores they were exploiting, the mines they were servicing or resources they were reliant upon. The exception to this is perhaps the Great Houses which although sited close to the mines from which their owners derived their wealth, would also have taken into account the topography to enable views in and out as well as access. The agricultural landscape surrounding the WHS would have been of value in supplying the burgeoning populations of these areas with necessary food but is incidental in forming the setting of the WHS and its does not derive significance from this.
Scale of Change: The development comprises an extension of an existing solar development, the new area located to the south of the existing area and therefore at a greater distance from the WHS. It is also likely to experience topographic screening from the WHS to the north east. Although the development brings the PV slightly closer to the Kennall Vale area, this area is constrained within its valley location with no views outwards towards the site.
Significance of Effects: Very High value asset and No Change = **Neutral** effect
Professional Judgement: **Neutral Impact.**

4.3.4 **HISTORIC LANDSCAPE**

General Landscape Character

The landscape character of this area is rural agricultural, although with clear evidence of post medieval mineral exploitation and its associated industries and settlements within the wider landscape. The development represents an extension of an existing area of PV panels, decreasing the rural, agricultural feel of this area of the landscape. It can therefore be considered to have a **Neutral/slight adverse** impact on the general landscape character of the area.

4.3.5 **AGGREGATE IMPACT**

The aggregate impact of a proposed development is an assessment of the overall effect of a single development on multiple heritage assets. This differs from cumulative impact (below), which is an assessment of multiple developments on a single heritage asset. Aggregate impact is particularly difficult to quantify, as the threshold of acceptability will vary according to the type, quality, number and location of heritage assets, and the individual impact assessments themselves.

Based on the restricted number of assets where any appreciable effect is likely, the aggregate impact of this development is **Neutral**.

4.3.6 CUMULATIVE IMPACT

Cumulative impacts affecting the setting of a heritage asset can derive from the combination of different environmental impacts (such as visual intrusion, noise, dust and vibration) arising from a single development or from the overall effect of a series of discrete developments. In the latter case, the cumulative visual impact may be the result of different developments within a single view, the effect of developments seen when looking in different directions from a single viewpoint, of the sequential viewing of several developments when moving through the setting of one or more heritage assets.
The Setting of Heritage Assets 2011a, 25

*The key for all cumulative impact assessments is to focus on the **likely significant** effects and in particular those likely to influence decision-making.*
GLVIA 2013, 123

An assessment of cumulative impact is, however, very difficult to gauge, as it must take into account existing, consented and proposed developments. The threshold of acceptability has not, however, been established, and landscape capacity would inevitability vary according to landscape character. This development represents an extension of an existing site and therefore has the potential to have a cumulative impact on assets in the surrounding area through the increase in the area of panels providing a massing which visually draws the eye. Given the location of the existing panels in relation to heritage assets in the wider landscape and the topography of the site the cumulative impact of this development is therefore considered **neutral/slight adverse**.

TABLE 9: SUMMARY OF IMPACTS AND EFFECTS

Asset	Type	Distance	Value	Significance of Effects	Magnitude of Impact	Overall Assessment
Indirect Impacts						
Round 280m south west of Trebowland	SM	c.590m	High	Negligible	Neutral/Slight	Slight Adverse
Cascadden Farmhouse	GII	550m	Medium	Negligible	Neutral/Slight	Neutral/Slight Adverse
Gwennap Mining District Area of the Cornwall and West Devon Mining Landscape World Heritage Site	WHS	c.660m	Very High	No Change	Neutral	Neutral
Landscape Character						
Historic Landscape	n/a	n/a				Neutral/Slight Adverse
Aggregate Impact	n/a	n/a				Neutral
Cumulative Impact	n/a	n/a				Neutral/Slight Adverse

5.0 CONCLUSIONS

The site lies in the parish of Stithians which derives its name from an unknown female saint. The nearest manor recorded at Domesday was Tregoose, to the south-east of the site, a small manor held by King William at Domesday having been held by Earl Harold in 1066 as overlord with a number of Lords recorded. Lysons records the Manor of Stithians as having been held in the reign of Edward II by Matthew Penfern, passing to the Carminows, the Arundells of Lanhearne until 1800 when it was sold to three brothers named Bath (Lysons 1814). The tithe apportionment of 1840 shows the majority of the proposed site to have been in the ownership of Lady Frances Basset at the date of the tithe survey, with two plots being held by William Martin, who was also the occupier of the majority of the plots owned by Lady Basset. William Martin appears to have been a considerable land owner in his own right, owning around 25 plots in the parish and occupying almost 100 more.

It is proposed to install a c.7.4 hectare solar PV development on this site. This assessment has shown that the site and surrounding area has been subject to limited change during the 19th and 20th century, the main notable change being the removal of a number of field boundaries within and around the site, and more recently the construction of a solar PV development to the north of the site. It does not appear that the site itself has been subject to any archaeological investigation, although a heritage assessment was carried out for the fields to the north prior to the grant of planning permission for the solar PV development. A geophysical survey and watching brief was also carried out at this site. The geophysical survey (Stratascan 2014) identified a number of linear features which were considered to relate to field boundaries and footpaths. Modern anomalies of magnetic debris, ferrous objects etc were also recorded. The watching brief confirmed the presence of boundaries shown on the geophysical survey, several of which were also visible on historic mapping (Cotswold Archaeology 2015). Within a 1km radius of the site there are 24 Listed Buildings (1 Grade II*). The closest Scheduled Monument to the site is a round 280m south west of Trebowland, to the north west of the site. Two scheduled crosses are also located within Stithians, close to the churchyard. The Gwennap mining district of the Cornwall and West Devon Mining Landscape World Heritage Site lies c.660m to the north-east of the site. There are no Registered Parks and Gardens within 1km of the site.

The results of the geophysical survey would suggest that the archaeological potential for the site is *moderate*. The majority of the identified features relate to historic phases of field-system which are tentatively suggested as being medieval and post-medieval in date, though the presence of *possible* prehistoric settlement features on the site and within the surrounding landscape means that a prehistoric or Romano-British date cannot be ruled out.

The overall impact of the proposed development can be assessed as **Moderate Adverse**. Recommendations and proposed mitigation measures have been made as part of this assessment which have the potential to reduce the impact of the proposed development to Slight Adverse. The impact of the development on any buried archaeological resource would be **irreversible.**

5.1.1 RECOMMENDATIONS AND MITIGATION

The archaeological sensitivity of the site may vary, with historic mapping and geophysical survey suggesting remnants of various phases of field systems are present across the site, along with the potential for prehistoric settlement. A staged programme of archaeological investigation would therefore serve as appropriate mitigation.

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APPENDIX 1: IMPACT ASSESSMENT METHODOLOGY

Heritage Impact Assessment - Overview

The purpose of heritage impact assessment is twofold: Firstly, to understand – insofar as is reasonably practicable and in proportion to the importance of the asset – the significance of a historic building, complex, area or archaeological monument (the 'heritage asset'). Secondly, to assess the likely effect of a proposed development on the heritage asset (direct impact) and/or its setting (indirect impact). The methodology employed in this assessment is based on the approaches advocated in *Managing Significance in Decision-Taking in the Historic Environment* [GPA2 Historic England 2015] and *The Setting of Heritage Assets 2ND Edition* [GPA3 Historic England 2017], used in conjunction with the ICOMOS [2011] and National highways [DMRB LA 104 2020] guidance. This Appendix contains details of the statutory background and staged methodology used in this report.

National Policy

General policy and guidance for the conservation of the historic environment are now contained within the *National Planning Policy Framework* (Department for Communities and Local Government 2012 revised 2021)[1]. The relevant guidance is reproduced below:

Paragraph 194

In determining applications, local planning authorities should require the applicant to describe the significance of any heritage assets affected, including the contribution made by their setting. The level of detail should be proportionate to the assets' importance and no more than is sufficient to understand the potential impact of the proposal on their significance. As a minimum the relevant historic environment record should be consulted, and the heritage assets assessed using appropriate expertise where necessary. Where a site on which a development is proposed includes or has the potential to include heritage assets with archaeological interest, local planning authorities should require developers to submit an appropriate desk-based assessment and, where necessary, a field evaluation.

Paragraph 195

Local planning authorities should identify and assess the particular significance of any heritage asset that may be affected by a proposal (including by development affecting the setting of a heritage asset) taking account of the available evidence and any necessary expertise. They should take this assessment into account when considering the impact of a proposal on a heritage asset, to avoid or minimise conflict between the heritage asset's conservation and any aspect of the proposal.

A further key document is the Planning (Listed Buildings and Conservation Areas) Act 1990[2], in particular section 66(1), which provides *statutory protection* to the setting of Listed buildings:

In considering whether to grant planning permission for development which affects a listed building or its setting, the local planning authority or, as the case may be, the Secretary of State shall have special regard to the desirability of preserving the building or its setting or any features of special architectural or historic interest which it possesses.

In addition, the Ancient Monuments and Archaeological Areas Act 1979[3], the Protection of Wrecks Act 1973[4], and the Historic Buildings and Ancient Monuments Act 1953[5] also contain relevant statutory provisions.

Unitary councils, county councils, and district councils usually have local policies and plans, based on national guidelines, that serve to guide local priorities.

Development within a Historic Environment

Any development within a historic environment has the potential for both *direct* and *indirect* impacts. Direct impacts can be characterised as the physical effect the development may have on heritage assets within, or immediately adjacent to, the redline boundary. These impacts are almost always adverse, i.e. they represent the disturbance or destruction of archaeological features and deposits within the footprint of the Scheme. Indirect impacts can be characterised as the way the development affects the visual, aural, and experiential qualities (i.e. setting) of a

[1] https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/1005759/NPPF_July_2021.pdf.
[2] https://www.legislation.gov.uk/ukpga/1990/9/contents.
[3] https://www.legislation.gov.uk/ukpga/1979/46/contents.
[4] https://www.legislation.gov.uk/ukpga/1973/33/contents.
[5] https://www.legislation.gov.uk/ukpga/Eliz2/1-2/49/contents.

designated heritage asset in the wider area, where the significance of that asset is at least partly derived from those qualities. These impacts can be adverse, beneficial, or neutral.

The *designated heritage assets* (see below) potentially impacted by a development are, by definition, a known quantity and, to a greater or lesser extent, their significance is appreciated and understood. In general, undesignated heritage assets of comparable value to designated assets are also readily identifiable. Nonetheless, understanding of the value and significance of the designated heritage assets must be achieved via a staged process identification and assessment in line with the relevant guidance.

In contrast, unknown archaeological assets are, by definition, unidentified, unquantified and their significance is not understood. Clear understanding of the value and significance of the archaeology must therefore be achieved via a staged process of documentary and archaeological investigation in line with the relevant guidance.

Significance in Decision-Making

It is the determination of *significance* that is critical to assessing level of impact, whether the effect is determined to be beneficial or adverse. The PPG states: *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 to understanding the potential impact and acceptability of development proposals*[6].

The relevant Historic England guidance is *Managing Significance in Decision-Taking in the Historic Environment*[7]. The following is a staged process for decision-taking, largely based on that document.

1. Identity the heritage asset(s) that might be impacted.
2. Understand the significance of the affected asset(s).
3. Understand the impact of the proposal on that significance.
4. Avoid, minimise, and mitigate impact in a way that meets the objectives of the NPPF.
5. Look for opportunities to better reveal or enhance significance.
6. Justify any harmful impacts in terms of the sustainable development objective of conserving significance and the need for change.
7. Offset negative impacts on aspects of significance by enhancing through recording, disseminating, and archiving archaeological and historical interest of the important elements of the heritage assets affected.

In general, impact assessment addresses Steps 1-3 and 7, but may include Steps 4-6 where the required information is available from the developer/client/agent, and where design is an iterative process rather than *fait accompli*.

For designated heritage assets, which have been designated *because* they are deemed significant, Step 1 is relatively straightforward, and Step 2 is also, to a degree quantified, as the determination of significance, to a greater or lesser extent, took place then the heritage asset was designated[8]. For undesignated heritage of assets comparable value, or for archaeological sites that may have not been investigated (or were unknown or poorly understood prior to identification), a staged process of assessment is required (below).

Once an assessment of value and significance has been made, either by reference to designation or comparable importance if undesignated, the significance of the effect (TABLE 12) and magnitude of the impact (TABLE 13) can be determined. The former is logical and objective, the latter is a more nuanced but subjective, and the accompanying discussion provides the more narrative but subjective approach advocated by Historic England. This is a useful balance between rigid logic and nebulous subjectivity (e.g. the significance of effect on a Grade II Listed building can never be greater than moderate/large; an impact of substantial adverse is almost never achieved). This is in adherence with GPA3[9].

In the NPPF, adverse impact is divided into the categories: *total loss*, *substantial harm*, and *less than substantial harm*. The bar for substantial harm was set at a very high level in 2013 by the case Bedford BC v SSCLG38. However,

[6] https://www.gov.uk/guidance/conserving-and-enhancing-the-historic-environment. Paragraph 007.
[7] Historic England 2015: *Managing Significance in Decision-Taking in the Historic Environment Good Practice Advice in Planning Note 2*. Paragraph 6.
[8] With the caveat that Listed building descriptions vary in quality between authorities, and interiors may not have been inspected.
[9] Historic England 2017: *The Setting of Heritage Assets: Historic Environment Good Practice Advice in Planning Note 3* (2nd ed.). Paragraph 19.

following a recent High Court action[10] it is possible a *major adverse impact* may now qualify as a *substantial harm*. Any lesser adverse impact will constitute a *less than substantial harm*. TABLE 14 shows how this report correlates the two systems.

It is important to state that, whereas the assessment of direct effects to archaeological sites (where the identified heritage asset falls within the footprint of the development and thus is very likely to be damaged or destroyed) is relatively straightforward, the assessment of indirect effects (where the effect is communicated by the impact on the *setting* of a heritage asset) is more nebulous and harder to convincingly predict.

In this context it is useful to remember that *setting is not itself a heritage asset, nor a heritage designation… its importance lies in what it contributes to the significance of the heritage asset or to the ability to appreciate that significance*[11]. Thus it is not simply the contribution to significance that is important, but also how a setting facilitates or hinders an appreciation of the significance of a heritage asset. *The contribution of setting to the significance of a heritage asset is often expressed by reference to views*[12], but *…setting is different to general amenity. Views out from heritage assets that neither contribute to significance nor allow appreciation of significance are a matter of amenity rather than of setting*[13]. Thus it is possible for views between and across heritage assets and a development to exist without there necessarily being an effect.

In addition, and as PPG states[14]: *The extent and importance of setting is often expressed by reference to the visual relationship between the asset and the proposed development and associated visual/physical considerations. Although views of or from an asset will play an important part in the assessment of impacts on setting, the way in which we experience an asset in its setting is also influenced by other environmental factors such as noise, dust, smell, and vibration from other land uses in the vicinity, and by our understanding of the historic relationship between places. For example, buildings that are in close proximity but are not visible from each other may have a historic or aesthetic connection that amplifies the experience of the significance of each*.

The concept of setting is explored in more detail below (see *Definitions*).

Value and Importance

While every heritage asset, designated or otherwise, has some intrinsic merit, the act of designation creates a hierarchy of importance that is reflected by the weight afforded to their preservation and enhancement within the planning system. The system is far from perfect, impaired by an imperfect understanding of individual heritage assets, but the value system that has evolved does provide a useful guide to the *relative* importance of heritage assets. Provision is also made for heritage assets where value is not recognised through designation (e.g. undesignated 'monuments of Schedulable quality and importance' should be regarded as being of *high* value); equally, there are designated monuments and structures of *low* relative merit. TABLE 10: THE HIERARCHY OF VALUE/IMPORTANCE (BASED ON THE DMRB LA104 2020 TABLE 3.2N).TABLE 10 TABLE 8 is taken from the current DMRB; TABLE 9 refers back to the 2011 DRMB which more usefully defines value in relation to designation.

TABLE 10: THE HIERARCHY OF VALUE/IMPORTANCE (BASED ON THE DMRB LA104 2020 TABLE 3.2N).

Value (Sensitivity) of Receptor / Resource	Typical description
Very High	Very high importance and rarity, international scale and very limited potential for substitution
High	High importance and rarity, national scale, and limited potential for substitution.
Medium	Medium or high importance and rarity, regional scale, limited potential for substitution
Low	Low or medium importance and rarity, local scale
Negligible	Very low importance and rarity, local scale.

[10] UK Holocaust Memorial in Victoria Tower Gardens in Westminster, reference APP/XF990/V/193240661.
[11] Historic England 2017: *The Setting of Heritage Assets: Historic Environment Good Practice Advice in Planning Note 3* (2nd ed.). Paragraph 9.
[12] Historic England 2017: *The Setting of Heritage Assets: Historic Environment Good Practice Advice in Planning Note 3* (2nd ed.). Paragraph 10. The sentiment is also expressed in the PPG glossary.
[13] Historic England 2017: *The Setting of Heritage Assets: Historic Environment Good Practice Advice in Planning Note 3* (2nd ed.). Paragraph 16.
[14] https://www.gov.uk/guidance/conserving-and-enhancing-the-historic-environment. Paragraph 013.

TABLE 11: THE HIERARCHY OF VALUE/IMPORTANCE (BASED ON THE DMRB VOL.11 TABLES 5.1, 6.1 & 7.1).

Hierarchy of Value/Importance	
Very High	Structures inscribed as of universal importance as World Heritage Sites; Other buildings of recognised international importance; World Heritage Sites (including nominated sites) with archaeological remains; Archaeological assets of acknowledged international importance; Archaeological assets that can contribute significantly to international research objectives; World Heritage Sites inscribed for their historic landscape qualities; Historic landscapes of international value, whether designated or not; Extremely well-preserved historic landscapes with exceptional coherence, time-depth, or other critical factor(s).
High	Scheduled Monuments with standing remains; Grade I and Grade II* (Scotland: Category A) Listed Buildings; Other Listed buildings that can be shown to have exceptional qualities in their fabric or historical associations not adequately reflected in the Listing grade; Conservation Areas containing very important buildings; Undesignated structures of clear national importance; Undesignated assets of Schedulable quality and importance; Assets that can contribute significantly to national research objectives. Designated historic landscapes of outstanding interest; Undesignated landscapes of outstanding interest; Undesignated landscapes of high quality and importance, demonstrable national value; Well-preserved historic landscapes, exhibiting considerable coherence, time-depth or other critical factor(s).
Medium	Grade II (Scotland: Category B) Listed Buildings; Historic (unlisted) buildings that can be shown to have exceptional qualities in their fabric or historical associations; Conservation Areas containing buildings that contribute significantly to its historic character; Historic Townscape or built-up areas with important historic integrity in their buildings, or built settings (e.g. including street furniture and other structures); Designated or undesignated archaeological assets that contribute to regional research objectives; Designated special historic landscapes; Undesignated historic landscapes that would justify special historic landscape designation, landscapes of regional value; Averagely well-preserved historic landscapes with reasonable coherence, time-depth or other critical factor(s).
Low	Locally Listed buildings (Scotland Category C(S) Listed Buildings); Historic (unlisted) buildings of modest quality in their fabric or historical association; Historic Townscape or built-up areas of limited historic integrity in their buildings, or built settings (e.g. including street furniture and other structures); Designated and undesignated archaeological assets of local importance; Archaeological assets compromised by poor preservation and/or poor survival of contextual associations; Archaeological assets of limited value, but with potential to contribute to local research objectives; Robust undesignated historic landscapes; Historic landscapes with importance to local interest groups; Historic landscapes whose value is limited by poor preservation and/or poor survival of contextual associations.
Negligible	Buildings of no architectural or historical note; buildings of an intrusive character; Assets with very little or no surviving archaeological interest; Landscapes with little or no significant historical interest.
Unknown	Buildings with some hidden (i.e. inaccessible) potential for historic significance; The importance of the archaeological resource has not been ascertained.

TABLE 12: SIGNIFICANCE OF EFFECTS MATRIX (BASED ON DRMB LA 104 2020; ICOMOS 2011, 9-10).

	Value of Heritage Asset	Scale and Severity of Change/Impact				
		No Change	Negligible Change	Minor Change	Moderate Change	Major Change
		Significance of Effect or Overall Impact (either adverse or beneficial)				
Environmental Value (Sensitivity)	WHS sites that convey OUV	Neutral	Slight	Moderate/Large	Large/Very Large	Very Large
	Very High	Neutral	Slight	Moderate/Large	Large/Very Large	Very Large
	High	Neutral	Slight	Moderate/Slight	Moderate/Large	Large/Very Large
	Medium	Neutral	Neutral/Slight	Slight	Moderate	Moderate/Large
	Low	Neutral	Neutral/Slight	Neutral/Slight	Slight	Slight/Moderate
	Negligible	Neutral	Neutral	Neutral/Slight	Neutral/Slight	Slight

TABLE 13: MAGNITUDE OF IMPACT (BASED ON DMRB LA 104 2020 TABLE 3.4N).

Magnitude of Impact (Change)		Typical Description
Major	Adverse	Loss of resource and/or quality and integrity of resource; severe damage to key characteristics, features, or elements.
	Beneficial	Large scale or major improvement of resource quality; extensive restoration; major improvement of attribute quality.
Moderate	Adverse	Loss of resource, but not adversely affecting the integrity; partial loss of/damage to key characteristics, features or elements.
	Beneficial	Benefit to, or addition of, key characteristics, features, or elements; improvement of attribute quality.
Minor	Adverse	Some measurable change in attributes, quality, or vulnerability; minor loss of, or alteration to, one (maybe more) key characteristics, features, or elements.
	Beneficial	Minor benefit to, or addition of, one (maybe more) key characteristics, features, or elements; some beneficial impact on attribute or a reduced risk of negative impact occurring.
Negligible	Adverse	Very minor loss or detrimental alteration to one or more characteristics, features, or elements.
	Beneficial	Very minor benefit to or positive addition of one or more characteristics, features, or elements.
No change		No loss or alteration of characteristics, features, or elements; no observable impact in either direction.

TABLE 14: SCALES OF IMPACT AS PER THE NPPF, RELATED TO TABLE 13.

Scale of Impact		
No Change	*Neutral*	No impact on the heritage asset.
Less than Substantial Harm	*Negligible Adverse*	Where the developments may be visible or audible but would not affect the heritage asset or its setting, due to the nature of the asset, distance, topography, or local blocking.
	Minor Adverse	Where the development would have an effect on the heritage asset or its setting, but that effect is restricted due to the nature of the asset, distance, or screening from other buildings or vegetation.
	Moderate Adverse	Where the development would have a pronounced impact on the heritage asset or its setting, due to the sensitivity of the asset and/or proximity. The effect may be ameliorated by screening or mitigation.
Substantial Harm	*Substantial Adverse*	Where the development would have a severe and unavoidable effect on the heritage asset or its setting, due to the particular sensitivity of the asset and/or close physical proximity. Screening or mitigation could not ameliorate the effect of the development in these instances.
Total Loss	*Total Loss*	The heritage asset is destroyed.

Staged Investigation – Direct Impact

The staged approach for the assessment of direct impacts references the publication *Significance in Decision-Taking in the Historic Environment*[15]. The aim of this assessment is to establish the *archaeological baseline* for the site and determine the likely significance of the archaeological resource. This staged approach starts with desk-based assessment[16], may conclude with intrusive investigations, and may reference some or all of the following:

1. Documentary research (published works, primary and secondary sources in record offices).
2. Existing archaeological reports or surveys for the site.
3. Historic maps.
4. Archaeological research (historic environment records (HER), event records (HER), Historic England National List; Portable Antiquity Scheme (PLS) records, grey literature reports (available from the Archaeological Data Service).
5. Historic Landscape Characterisation (HLC).
6. Aerial photography (National Mapping Programme, historic aerial photographs (Historic England, Cambridge, Britain from Above), recent commercial photography (Google Earth)).
7. LiDAR analysis (Environment Agency data, TELLUS data).
8. Oral testimony.
9. Walkover survey (or for historic buildings, a historic building appraisal[17]).
10. Geophysical survey, if suitable (magnetometry, electrical resistance, ground-penetrating radar)[18].

[15] Historic England 2015: Managing Significance in Decision-Taking in the Historic Environment*: Historic Environment Good Practice Advice in Planning Note 2.*
[16] CIfA 2014 updated 2020: *Standard and guidance for historic environment desk-based assessment*.
[17] Historic England 2016: Understanding Historic Buildings: A Guide to Good Recording Practice.
[18] CIfA 2014 updated 2020: *Standard and guidance for archaeological geophysical survey*. Schmidt, A., Linford, P. Linford, N. David, A, Gaffney, C., Sarris, A. & Fassbinder, J. 2016: *EAC Guidelines for the Use of Geophysics in Archaeology*.

11. Archaeological trench evaluation[19], if appropriate.

Following the conclusion of this staged process, an assessment of the archaeological potential of the site is produced and (if appropriate) recommendations made, including for further investigation, analysis, and publication to be undertaken, as mitigation for the proposed development. This document will normally only cover Items 1-10.

Type of Impact

Developments can readily be divided into several phases which are marked by different types and level of impact. However, the only one relevant to direct impact is the *construction phase.* Construction works have direct, physical effects on the buried archaeology of a site. Direct effects may extend beyond the nominal footprint of a site e.g. where related works or site compounds are located off-site. *Operational* and *decommissioning* phases are only relevant where elements of the buried archaeological resource survive, but in most instances (excluding PV sites and wind turbines), these impacts are permanent and irreversible.

Staged Investigation – Indirect Impact

The staged approach for the assessment of indirect impacts references the *Setting of Heritage Assets*[20]. The aim of this assessment is to identify the designated heritage assets outside the redline boundary that might be impacted upon by the proposed development, determine if an effect on their significance via setting is possible, and establish the level of impact. The staged approach advocated by GPA3 contains the following steps[21]:

6. Identify which heritage assets and their settings are affected.
7. Assess the degree to which these settings make a contribution to the significance of the heritage asset(s) or allow significance to be appreciated.
8. Asses the effects of the proposed development, whether beneficial or harmful, on that significance or on the ability to appreciate it.
9. Explore ways to maximise enhancement and avoid or minimise harm.
10. Make and document the decision and monitor outcomes.

Step one is to identify the designated heritage assets that might be affected by the development. The first stage of that process is to determine an appropriate search radius, and this would vary according to the height, size and/or prominence of the proposed development. For instance, the search radius for a wind turbine, as determined by its height and dynamic character, would be much larger than for a single house plot or small agricultural building. For this assessment, the second part of the process is to examine the heritage assets within the search radius and assign them to one of three categories:

- Category #1 assets: Where proximity to the proposed development, the significance of the heritage asset concerned, or the likely magnitude of impact, demands detailed consideration.
- Category #2 assets: Assets where location and current setting would indicate that the impact of the proposed development is likely to be limited, but some uncertainty remains.
- Category #3 assets: Assets where location, current setting, significance would strongly indicate the impact would be no higher than negligible and detailed consideration both unnecessary and disproportionate. These assets are scoped out of the assessment but may still be listed in the impact summary table.

Dependant on the nature of the development, this work may be informed, but not governed, by a generated ZTV (zone of theoretical visibility).

Pursuant to *Steps Two* and *Three*, a series of site visits are made to the designated heritage assets of Categories #1 and #2. Each asset is considered separately and appraised on its significance, condition, and setting/context by the assessor. The potential impacts the development are assessed for each location, taking into account site-specific factors and the limitations of that assessment (e.g. no access, viewed from the public road etc.). Photographic and written records are compiled during these visits. If a ZTV has been used in the assessment, the accuracy of the ZTV is corroborated with reference to field observations.

Step 4 is possible where the required information is available from the developer/client/agent, and where design is an iterative process rather than *fait accompli*. In many instances, adverse outcomes (and more rarely, beneficial outcomes) are unavoidable, as mitigation would have to take place at the heritage asset concerned or within an

[19] CIfA 2014 updated 2020: *Standard and guidance for archaeological field evaluation*.
[20] Historic England 2017: *The Setting of Heritage Assets: Historic Environment Good Practice Advice in Planning Note 3* (2nd ed.). Paragraph 9.
[21] Historic England 2017: *The Setting of Heritage Assets: Historic Environment Good Practice Advice in Planning Note 3* (2nd ed.). Paragraph 9.

intervening space, and not the proposed site itself.

Assessment and documentation, *Step 5*, takes place within this document. The individual asset tables are completed for each assessed designated heritage asset, and, with an emphasis on practicality and proportionality,[22] assets are grouped by category (e.g. churches, historic settlements, funerary remains etc.) and provided with a generic preamble that avoids repetitious narrative. This initial preamble establishes the baseline sensitivity of a given category of monument or building to the potential effect; the individual entries that follow then elaborate on local circumstance and site-specific factors. The individual assessments are to be read in conjunction with the overall discussion, as the assessment of impact is reflection of both.

As discussed (elsewhere, this document), the critical assessment is to determine the contribution of setting to the significance of the heritage asset, and/or the ability of the setting to facilitate an appreciation of that significance. Views are important but not paramount, and views to and from a proposed development can exist without adverse effect. Some assets are intrinsically more sensitive to change in their environment than others; a useful shorthand for this can be found in TABLE 15.

TABLE 15: IMPORTANCE OF SETTING TO INTRINSIC SIGNIFICANCE.

Importance of Setting to the Significance of the Asset	
Paramount	Examples: Round barrow; follies, eye-catchers, stone circles
Integral	Examples: Hillfort; country houses
Important	Examples: Prominent church towers; war memorials
Incidental	Examples: Thatched cottages
Irrelevant	Examples: Milestones

Type of Impact

Developments can readily be divided into several phases which are marked by different types and level of impact: the *construction phase*, the *operational phase*, and the *decommissioning* phase. In most instances, impacts are impermanent and reversible, as a turbine can be dismantled, a tower block demolished, or trees may grow up to screen an ugly elevation.

Construction Phase

Construction works have direct, physical effects on the buried archaeology of a site, and a pronounced but indirect effect on neighbouring properties. Direct effects may extend beyond the nominal footprint of a site e.g. where related works or site compounds are located off-site. Indirect effects are both visual and aural, and may also affect air quality, water flow and traffic in the local area.

Operational Phase

The operational phase of a development is either temporary (e.g. wind turbine or mobile phone mast) or effectively permanent (housing development or road scheme). The effects at this stage are largely indirect and can be partly mitigated over time through design and/or planting. Large development can have an effect on historic landscape character, as they transform areas from one character type (e.g. agricultural farmland) into another (e.g. suburban).

Decommissioning Phase

Relevant to wind turbines and PV sites, less relevant to other forms of development. These impacts would be similar to those of the construction phase.

Group Assessment

Individual assessments give some indication as to how a development may affect a particular cottage, historic park, or hillfort, but collective assessment are also necessary, reflecting the effect on the historic environment in general.

Cumulative Impact

A single development will have a direct physical and an indirect visual impact, but a second and a third site in the same area will have a synergistic and cumulative impact above and beyond that of a single site. PPG states[23]: *When assessing any application which may affect the setting of a heritage asset, local planning authorities may need to consider the implications of cumulative change. They may also need to consider the fact that developments which*

[22] Historic England 2017: *The Setting of Heritage Assets: Historic Environment Good Practice Advice in Planning Note 3* (2nd ed.). Paragraphs 2, 17, 19, 21, 23, 41.

[23] https://www.gov.uk/guidance/conserving-and-enhancing-the-historic-environment. Paragraph 013.

materially detract from the asset's significance may also damage its economic viability now, or in the future, thereby threatening its ongoing conservation.

GPA3 states[24]: *Where the significance of a heritage asset has been compromised in the past by unsympathetic development affecting its setting, to accord with NPPF policies consideration still needs to be given to whether additional change will further detract from, or can enhance, the significance of the asset. Negative change could include severing the last link between an asset and its original setting; positive change could include the restoration of a building's original designed landscape or the removal of structures impairing key views of it*.

However, the cumulative impact of a proposed development can be difficult to determine, as consideration must be given to consented and pre-determination proposals as well as operational or occupied sites.

Aggregate Impact

A single development will usually affect multiple individual heritage assets. In this assessment, the term *aggregate impact* is used to distinguish this from cumulative impact. In essence, this is the impact on the designated parts of the historic environment as a whole, rather than multiple developments on a single asset.

[24] Historic England 2017: *The Setting of Heritage Assets: Historic Environment Good Practice Advice in Planning Note 3* (2nd ed.). Paragraph 9.3.

Definitions

Heritage Assets

The NPPF Glossary defines heritage assets as: *A building, monument, site, place, area, or landscape identified as having a degree of significance meriting consideration in planning decisions, because of its heritage interest. It includes designated heritage assets and assets identified by the local planning authority (including local listing)*[25]. This is a fairly broad definition for an expanding range of features, as what is considered of little heritage interest today may – due to location, rarity, design, associations, etc. – be considered of heritage value in the future.

Significance

The NPPF Glossary defines significance as: *The value of a heritage asset to this and future generations because of its heritage interest. The interest may be archaeological, architectural, artistic, or historic. Significance derives not only from a heritage asset's physical presence, but also from its setting*[26].

Conservation Principles

In making an assessment, this report adopts the conservation values (*evidential*, *historical*, *aesthetic* and *communal*) laid out in the English Heritage 2008 publication *Conservation Principles*[27]. These are used to determine and express the relative importance of a given heritage asset. The definition of those terms is summarised below:

Evidential Value

Evidential value (or research potential) is derived from the potential of a structure or site to provide physical evidence about past human activity and may not be readily recognised or even visible. This is the primary form of data for periods without adequate written documentation. However, it is an assessment of *potential* – known value falls under the umbrella of historical value (below).

Historical Value

Historical value (narrative) is derived from the ways in which past people, events and aspects of life can be connected via a place to the present; it can be illustrative or associative.

Illustrative value is the visible expression of evidential value; it has the power to aid interpretation of the past through making connections with, and providing insights into, past communities and their activities through a shared experience of place. Illustrative value tends to be greater if a place features the first or only surviving example of a particular innovation of design or technology.

Associative value arises from a connection to a notable person, family, event or historical movement. It can intensify understanding by linking the historical past to the physical present, always assuming the place bears any resemblance to its appearance at the time. Associational value can also be derived from known or suspected links with other monuments (e.g. barrow cemeteries, church towers) or cultural affiliations (e.g. Methodism).

Buildings and landscapes can also be associated with literature, art, music or film, and this association can inform and guide responses to those places.

Historical value depends on sound identification and the direct experience of physical remains or landscapes. Authenticity can be strengthened by change, being a living building or landscape, and historical values are harmed only where adaptation obliterates or conceals them. The appropriate use of a place – e.g. a working mill, or a church for worship – illustrates the relationship between design and function and may make a major contribution to historical value. Conversely, cessation of that activity – e.g. conversion of farm buildings to holiday homes – may essentially destroy it.

Aesthetic Value

Aesthetic value (emotion) is derived from the way in which people draw sensory and intellectual stimulation from a place or landscape. Value can be the result of *conscious design*, or the *fortuitous outcome* of landscape evolution; many places combine both aspects, often enhanced by the passage of time.

Design value relates primarily to the aesthetic qualities generated by the conscious design of a building, structure,

[25] https://www.gov.uk/guidance/national-planning-policy-framework/annex-2-glossary.
[26] https://www.gov.uk/guidance/national-planning-policy-framework/annex-2-glossary.
[27] English Heritage 2008: *Conservation Principles: policies and guidance for the sustainable management of the historic environment*.

or landscape; it incorporates composition, materials, philosophy, and the role of patronage. It may have associational value, if undertaken by a known architect or landscape gardener, and its importance is enhanced if it is seen as innovative, influential or a good surviving example. Landscape parks, country houses and model farms all have design value. The landscape is not static, and a designed feature can develop and mature, resulting in the 'patina of age'.

Some aesthetic value developed fortuitously over time as the result of a succession of responses within a particular cultural framework e.g. the seemingly organic form of an urban or rural landscape or the relationship of vernacular buildings and their materials to the landscape. Aesthetic values are where a proposed development usually has their most pronounced impact: the indirect effects of most developments are predominantly visual or aural and can extend many kilometres from the site itself. In many instances the impact of a development is incongruous, but that is itself an aesthetic response, conditioned by prevailing cultural attitudes to what the historic landscape should look like.

Communal Value

Communal value (togetherness) is derived from the meaning a place holds for people and may be closely bound up with historical/associative and aesthetic values; it can be commemorative, symbolic, social, or spiritual.

Commemorative and symbolic value reflects the meanings of a place to those who draw part of their identity from it, or who have emotional links to it e.g. war memorials. Some buildings or places (e.g. the Palace of Westminster) can symbolise wider values. Other places (e.g. Porton Down Chemical Testing Facility) have negative or uncomfortable associations that nonetheless have meaning and significance to some and should not be forgotten. Social value need not have any relationship to surviving fabric, as it is the continuity of function that is important. Spiritual value is attached to places and can arise from the beliefs of a particular religion or past or contemporary perceptions of the spirit of place. Spiritual value can be ascribed to places sanctified by hundreds of years of veneration or worship, or wild places with few signs of modern life. Value is dependent on the perceived survival of historic fabric or character and can be very sensitive to change. The key aspect of communal value is that it brings specific groups of people together in a meaningful way.

Significance in the NPPF

The NPPF operates on a slightly differently set of criteria to the Conservation Principles, a divergent trajectory that will doubtless be addressed when the Conservation Principles are revised. Under the NPPF, value is expressed as *archaeological interest*, *architectural and artistic interest*, and *historic interest*. The following is taken from the NPPF PPG[28] document, followed by commentary:

Archaeological Interest

As defined in the Glossary to the National Planning Policy Framework, there will be archaeological interest in a heritage asset if it holds, or potentially holds, evidence of past human activity worthy of expert investigation at some point. This interest most closely accords with evidential value. While it usefully extends that definition to include known elements, the emphasis on *archaeological* interest unhelpfully seems to preclude the built environment.

Architectural and Artistic Interest

These are interests in the design and general aesthetics of a place. They can arise from conscious design or fortuitously from the way the heritage asset has evolved. More specifically, architectural interest is an interest in the art or science of the design, construction, craftsmanship and decoration of buildings and structures of all types. Artistic interest is an interest in other human creative skill, like sculpture. This interest most closely accords with aesthetic value, but the use of the term *architectural* seems prejudiced against vernacular forms of built heritage, and fortuitous aesthetics.

Historic Interest

An interest in past lives and events (including pre-historic). Heritage assets can illustrate or be associated with them. Heritage assets with historic interest not only provide a material record of our nation's history, but can also provide meaning for communities derived from their collective experience of a place and can symbolise wider values such as faith and cultural identity. This interest most closely accords with historical value, and extends to include communal value, though with diminished emphasis.

[28] https://www.gov.uk/guidance/conserving-and-enhancing-the-historic-environment. Paragraph 006.

Concepts from World Heritage Guidance

World Heritage Sites are assessed with reference to their own, non-statutory, guidance[29]. This includes the useful concepts of *authenticity* and *integrity*[30]:

Authenticity

Authenticity is the ability of a property to convey the attributes of the outstanding universal value of the property. *The ability to understand the value attributed to the heritage depends on the degree to which information sources about this value may be understood as credible or truthful*. Outside of a World Heritage Site, authenticity may usefully be employed to convey the sense a place or structure is a truthful representation of the thing it purports to portray. Converted farm buildings, for instance, survive in good condition, but are drained of the authenticity of a working farm environment.

Integrity

Integrity is the measure of wholeness or intactness of the cultural heritage ad its attributes. Outside of a World Heritage Site, integrity can be taken to represent the survival and condition of a structure, monument, or landscape. The intrinsic value of those examples that survive in good condition is undoubtedly greater than those where survival is partial, and condition poor.

Designated Heritage Assets

The majority of the most important ('nationally important') heritage assets are protected through *designation*, with varying levels of statutory protection. These assets fall into one of six categories, although designations often overlap, so a Listed early medieval cross may also be Scheduled, lie within the curtilage of Listed church, inside a Conservation Area, and on the edge of a Registered Park and Garden that falls within a world Heritage Site. The NPPF Glossary defines a designated heritage asset as: *A World Heritage Site, Scheduled Monument, Listed Building, Protected Wreck Site, Registered Park and Garden, Registered Battlefield or Conservation Area designated under the relevant legislation*[31].

Listed Buildings

A Listed building is an occupied dwelling or standing structure which is of special architectural or historical interest. These structures are found on the *Statutory List of Buildings of Special Architectural or Historic Interest.* The status of Listed buildings is applied to 300,000-400,000 buildings across the United Kingdom. Recognition of the need to protect historic buildings began after the Second World War, where significant numbers of buildings had been damaged in the county towns and capitals of the United Kingdom. Buildings that were considered to be of 'architectural merit' were included. The Inspectorate of Ancient Monuments supervised the collation of the list, drawn up by members of two societies: The Royal Institute of British Architects and the Society for the Protection of Ancient Buildings. Initially the lists were only used to assess which buildings should receive government grants to be repaired and conserved if damaged by bombing. The *Town and Country Planning Act 1947* formalised the process within England and Wales, Scotland and Ireland following different procedures. Under the 1979 *Ancient Monuments and Archaeological Areas Act* a structure cannot be considered a Scheduled Monument if it is occupied as a dwelling, making a clear distinction in the treatment of the two forms of heritage asset. Any alterations or works intended to a Listed Building must first acquire Listed Building Consent, as well as planning permission. Further phases of 'listing' were rolled out in the 1960s, 1980s and 2000s; English Heritage advise on the listing process and administer the procedure, in England, as with the Scheduled Monuments.

Some exemption is given to buildings used for worship where institutions or religious organisations (such as the Church of England) have their own permissions and regulatory procedures. Some structures, such as bridges, monuments, military structures, and some ancient structures may also be Scheduled as well as Listed. War memorials, milestones and other structures are included in the list, and more modern structures are increasingly being included for their architectural or social value.

Buildings are split into various levels of significance: Grade I (2.5% of the total) representing buildings of exceptional (international) interest; Grade II* (5.5% of the total) representing buildings of particular (national) importance; Grade II (92%) buildings are of merit and are by far the most widespread. Inevitably, accuracy of the Listing for individual structures varies, particularly for Grade II structures; for instance, it is not always clear why some 19th

[29] ICOMOS 2011: *Guidance on Heritage Impact Assessment for Cultural World Heritage Properties: a publication of the international Council on Monuments and Sites*.
[30] UNESCO 2021: *Operational Guidelines for the Implementation of the World Heritage Convention*. Paragraphs 79-95.
[31] https://www.gov.uk/guidance/national-planning-policy-framework/annex-2-glossary.

century farmhouses are Listed while others are not, and differences may only reflect local government boundaries, policies and individuals.

Other buildings that fall within the curtilage of a Listed building are afforded some protection as they form part of the essential setting of the designated structure, e.g. a farmyard of barns, complexes of historic industrial buildings, service buildings to stately homes etc. These can be described as having *group value*.

Conservation Areas

Local authorities are obliged to identify and delineate areas of special architectural or historic interest as Conservation Areas, which introduces additional controls and protection over change within those places. Usually, but not exclusively, they relate to historic settlements, and there are c.7000 Conservation Areas in England.

Scheduled Monuments

In the United Kingdom, a Scheduled Monument is considered an historic building, structure (ruin), or archaeological site of national importance. Various pieces of legislation, under planning, conservation, etc., are used for legally protecting heritage assets given this title from damage and destruction; such legislation is grouped together under the term 'designation', that is, having statutory protection under the *Ancient Monuments and Archaeological Areas Act 1979*. A heritage asset is a part of the historic environment that is valued because of its historic, archaeological, architectural or artistic interest; those of national importance have extra legal protection through designation. Important sites have been recognised as requiring protection since the late 19th century, when the first 'schedule' or list of monuments was compiled in 1882. The conservation and preservation of these monuments was given statutory priority over other land uses under this first schedule. County Lists of the monuments are kept and updated by the Department for Culture, Media and Sport. In the later 20th century sites are identified by English Heritage (one of the Government's advisory bodies) of being of national importance and included in the schedule. Under the current statutory protection any works required on or to a designated monument can only be undertaken with a successful application for Scheduled Monument Consent.

Registered Parks and Gardens

Culturally and historically important 'man-made' or 'designed' landscapes, such as parks and gardens are currently "listed" on a non-statutory basis, included on the 'Register of Historic Parks and Gardens of special historic interest in England' which was established in 1983 and is, like Listed Buildings and Scheduled Monuments, administered by Historic England. Sites included on this register are of national importance, many associated with stately homes of Grade II* or Grade I status. Emphasis is laid on 'designed' landscapes, not the value of botanical planting. Sites can include town squares and private gardens, city parks, cemeteries and gardens around institutions such as hospitals and government buildings. Planned elements and changing fashions in landscaping and forms are a main focus of the assessment.

Registered Battlefields

Battles are dramatic and often pivotal events in the history of any people or nation. Since 1995 Historic England maintains a register of 46 battlefields in order to afford them a measure of protection through the planning system. The key requirements for registration are battles of national significance, a securely identified location, and its topographical integrity – the ability to 'read' the battle on the ground.

World Heritage Sites

Arising from the UNESCO World Heritage Convention in 1972, Article 1 of the Operational Guidelines (2015, no.49) states: 'Outstanding Universal Value means cultural and/or natural significance which is so exceptional as to transcend national boundaries and to be of common importance for present and future generations of all humanity'. These sites are recognised at an international level for their intrinsic importance to the story of humanity, and should be accorded the highest level of protection within the planning system.

Setting

The assessment of direct effects to archaeological sites (where the identified heritage asset falls within the footprint of a development and thus is very likely to be damaged or destroyed) is relatively straightforward, the assessment of indirect effects (where the effect is communicated via impact on the *setting* of a heritage asset) is more nebulous and harder to convincingly predict.

The NPPF Glossary defines the setting of a heritage asset as: *The surroundings in which a heritage asset is experienced. Its extent is not fixed and may change as the asset and its surroundings evolve. 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[32]*.*

The principal guidance on this topic is contained within one publication: *The Setting of Heritage Assets: Good Practice Advice 3*[33]. Where the impact of a proposed development is largely indirect, the importance of the setting to the significance of the heritage asset becomes the primary consideration of the impact assessment. The following extracts are from GPA3[34]:

The NPPF makes it clear that the extent of the setting of a heritage asset 'is not fixed and may change as the asset and its surroundings evolve'. Setting is not itself a heritage asset, nor a heritage designation, although land comprising a setting may itself be designated (see below Designed settings). Its importance lies in what it contributes to the significance of the heritage asset or to the ability to appreciate that significance.

While setting can be mapped in the context of an individual application or proposal, it cannot be definitively and permanently described for all time as a spatially bounded area or as lying within a set distance of a heritage asset. This is because the surroundings of a heritage asset will change over time, and because new information on heritage assets may alter what might previously have been understood to comprise their setting and the values placed on that setting and therefore the significance of the heritage asset.

There are two ways in which change within the setting of a heritage asset may affect its significance:

- Where the setting of the heritage asset contributes to the significance of the heritage asset (e.g. the historic park around the stately home; the historic streetscape to the Listed shopfronts).
- Where the setting contributes to the ability to appreciate the significance of the heritage asset (e.g. clear views to a principal façade; well-kept garden to a Listed cottage).

GPA3 states: *The contribution of setting to the significance of a heritage asset is often expressed by reference to views, a purely visual impression of an asset or place...*[35] *The Setting of Heritage Assets*[36] lists a number of instances where views contribute to the particular significance of a heritage asset:

- Those where the composition within the view was a fundamental aspect of the design or function of the heritage asset.
- Those where town- or village-scape reveals views with unplanned or unintended beauty.
- Those with historical associations, including viewing points and the topography of battles.
- Those with cultural associations, including landscapes known historically for their picturesque and landscape beauty, those which became subjects for paintings of the English landscape tradition, and those views which have otherwise become historically cherished and protected.
- Those where relationships between the asset and other heritage assets or natural features or phenomena such as solar or lunar events are particularly relevant.
- Those assets, whether contemporaneous or otherwise, which were intended to be seen from one another for aesthetic, functional, ceremonial, or religious reasons, including military and defensive sites, telegraphs or beacons, prehistoric funerary and ceremonial sites, historic parks and gardens with deliberate links to other designed landscapes and remote 'eye-catching' features or 'borrowed' landmarks beyond the park boundary.

However, as stated in PPG[37]: *Although views of or from an asset will play an important part in the assessment of impacts on setting, the way in which we experience an asset in its setting is also influenced by other environmental factors such as noise, dust, smell, and vibration from other land uses in the vicinity, and by our understanding of the historic relationship between places.*

Furthermore, as stated in GPA3[38]: *Similarly, setting is different from general amenity. Views out from heritage assets that neither contribute to significance nor allow appreciation of significance are a matter of amenity rather than of setting.*

[32] https://www.gov.uk/guidance/national-planning-policy-framework/annex-2-glossary.
[33] Historic England 2017: *The Setting of Heritage Assets: Historic Environment Good Practice Advice in Planning Note 3* (2nd ed.).
[34] Historic England 2017: *The Setting of Heritage Assets: Historic Environment Good Practice Advice in Planning Note 3* (2nd ed.). Paragraphs 8, 9.
[35] Historic England 2017: *The Setting of Heritage Assets: Historic Environment Good Practice Advice in Planning Note 3* (2nd ed.). Paragraph 10.
[36] Historic England 2017: *The Setting of Heritage Assets: Historic Environment Good Practice Advice in Planning Note 3* (2nd ed.). Paragraph 11.
[37] https://www.gov.uk/guidance/conserving-and-enhancing-the-historic-environment#assess-substantial-harm. Paragraph 013.
[38] Historic England 2017: *The Setting of Heritage Assets: Historic Environment Good Practice Advice in Planning Note 3* (2nd ed.). Paragraph 16.

These documents make it clear that views to, from, or including, a heritage asset can be irrelevant to a consideration of setting, where those views do not contribution to either the significance of the asset, or an ability to appreciate its significance.

In addition, visibility alone is no clear guide to visual impact. People perceive size, shape and distance using many cues, so context is critically important. For instance, research on electricity pylons[39] has indicated scenic impact is influenced by landscape complexity: the visual impact of pylons is less pronounced within complex scenes, especially at longer distances, presumably because they are less of a focal point and the attention of the observer is diverted. There are many qualifiers that serve to increase or decrease the visual impact of a proposed development, some of which are seasonal or weather-related.

Thus, the principal consideration of assessment of indirect effects cannot be visual impact *per se*. It is an assessment of the likely magnitude of effect, the importance of setting to the significance of the heritage asset, and the sensitivity of that setting to the visual or aural intrusion of the proposed development.

GPA3 also details other area concepts that exist in parallel to, but separate from, setting. These are *curtilage*, *historic character*, and *context*[40].

Curtilage

Curtilage is a legal term describing an area around a building and, for listed structures, the extent of curtilage is defined by consideration of ownership, both past and present, functional association and layout. The setting of a heritage asset will include, but generally be more extensive than, its curtilage. The concept of curtilage is relevant to Listed Building Consent, and where development occurs within the immediate surroundings of the Listed structure.

Historic Character

The historic character of a place is the group of qualities derived from its past uses that make it distinctive. This may include: its associations with people, now and through time; its visual aspects; and the features, materials, and spaces associated with its history, including its original configuration and subsequent losses and changes. Character is a broad concept, often used in relation to entire historic areas and landscapes, to which heritage assets and their settings may contribute. The concept of character area[41] can be relevant to developments where extensive areas designations (Registered Parks and Gardens, Registered Battlefields, Conservation Areas, and World Heritage Sites; also towns and larger villages) are divisible into distinct character areas that a development may impact differently due to proximity, visibility etc.

Context

The context of a heritage asset is a non-statutory term used to describe any relationship between it and other heritage assets, which is relevant to its significance, including cultural, intellectual, spatial or functional. Contextual relationships apply irrespective of distance, sometimes extending well beyond what might be considered an asset's setting, and can include the relationship of one heritage asset to another of the same period or function, or with the same designer or architect. A range of additional meanings is available for the term 'context', for example in relation to archaeological context and to the context of new developments, as well as customary usages. Setting may include associative relationships that are sometimes referred to as 'contextual'. This concept is a useful, though non-statutory one, as heritage assets may have a relationship with the surrounding landscape that is non-visual and based e.g. on their historical economy. This can be related to landscape context (below), but which is a physically deterministic relationship.

Landscape Context

The determination of *landscape context* is an important part of the assessment process. This is the physical space within which any given heritage asset is perceived and experienced. The experience of this physical space is related to the scale of the landform and modified by cultural and biological factors like field boundaries, settlements, trees, and woodland. Together, these contribute to local character and extent of the setting.

Landscape context is based on topography and can vary in scale from the very small – e.g. a narrow valley where views and vistas are restricted – to the very large – e.g. wide valleys or extensive upland moors with 360° views.

[39] Hull, R.B. & Bishop, I.D. 1988: 'Scenic Impacts of Electricity Transmission Towers: the influence of landscape types and observer distance', *Journal of Environmental Management* 27, 99-108.
[40] Historic England 2017: *The Setting of Heritage Assets: Historic Environment Good Practice Advice in Planning Note 3* (2nd ed.). Paragraph 7.
[41] Historic England 2017: *Understanding Place: Historic Area Assessments*.

Where very large landforms are concerned, a distinction can be drawn between the immediate context of an asset (this can be limited to a few hundred metres or less, where cultural and biological factors impede visibility and/or experience), and the wider context (i.e. the wider landscape within which the asset sits).

When new developments are introduced into a landscape, proximity alone is not a guide to magnitude of effect. Dependant on the nature and sensitivity of the heritage asset, the magnitude of effect is potentially much greater where the proposed development is to be located within the landscape context of a given heritage asset. Likewise, where the proposed development would be located outside the landscape context of a given heritage asset, the magnitude of effect would usually be lower. Each case is judged on its individual merits, and in some instances the significance of an asset is actually greater outside of its immediate landscape context, for example, where church towers function as landmarks in the wider landscape.

Principal Views, Landmark Assets, and Visual Impact

Further to the consideration of views (above), historic and significant views are the associated and complementary element to setting, but can be considered separately as developments may appear in a designed view without necessarily falling within the setting of a heritage asset *per se*. As such, significant views fall within the aesthetic value of a heritage asset and may be *designed* (i.e. deliberately conceived and arranged, such as within parkland or an urban environment) or *fortuitous* (i.e. the graduated development of a landscape 'naturally' brings forth something considered aesthetically pleasing, or at least impressive, as with particular rural landscapes or seascapes), or a combination of both (i.e. the *patina of age*).

On a landscape scale views, taken in the broadest sense, are possible from anywhere to anything, and each may be accorded an aesthetic value according to subjective taste (this is the *amenity value* of views[42]). Given that terrain, the biological and built environment, and public access restrict our theoretical ability to see anything from anywhere, in this assessment the term *principal view* is employed to denote both the deliberate views created within designed landscapes, and those fortuitous views that may be considered of aesthetic value and worth preserving, where they contribute to significance.

It should be noted, however, that there are distance thresholds beyond which perception and recognition fail, and this is directly related to the scale, height, massing, and nature of the heritage asset in question. For instance, beyond 2km the Grade II cottage comprises a single indistinct component within the wider historic landscape, whereas at 5km or even 10km a large stately home or castle may still be recognisable. By extension, where assets cannot be seen or recognised i.e. entirely concealed within woodland, or too distant to be distinguished, then visual harm to setting is moot. To reflect this emphasis on recognition, the term *landmark asset* is employed to denote those sites where the structure (e.g. church tower), remains (e.g. earthwork ramparts) or – in some instances – the physical character of the immediate landscape (e.g. a distinctive landform like a tall domed hill) make them visible on a landscape scale. In some cases, these landmark assets may exert landscape *primacy*, where they are the tallest or most obvious man-made structure within line-of-sight. However, this is not always the case, typically where there are numerous similar monuments (multiple engine houses in mining areas, for instance) or where modern developments have overtaken the heritage asset in height and/or massing.

Where a new development has the potential to *visually dominate* a heritage asset, even if the contribution of setting to the significance of a heritage asset is minimal, it is likely to impact on the ability of setting to facilitate an appreciation of the heritage asset in question and can be regarded as an adverse effect.

Visibility alone is not a clear guide to visual impact. People perceive size, shape and distance using many cues, so context is critically important. For instance, research on electricity pylons (Hull & Bishop 1988) has indicated scenic impact is influenced by landscape complexity: the visual impact of pylons is less pronounced within complex scenes, especially at longer distances, presumably because they are less of a focal point and the attention of the observer is diverted. There are many qualifiers that serve to increase or decrease the visual impact of a proposed development, some of which are seasonal or weather-related.

[42] Historic England 2017: *The Setting of Heritage Assets: Historic Environment Good Practice Advice in Planning Note 3* (2nd ed.). Paragraphs 14-16.

APPENDIX 2: SUPPORTING PHOTOGRAPHS - WALKOVER SURVEY

1. F1, VIEW ACROSS THE FIELD; VIEWED FROM THE NORTH (NO SCALE).

2. F1, VIEW ACROSS THE FIELD; VIEWED FROM THE EAST-NORTH-EAST (NO SCALE).

3. F1, VIEW ACROSS THE FIELD; VIEWED FROM THE NORTH-WEST (NO SCALE).

4. F1, VIEW ACROSS THE FIELD; VIEWED FROM THE SOUTH-EAST (NO SCALE).

5. F1, VIEW ALONG THE NORTHERN BOUNDARY; VIEWED FROM THE EAST (NO SCALE).

6. F1, VIEW ALONG THE TRACK RUNNING ALONG THE NORTHERN BOUNDARY; VIEWED FROM THE EAST (NO SCALE).

7. F1, VIEW ALONG THE NORTHERN BOUNDARY; VIEWED FROM THE WEST-NORTH-WEST (NO SCALE).

8. F1, VIEW ALONG THE EASTERN BOUNDARY; VIEWED FROM THE NORTH-NORTH-WEST (NO SCALE).

9. F1, DETAIL OF THE EASTERN BOUNDARY; VIEWED FROM THE WEST (NO SCALE).

10. F1, VIEW ALONG THE SOUTHERN BOUNDARY; VIEWED FROM THE NORTH-EAST (NO SCALE).

11. F1, DETAIL OF THE SOUTHERN PARTIALLY TREE-LINED HEDGEBANK AND FENCE BOUNDARY; VIEWED FROM THE NORTH (NO SCALE).

12. F1, VIEW ALONG THE WESTERN BOUNDARY; VIEWED FROM THE NORTH-NORTH-WEST (NO SCALE).

13. F1, DETAIL OF THE GATED ACCESS ALONG THE WESTERN BOUNDARY; VIEWED FROM THE NORTH-EAST (NO SCALE).

14. F2, VIEW ACROSS THE FIELD; VIEWED FROM THE NORTH-EAST (NO SCALE).

15. F2, VIEW OF THE NORTHERN BOUNDARY; VIEWED FROM THE SOUTH-SOUTH-EAST (NO SCALE).

16. F2, VIEW ALONG THE SOUTHERN BOUNDARY; VIEWED FROM THE EAST (NO SCALE).

17. F3, VIEW ALONG THE SOUTHERN BOUNDARY (EAST); VIEWED FROM THE WEST-SOUTH-WEST (NO SCALE).

18. F3, VIEW ACROSS THE FIELD; VIEWED FROM THE SOUTH (NO SCALE).

19. F3, VIEW ALONG THE SOUTHERN BOUNDARY (EAST); VIEWED FROM THE EAST-SOUTH-EAST (NO SCALE).

20. F3, VIEW ACROSS THE FIELD; VIEWED FROM THE WEST-SOUTH-WEST (NO SCALE).

21. VIEW TOWARDS STITHIANS FROM THE PROPOSAL SITE; VIEWED FROM THE NORTH (NO SCALE).

APPENDIX 3: METADATA FOR GEOPHYSICAL SURVEY PROCESSING

GRADIOMETRY

GENERAL DATA FOR ALL FIELDS/SITE:

SITE

NAME:	SPBC22
LOCATION:	West of Pencoose, Stithians
COLLECTION METHOD:	ZigZag
SENSORS:	2 @1m spacing
DUMMY VALUE:	32702
X&Y INTERVAL:	0.25m
INSTRUMENT TYPE:	Bartington Grad 601
UNITS:	nT
SURVEYED AREA:	6.7641ha

PROGRAM

NAME:	TerraSurveyor
VERSION:	3.0.37.30

STATISTICS ADJUSTED AFTER PROCESSING

PROCESSES USED:

DeStripe: used to equalise underlying differences between grids (potentially caused by instrument drift or orientation, directional effects inherent in magnetic instrument, or differences in instrument set up during survey e.g. using two gradiometers).

DeStagger: reduces staggering effects within data derived from zig-zag collection method.

FIELD F1

STATS

MAX:	108.80
MIN:	-198.06
STD. DEV.:	5.26
MEAN:	0.02
MEDIAN:	0.00
COMPOSITE AREA:	5.76ha
SURVEYED AREA:	2.0215ha

PROCESSES

PROCESSES: 16

1 Base Layer
2 DeStripe Median Traverse: Grids: All
3 De Stagger: Grids: b2-a.xgd By: 0 intervals, 50.00cm
4 De Stagger: Grids: b1-a.xgd By: 0 intervals, 50.00cm
5 De Stagger: Grids: b6-a.xgd b7-a.xgd By: 0 intervals, 50.00cm
6 De Stagger: Grids: b9-a.xgd b8-a.xgd By: 0 intervals, 25.00cm
7 De Stagger: Grids: a20-a.xgd a21-a.xgd a22-a.xgd a23-a.xgd a24-a.xgd a25-a.xgd a12-a.xgd a13-a.xgd a14-a.xgd a15-a.xgd a16-a.xgd a17-a.xgd a18-a.xgd By: 0 intervals, 50.00cm
8 De Stagger: Grids: b3-a.xgd By: 0 intervals, 25.00cm
9 De Stagger: Grids: SubGrid (Area: Top 64, Left 360, Bottom 71, Right 479) By: 0 intervals, 50.00cm
10 De Stagger: Grids: SubGrid (Area: Top 76, Left 360, Bottom 83, Right 479) By: 0 intervals, 50.00cm
11 De Stagger: Grids: a15-a.xgd By: 0 intervals, 25.00cm
12 De Stagger: Grids: SubGrid (Area: Top 104, Left 600, Bottom 109, Right 719) By: 0 intervals, 50.00cm

13 De Stagger: Grids: a13-a.xgd a4-a.xgd By: 0 intervals, 50.00cm
14 De Stagger: Grids: SubGrid (Area: Top 180, Left 600, Bottom 185, Right 719) By: 0 intervals, -50.00cm
15 De Stagger: Grids: SubGrid (Area: Top 42, Left 360, Bottom 43, Right 479) By: 0 intervals, -100.00cm
16 De Stagger: Grids: SubGrid (Area: Top 30, Left 600, Bottom 51, Right 719) By: 0 intervals, -25.00cm

FIELD F2

STATS

MAX:	78.63
MIN:	-100.00
STD. DEV.:	4.87
MEAN:	-0.05
MEDIAN:	0.00
COMPOSITE AREA:	1.8ha
SURVEYED AREA:	0.8472ha

PROCESSES

PROCESSES: 8

1 Base Layer
2 DeStripe Median Traverse: Grids: All
3 De Stagger: Grids: b20-a.xgd By: 0 intervals, 50.00cm
4 De Stagger: Grids: b21-a.xgd By: 0 intervals, 50.00cm
5 De Stagger: Grids: b22-a.xgd By: 0 intervals, 50.00cm
6 De Stagger: Grids: b22-a.xgd By: 0 intervals, 50.00cm
7 De Stagger: Grids: b11-a.xgd b12-a.xgd By: 0 intervals, 50.00cm
8 De Stagger: Grids: b24-a.xgd b25-a.xgd b26-a.xgd b27-a.xgd By: 0 intervals, 50.00cm

FIELD F3

STATS

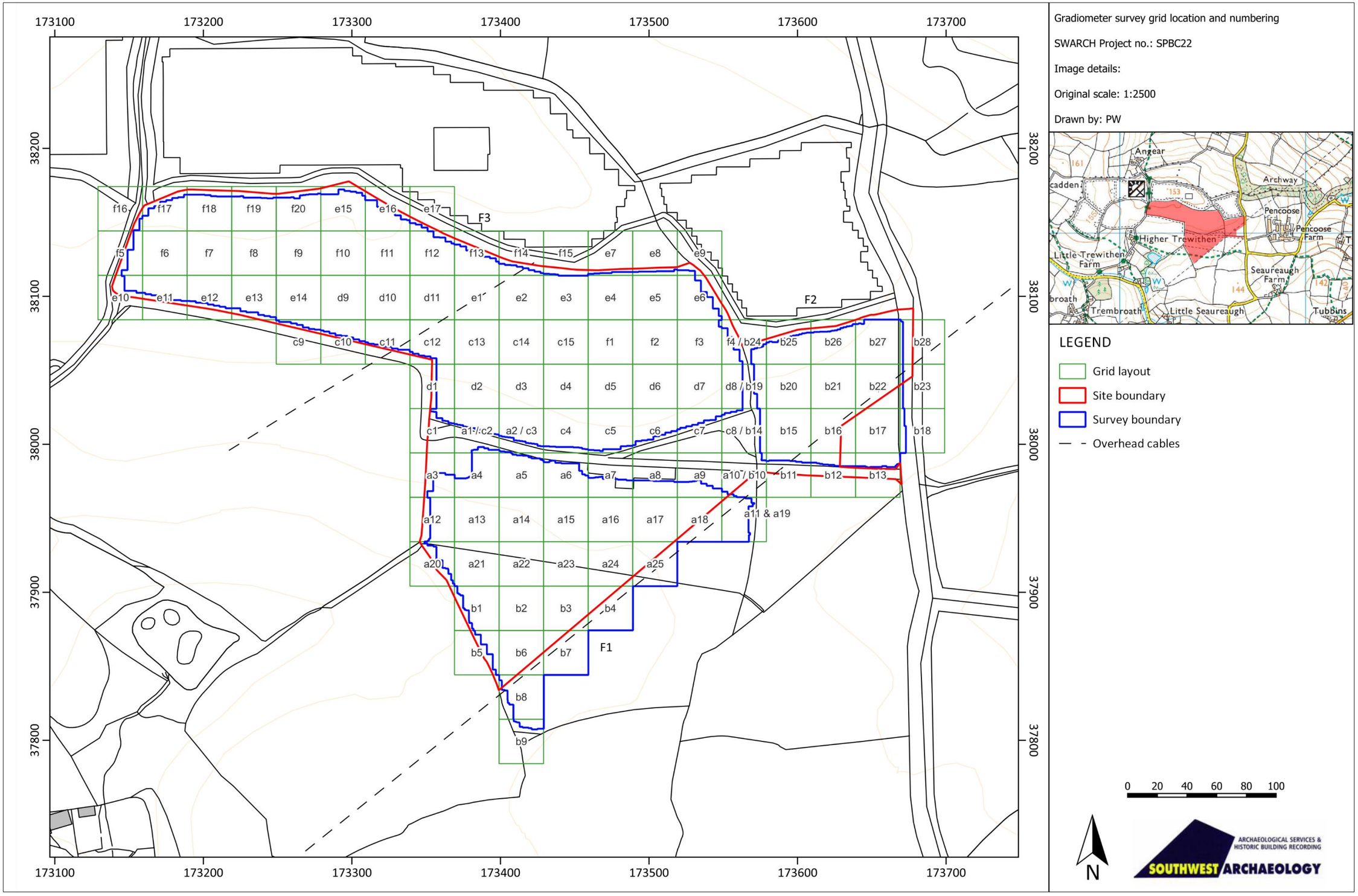
MAX:	98.39
MIN:	-100.00
STD. DEV.:	4.68
MEAN:	0.98
MEDIAN:	0.87
COMPOSITE AREA:	8.1ha
SURVEYED AREA:	3.8954ha

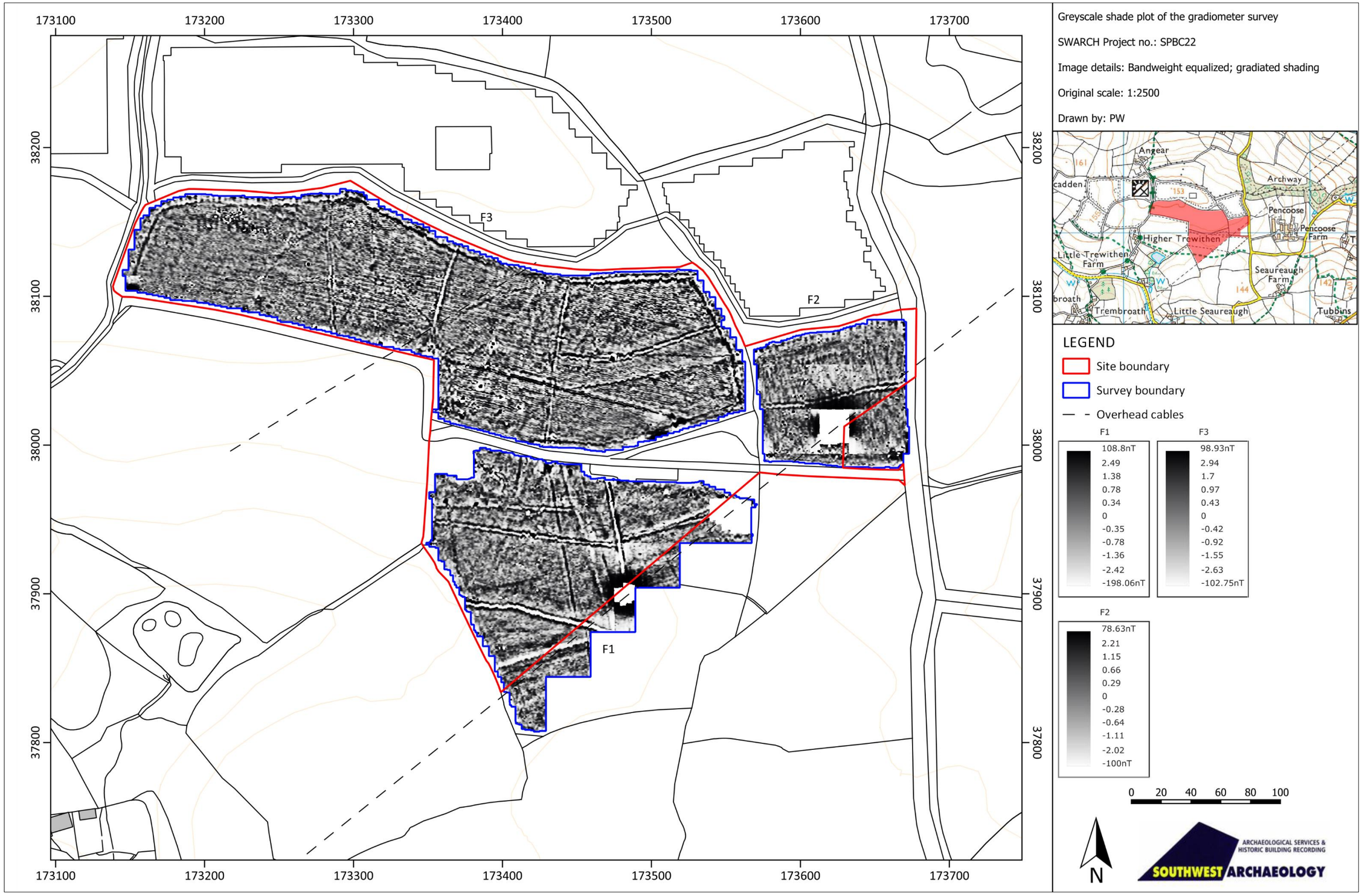
PROCESSES

PROCESSES: 9

1 Base Layer
2 DeStripe Median Traverse: Grids: All
3 DeStagger: Grids: All By: 0 intervals, 50.00cm
4 De Stagger: Grids: d2-a.xgd By: 0 intervals, 25.00cm
5 De Stagger: Grids: d3-a.xgd d4-a.xgd d5-a.xgd By: 0 intervals, -50.00cm
6 De Stagger: Grids: e3-a.xgd By: 0 intervals, -50.00cm
7 De Stagger: Grids: e5-a.xgd By: 0 intervals, 25.00cm
8 De Stagger: Grids: e6-a.xgd By: 0 intervals, 25.00cm
9 De Stagger: Grids: e15-a.xgd e16-a.xgd By: 0 intervals, -50.00cm

APPENDIX 4: ADDITIONAL IMAGES OF THE GEOPHYSICAL SURVEY





Greyscale shade plot of the gradiometer survey

SWARCH Project no.: SPBC22

Image details: Bandweight equalized; gradiated shading

Original scale: 1:2500

Drawn by: PW

LEGEND

- Site boundary
- Survey boundary
- Overhead cables

F1

108.8nT
2.49
1.38
0.78
0.34
0
-0.35
-0.78
-1.36
-2.42
-198.06nT

F3

98.93nT
2.94
1.7
0.97
0.43
0
-0.42
-0.92
-1.55
-2.63
-102.75nT

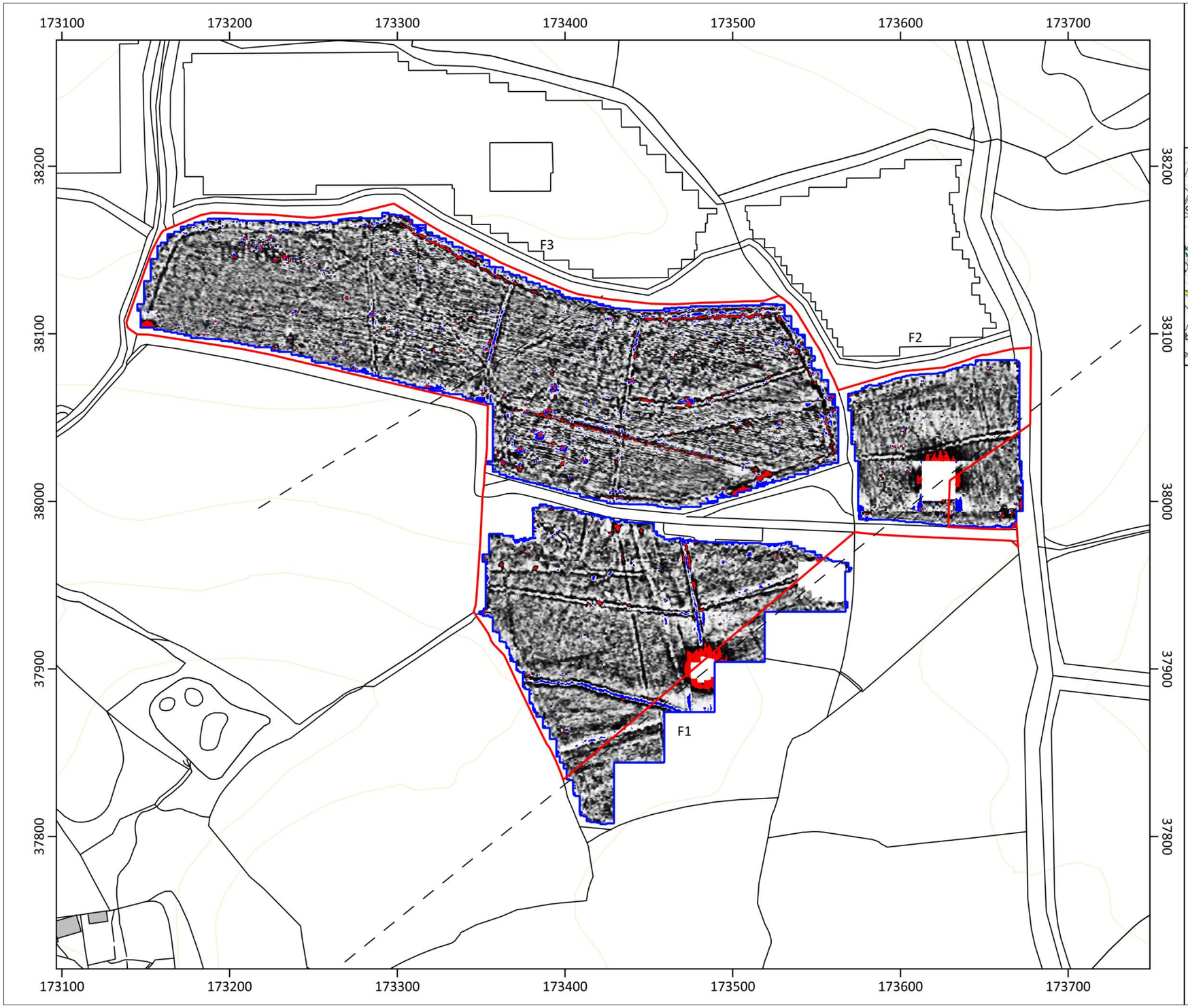
F2

78.63nT
2.21
1.15
0.66
0.29
0
-0.28
-0.64
-1.11
-2.02
-100nT

0 20 40 60 80 100

N

SOUTHWEST ARCHAEOLOGY
ARCHAEOLOGICAL SERVICES & HISTORIC BUILDING RECORDING



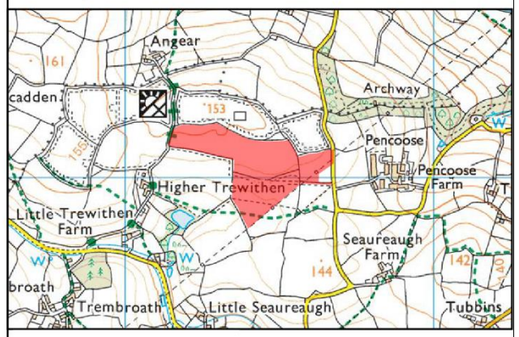
Red-grey-blue shade plot of the gradiometer survey

SWARCH Project no.: SPBC22

Image details: Bandweight equalized; gradiated shading

Original scale: 1:2500

Drawn by: PW



LEGEND

Site boundary

Survey boundary

Overhead cables

F1

108.8nT
2.49
1.38
0.78
0.34
0
-0.35
-0.78
-1.36
-2.42
-198.06nT

F3

98.93nT
2.94
1.7
0.97
0.43
0
-0.42
-0.92
-1.55
-2.63
-102.75nT

F2

78.63nT
2.21
1.15
0.66
0.29
0
-0.28
-0.64
-1.11
-2.02
-100nT

0 20 40 60 80 100

N

SOUTHWEST ARCHAEOLOGY
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