



Four Burrows Solar Farm, Penhallow, Cornwall: archaeological evaluation



Historic Environment Projects

Four Burrows Solar Farm, Penhallow, Cornwall: archaeological evaluation

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Report author	Ryan P. Smith
Checked by	Andy Jones

Historic Environment, Cornwall Council
Fal Building, New County Hall, Truro, Cornwall, TR1 3AY
tel (01872) 323603 fax (01872) 323811 E-mail hes@cornwall.gov.uk
www.cornwall.gov.uk

Acknowledgements

This project was commissioned by Inazin Ltd and carried out by Historic Environment Projects, Cornwall Council.

The Project Manager was Andy Jones.

The excavation team comprised Ryan Smith and Emma Mossop.

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

Freedom of Information Act

As Cornwall Council is a public authority it is subject to the terms of the Freedom of Information Act 2000, which came into effect from 1st January 2005.



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Cover illustration *Images showing extent of damage and re-instatement of site.*

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Abbreviations

EH	English Heritage
HARPO	Heritage At Risk Project Officer
HER	Cornwall and the Isles of Scilly Historic Environment Record
HE	Historic Environment, Cornwall Council
OS	Ordnance Survey
SMC	Scheduled Monument Consent

1 Summary

Following damage caused by contractors working on the solar farm in the area adjacent to an upstanding Scheduled Bronze Age barrow (MCO2297), an archaeological evaluation was carried out at Four Burrows OS (SW 7671 4955) between the 22 and 23rd May 2014.

Two trenches were excavated projecting northwest and west from the edge of the monument to ascertain the extent of damage to any potential sub-surface archaeological features associated with the barrow.

No archaeological features were encountered; however, detailed sections were recorded along both sides of the trenches, recording the impact of vehicular traffic within the area. After the recording was completed the trenches were backfilled and the disturbed area around them was reinstated to an agreed methodology.

The work was covered by Scheduled Monument Consent, which was granted by the Department of Media Culture and Sport. The project was monitored by English Heritage and the trenches were inspected by them.

2 Introduction

2.1 Project background

The Historic Environment Project team were requested by Liz Marsden of Inazin Ltd to provide a project design and estimate (Appendix 2) to undertake an evaluation of the potential impact upon a Bronze Age barrow (MCO2297) (SW 7671 4955) (Fig 1) caused by site works associated with the construction of a solar farm within the same area (Figs 5, 6 & 7). An exclusion zone had been agreed with the contractor during the works and a suitable barrier erected to deter vehicular movement within the zone. However, late in the site works, during the inclement weather experienced in the latter stage of the site construction, large vehicles breached the exclusion zone in close proximity to the Scheduled barrow. Although this did not impact directly on the upstanding barrow, the potential damage or disturbance to any sub-surface archaeology (that is to say, pits, ditches, satellite burials), caused through the churning of ground by the wheels of the vehicles was high.

As a result of a site visit by the EH HARPO, it was found that the damage was at its worst beside the field gate and to the northwest and south west of the barrow. In these areas the ground was described as 'a sea of mud broken by wheel ruts', which were up to 0.5m in depth and down to the bedrock'. The churning was found to go the very edge of the barrow mound.

Given the well-preserved nature of the barrow and the density of the prehistoric sites in the surrounding vicinity, there was potential for important below-ground archaeological remains to be located within the affected area. It was therefore deemed necessary by English Heritage to evaluate the impact of the disturbance to the round barrows and to recover as much information as possible from the disturbed area, prior to the area around the barrow being reinstated.

Historic Environment Projects was commissioned by Ms Liz Marsden on behalf of Grupotec Renewables in order to assess the damage caused and supervise the re-instatement of the area.

Due to the fact that this site is a Scheduled Monument, the applicant was required to obtain a Scheduled Monument Consent (SMC) from the Department of Media Culture and Sport and English Heritage before the evaluation trenching could proceed. This consent was given in May 2014 and the archaeological recording was undertaken in the same month.

2.2 Aims and objectives

The purpose of the archaeological evaluation was to determine the presence of any sub surface archaeology and the extent of any damaged caused by vehicular traffic. The aims of the evaluation were to:

- Make an application for Scheduled Monument Consent, on behalf of the contractor, to cover the evaluation trenching and restoration of the ground around the barrow.
- Establish if any damage had occurred to the barrow and any associated features.
- Recover any artefacts and artefactual remains that may have been disturbed by the site works.
- Record any layers and archaeological deposits which may have been disturbed to an appropriate level.
- Sample disturbed contexts appropriately to recover environmental and dating information.
- Based on the information gained as a result of the evaluation trenching produce a plan/method statement for restoration of the ground around the barrow, ensuring no further damage will be caused to the site (Appendix 3).

- Monitor the restoration work.

Research Objectives

The primary objective was to investigate the extent of damage caused to any potential sub-surface archaeology, potentially present within the environs of the Scheduled Monument, and to record any damage found.

Objectives of this report

This report presents the results of the evaluation trenching and a statement of significance.

2.3 Methods

2.3.1 Fieldwork

All deposits were recorded in accordance with Historic Environment guidelines and in accordance with the Institute for Archaeologists' Standards and Code of Conduct (1994-revised 2008). This included; drawings were recorded where appropriate to a scale of 1:10 (sections) or 1:20 (plan).

Recording - general

- The topsoil was stripped to the level of the natural subsoil (the level at which archaeological deposits could be expect to survive) by mechanical excavator fitted with a toothless grading bucket, and then hand cleaned.
- The locations of the trenches were surveyed by a Leica GPS CS10. Their positions were linked to a scaled base map (tied to the National Grid).
- All features were accurately located at an appropriate scale.
- All archaeological contexts were described to a standard format linked to a continuous numbering sequence.
- Photography: digital photography utilising a Panasonic Lumix DMC FT20 was used for record, illustrative and presentation purposes.
- Photography: Black and white images were recorded using a Pentax 35mm SLR using Ilford B&W film (400ASA) for archival images.

No artefacts were recovered from the evaluation trenches.

2.3.2 Archiving

An ordered and cross-referenced site archive has been produced. Site plans, photographs and other records have been completed and indexed.

2.3.3 Archive Report

Copies of this report will be distributed to the Client, the Historic Environment library and the local and main archaeological record libraries. Copies will be made available to any specialists undertaking work on the assessment and analysis of the site archive. A PDF copy of the report has been produced.

3 Location, setting and site history

The round barrow is a Scheduled Monument (29620), located to the south of two barrows, which are also Scheduled (Figs 2 and 3). Further ploughed down barrows have also been identified as upstanding monuments and from air photographs the wider area. The affected barrow (MCO2297) lies beside the entrance to the field.

The Four Burrows solar farm project area occupies a relatively level ridge with a general height of 110m OD, the site comprising five large fields with a largely eastern aspect (Fig 1). The western edge of the site is defined by the A3075 Newquay to Chiverton roundabout road, which runs in a south-west to north-east direction, while the eastern side of the area is defined by a farm track running north east parallel to the fields. The

south-western side of the site slopes gently down into a small valley which continues past Little Lambriggan Farm.

Historic mapping provides evidence of the landscape of this area before and following its enclosure from downland. The Historic Landscape Characterisation defines the project area as 'Recently Enclosed Land' (REL), that is land enclosed during the 17th, 18th and 19th centuries, usually from Upland Rough Ground and often medieval commons, generally in relatively high, exposed or poorly-drained parts of the county.

4 Archaeological Results

Initial inspection of the site identified the locations for the two evaluative trenches. Each trench was excavated using a tracked excavator fitted with a 1.2m wide toothless grading bucket. Both trenches measured 1.2m wide by 6m long. On reaching the appropriate level, the trenches were then excavated and cleaned by hand. Context descriptions are given in Appendix 1.

4.1 Trench 1

(Figs 4, 8 and 11)

Trench one was excavated from the west side of the barrow and was aligned west north-west to east south-east; this trench covered the area most affected by the vehicle incursion, due to its close proximity to the field entrance. Due to the conditions being extremely wet and muddy, surface material was used as a dam to hold back water from re-entering the trench. On reaching an appropriate level, the remainder of the material was excavated by hand. The topsoil layer (101) was removed by the machine to a depth not exceeding 0.4m. Beneath this was layer (102) which represents the natural clay and shillet subsoil. This trench revealed two distinct wheel ruts [103] and [104], which had cut into the natural shillet and natural subsoil (102). Rut [103] was the deepest and continued across the trench on a north south orientation. From the surface of the topsoil (101) it was in excess of 0.5m deep. The deepest part of the rut was less than 0.15m below the top of the surrounding natural, (102). The width of the rut was approximately 0.2m and typical of a large wheeled vehicle. The edges of the rut were smooth and the base 'U' shaped in profile. Rut [104], the second wheel rut, was shallower but followed the same line of orientation as [103].

No archaeological deposits or artefacts were uncovered in the trench.

4.2 Trench 2

(Figs 4, 9 and 12)

Trench two was located in an area of minimal disturbance and was designated as the control trench. It was aligned north west to south east. The excavation of the trench reached a depth not exceeding 0.3m.

This evaluation trench revealed a single context (101): a mid to dark brown clayey loam with frequent stone inclusions, these being a mixture of quartz and mudstone; the stones were irregular and semi-irregular in shape, unsorted and did not exceed 0.02m in size.

Directly beneath the topsoil was the natural subsoil a compact pale yellow and red clay layer with frequent stone inclusions, (102). Again the stony content was predominantly mudstone, these being semi regular in appearance.

No archaeological features or artefacts were identified within the trench.

4.3 Reinstatement

(Fig 10)

On completion of the evaluation trenching, a site visit by Ann Preston-Jones of English Heritage assessed the situation and a method statement was agreed as to how to re-instate the site (Appendix 3).

Reinstatement of the site was observed by archaeologists from Historic Environment Projects, and included the use of an eight tonne tracked excavator fitted with a toothless grading bucket to backfill the ruts left by the wheeled vehicles.

A wide wheeled tractor fitted with a rotavator then travelled over the surface skimming the site to a depth not exceeding two inches, this removed compact clay patches allowing standing water to percolate through the thick surface clay soil on the site. This immediately improved the area around the monument to a more acceptable state.

Due to the amount of water retained by the clay soils on the site, an area immediately adjacent the barrow near the gateway was filled in by the excavator, but was not approached by the rotavator until the ground had dried sufficiently to allow passage of the vehicle without causing more damage to the ground.

5 Conclusion

Work on the solar farm construction was carried out in the middle of winter and recorded as the wettest winter on record (Met Office 2014), and the site was turned into a quagmire.

The use of heavy plant wheeled vehicles in transporting equipment resulted in ruts, which literally cut into the bedrock adjacent to the Scheduled barrow.

These ruts had the potential to do significant harm to the monument. Fortunately, the evaluation trenching revealed that no archaeological deposits were present within either trench, which suggests that there is no outer kerb or ditch around this barrow. This is significant because it implies that the barrow was formed by removing surface material from the surrounding landscape. Given the size of the barrow mound it is likely that a considerable area was stripped of turf and subsoil, and must therefore have been taken out of productive grazing to create the mound.

References

Primary sources

Ordnance Survey, c1877, 25 Inch Map First Edition (licensed digital copy at HE)
Ordnance Survey, 2007, Mastermap Digital Mapping

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Roseveare, MJ & Roseveare, ACK, 2012, *Four Burrows, Cornwall Geophysical Survey Report*

Sharpe, A, 2010. *Proposed Four Burrows solar farm, Perranzabuloe, Cornwall: Archaeological assessment* (Historic Environment Projects, Cornwall Council) for Wardell Armstrong International

Sharpe, A, 2012. *Four Burrows solar farm, Cornwall: Summary report on geophysical survey* (Historic Environment Projects, Cornwall Council)

Smith, R (2014), *Four Burrows Solar Farm, Cornwall, Watching Brief* (Historic Environment Projects)

Web sites

[http://www.heritagegateway.org.uk/gateway/English Heritage's online database of Sites and Monuments Records, and Listed Buildings](http://www.heritagegateway.org.uk/gateway/English%20Heritage's%20online%20database%20of%20Sites%20and%20Monuments%20Records,%20and%20Listed%20Buildings)

<http://maps.nls.uk/geo/explore> National Library of Scotland Historic Maps

<http://www.bl.uk/onlinegallery/onlineex/ordsurvdraw/> British Library Ordnance Survey Drawings Collection

<http://www.metoffice.gov.uk/climate/uk/summaries/2014/winter> Winter 2013/14

Project archive

The HE project number is **146362**

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

1. A project file containing site records and notes, project correspondence and administration.
2. Electronic drawings stored in the directory `..\Historic Environment (CAD)\CAD Archive\Sites F\Four Burrows Eval Scheduled Monument`
3. Digital photographs stored in the directory `..\Historic Environment (Images)\SITES.E-H\Sites F\FOUR BURROWS\Four Burrows Eval Scheduled Monument`
4. Field plans and copies of historic maps stored in an A2-size plastic envelope (GRE814/1-3).
5. Black and white photographs archived under the following index numbers: GBP 2332
6. English Heritage/ADS OASIS online reference: cornwall2-180436

This report text is held in digital form as: `G:\TWE\Waste & Env\Strat Waste & Land\Historic Environment\Projects\Sites\Sites F\Four Burrows evaluation trenching\Report`

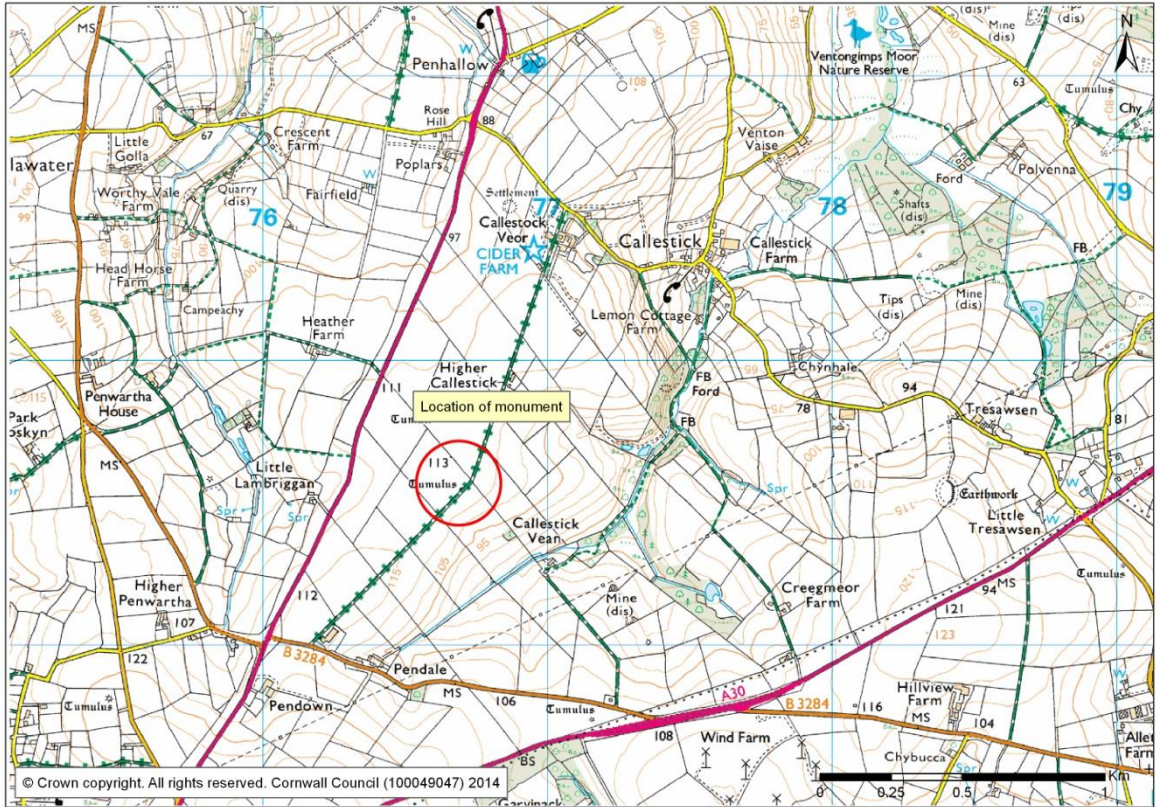


Figure 1: Location of Scheduled Monument MCO2297.

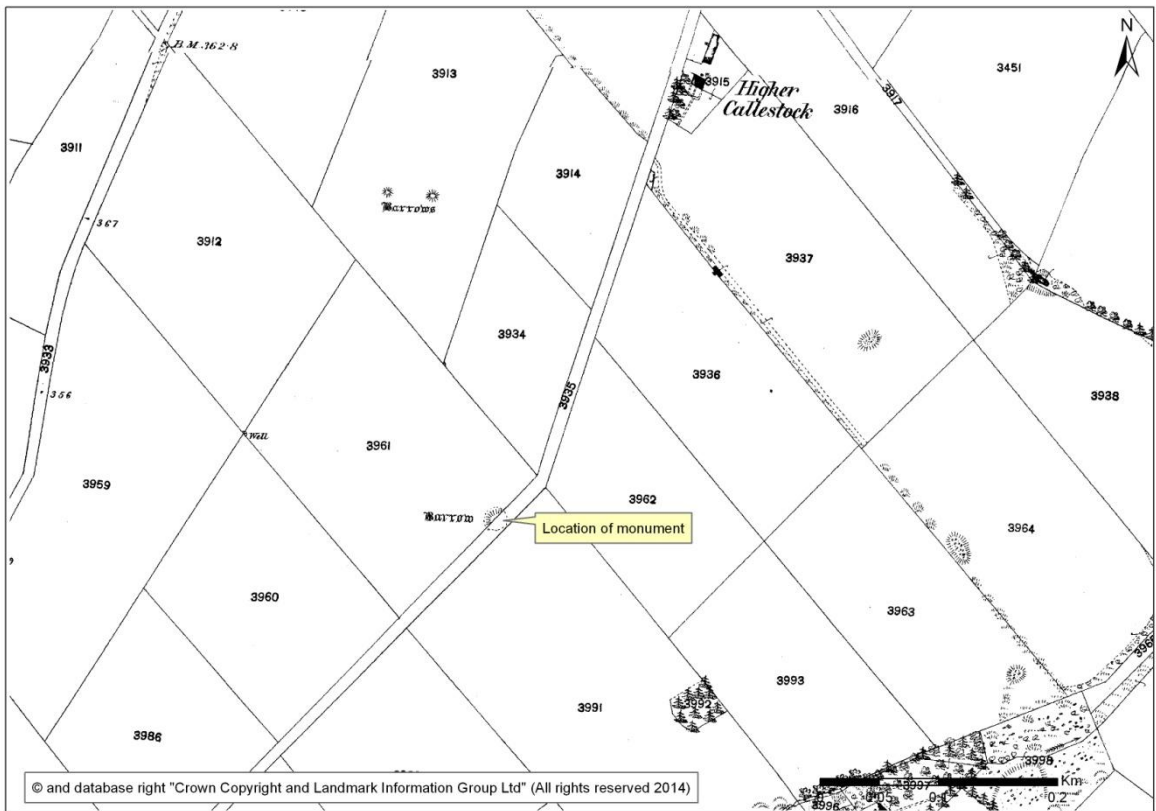


Figure 2: OS 1st Edition showing the Scheduled Monument's location.

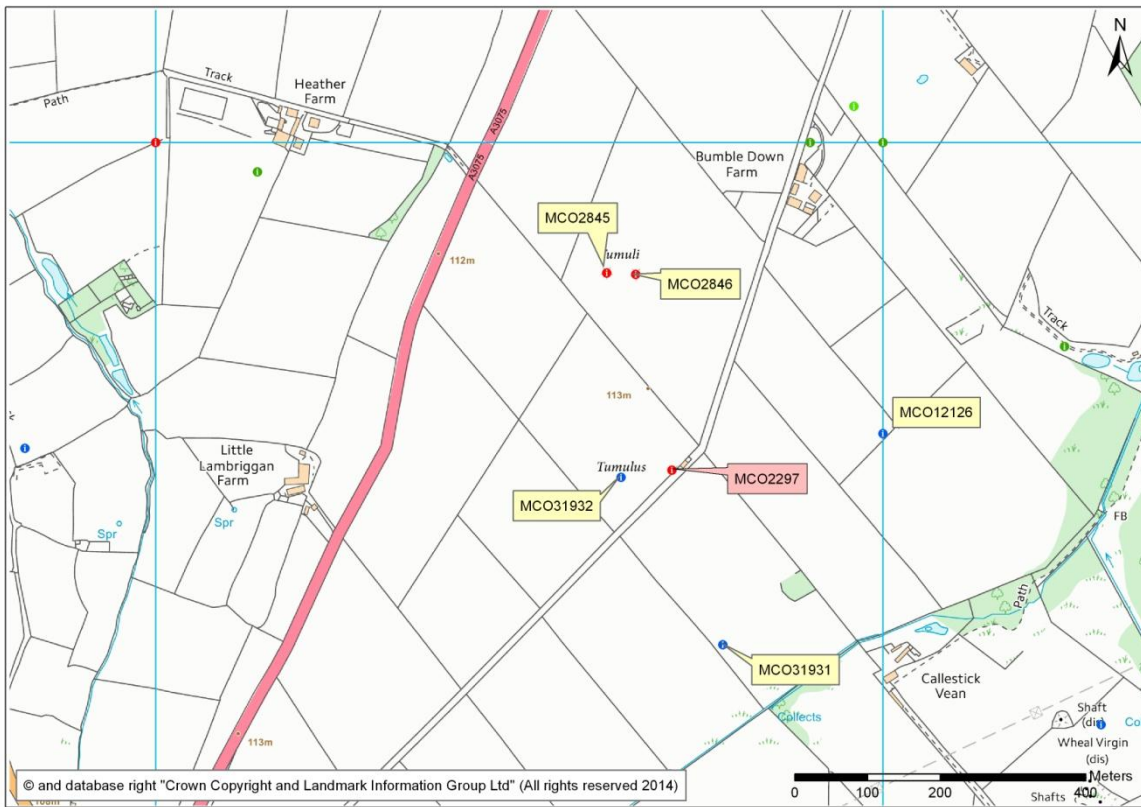


Figure 3: Archaeology in relation to Scheduled Monument MCO2297 (denoted by red box).

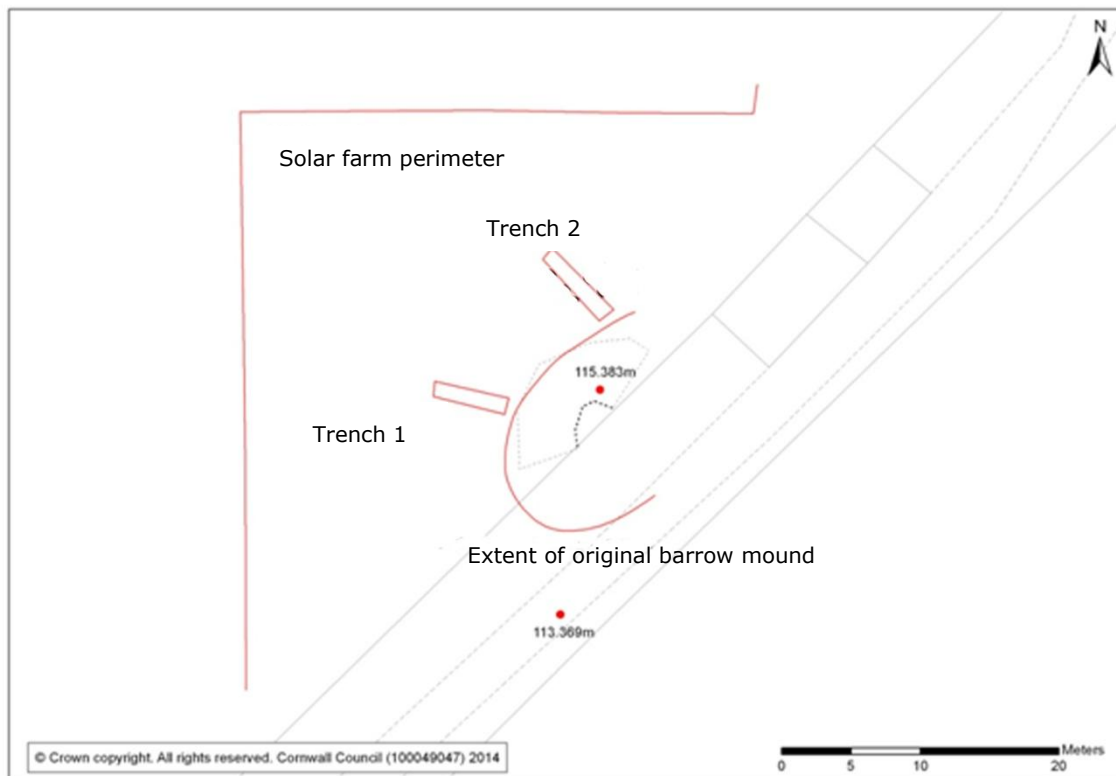


Figure 4: Map showing extent of the constraint area, GPS data of trench locations (Trenches denoted in red).



Figure 5: Scheduled Monument MCO2297 (Bronze Age barrow) with exclusion zone fence in situ, looking north east.



Figure 6: Scheduled Monument MCO2297 (Bronze Age barrow) after vehicle access (Jan 2014) looking south.



Figure 7: Scheduled Monument MCO2297 (Bronze Age barrow) May 2014 showing extent of damage, looking south.



Figure 8: Trench 1 looking east.



Figure 9: Trench 2 looking south east.



Figure 10: Re-instatement of landscape (looking south).

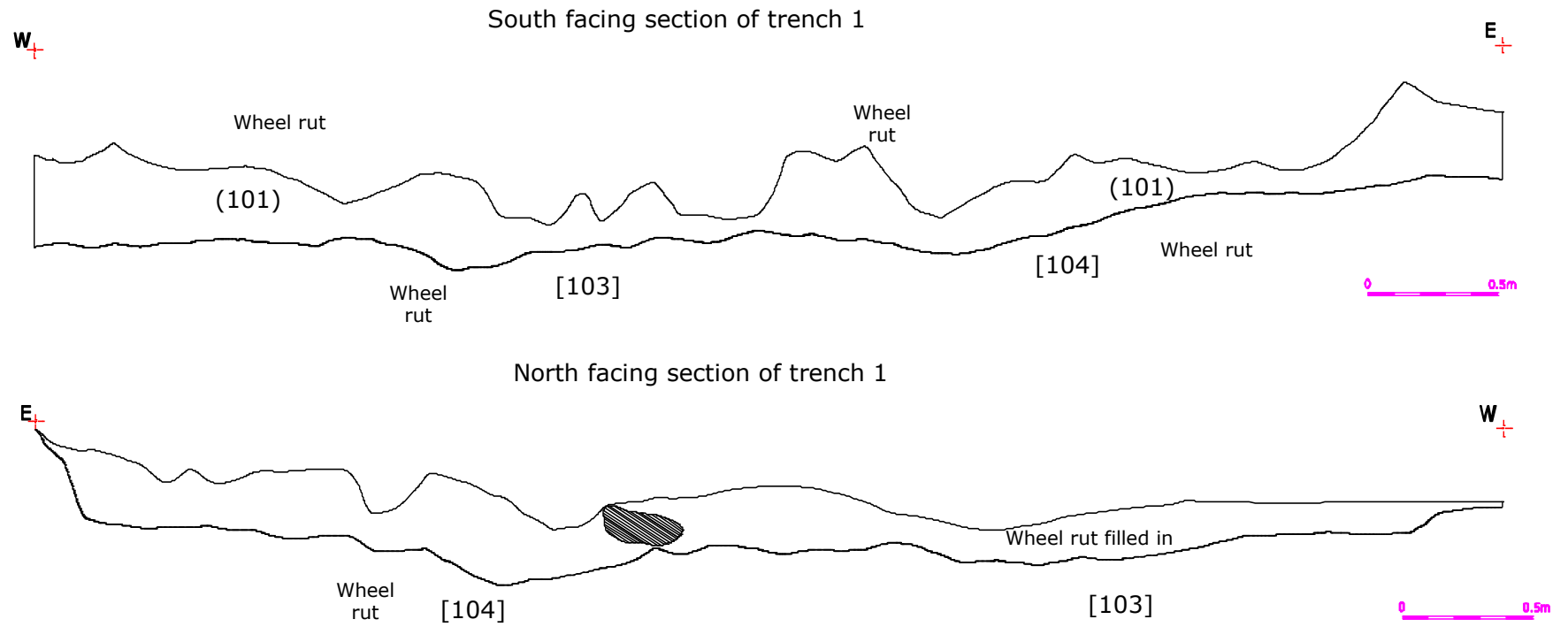
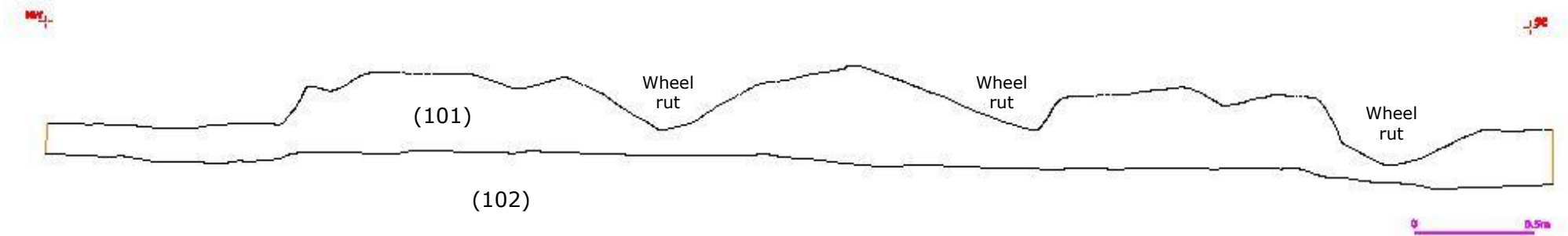


Figure 11: North (top) and south facing (bottom) sections of trench 1 showing wheel ruts.

South west facing section of trench 2



North east facing section of trench 2

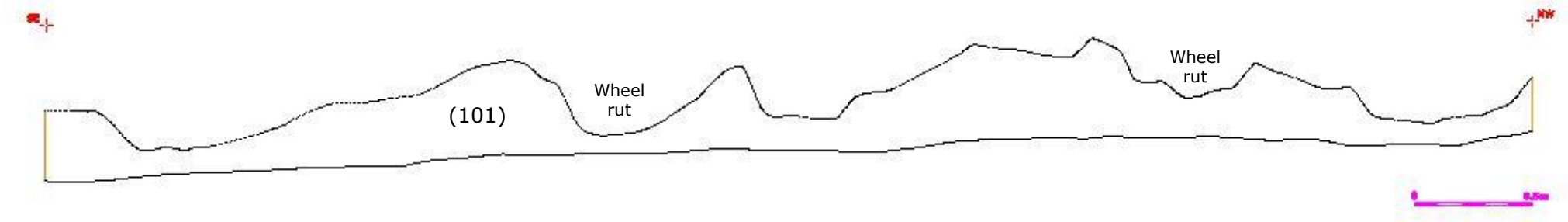


Figure 12: South west (top) and north east facing (bottom) sections trench 2 (control trench)

Appendix 1: Context List

Location	Context	Depth	Description
Barrow field	(101)	0 - <0.2m	Topsoil – comprising grey clay material mixed with some loam, frequent stone inclusions being predominantly mudstones with some smaller quartz stones, unsorted, irregular shapes <2cm in size, loose.
	(102)	>0.35m	Pinkish/red natural clays, with grey/blue shillet mix, very compact found across the site.
	[103]	<0.15m	Wheel rut less than 0.2m in width, deeper than [104], close proximity to the edge of the barrow, worn into the shillet clay base of (102), edge were rounded and smooth, less than a 45 degree angle and 'U' shaped at the bottom.
	[104]	<0.1m	Wheel rut more shallow than [103], also placed higher on the slope, very smooth rounded edges, not as worn as [103].

Appendix 2: HISTORIC ENVIRONMENT PROJECTS

Four Burrows: written scheme of investigation for archaeological evaluation recording

Project Background

The Historic Environment Project team have been requested by Liz Marsden of Inazin to provide a project design and estimate for a project to evaluate the potential impact upon a Bronze Age barrow (MCO2297) of site works associated with the construction of a solar farm, undertaken immediately adjacent to it. An exclusion zone had been established around the barrow. However, this barrier was not maintained and during the wet weather site vehicles came close to the barrow mound and churned up the ground. Although this did not directly impact upon the upstanding barrow mound, there is the potential for damage to have been done to sub-surface features associated with it (for example, a ditch or a kerb) or for other related features (for example, satellite burials or pits) to have been disturbed.

A site visit was made and it was found that the damage is at its worst beside the field gate and to the northwest and southwest of the barrow. In these areas the ground has been described as 'a sea of mud broken by vehicle ruts', which are up to 0.5m deep and down to the bedrock'. The churning was found to go up to the very edge of the barrow mound.

The round barrow is a Scheduled Monument (29620) and it is located to the south of two barrows, which are both Scheduled Monuments. Further ploughed down barrows have also been identified as upstanding monuments and from air photographs the wider area. The affected barrow (MCO2297) lies beside the entrance to the field.

Given the well-preserved nature of the barrow and the density of prehistoric sites in the surrounding vicinity, there is potential for important below ground archaeological remains to be located within the affected area. It has therefore been deemed necessary to evaluate the impact of the disturbance to the round barrow and recover as much information as is possible from the disturbed area, prior to the area around the barrow being restored.

This project design is for the evaluation trenching of the disturbed area.

In light of the fact that the site is a Scheduled Monument and the potential for buried archaeology, the applicant will need to obtain Scheduled Monument Consent (SMC) from English Heritage before the evaluation trenching can take place.

Historical Background

Landscape

The area of the barrow lies within land that has been classified as "Recently Enclosed Land" (Countryside Commission 1996). "Recently Enclosed Land" is land which has been enclosed since the eighteenth century and which often contains extant archaeological remains, such as round barrows.

The three barrows are shown on the 1804 OS map as being in an area of unenclosed rough ground. By the time of the 1880 OS map this land had been enclosed, and the barrow group is clearly bisected by the field system, with barrow (MCO2297) being located on the edge of a new road / track.

The affected site has been described as flat topped barrow up to 2m high by approximately 20m in diameter. Disturbance has occurred to the mound in the past and quartz stones have been revealed. However, it is unlikely to have impacted upon buried deposits.

Known archaeological sites

The project area is situated within an area of high archaeological potential, which contains evidence for prehistoric ritual activity. The sites which have been identified in the vicinity include:

- MCO2297. Barrow of Bronze Age date (Scheduled Monument 29620).
- MCO2845 and MCO2846. Two barrows of Bronze Age date lie to the north of the site. Both barrows are Scheduled Monuments.
- MCO31932. A mound of post-medieval date lies to the west of the Scheduled Monument 29620.

Potential sites

There is potential for the survival of unrecorded buried archaeological remains and artefacts of all periods.

Aims and objectives

The main aims of the archaeological fieldwork include the following:

- Make an application for Scheduled Monument Consent, on behalf of the contractor, to cover the evaluation trenching and restoration of the ground around the barrow.
- Establish whether any damage has occurred to the barrow and any associated features.
- Recover any artefacts and artefactual remains that may have been disturbed by the site works.
- Record any layers and archaeological deposits which have become disturbed to an appropriate level.
- Sample disturbed contexts appropriately to recover environmental and dating information.
- Based on the information gained as a result of the evaluation trenching, produce a plan for restoration of the ground around the barrow, which will cause no further damage to the Scheduled Monument.
- Monitor the restoration work.

Methodology

Fieldwork: Archaeological Evaluation

Scheduled Monument Consent will need to be obtained in advance of the evaluation trenching.

Two trenches will be excavated. All exposed archaeological features and deposits will be cleaned and excavated by hand and fully recorded by context as per the Institute for Archaeologists' *Standard and Guidance for Archaeological Field Evaluation* (1994 - revised 2008).

Archaeological Evaluation Strategy

Two trenches up to 1m wide by 5m long will be excavated from the edge of the round barrow mound into the area of disturbance (see attached plan, which is for guidance only: the precise position of the two trenches will be determined once work begins on site). The trenching will be carried out under archaeological supervision using a machine fitted with a toothless bucket. The soil will be stripped cleanly to a level at which archaeological features or layers can be expected to be revealed (ie, the top of the first archaeologically significant horizon or the natural, whichever is highest). Care will be taken to ensure that no disturbance occurs to any *in situ* archaeological deposits, which have not already been impacted upon. The trenching will help establish whether buried archaeological features extend into the affected area.

- Trench 1 (5m long by 1m wide long) will be dug on the west side of the mound. The aim will be to assess whether any features survive beyond the foot of the mound and establish the depth to which the impact went.
- Trench 2 (5m long by 1m wide) trench will be located on the northern side of the mound. This trench is located in a less disturbed area designed to compare with the results from the more damage area.

Archaeological Evaluation Recording Methodology

The methodology of the evaluation trenching has been agreed with English Heritage. During the archaeological recording the HE Projects archaeologist will undertake the following tasks:

Any disturbed archaeological features and layers will be investigated and as a minimum:

- i) small discrete features will be fully excavated;
- ii) larger discrete features will be half-sectioned (50% excavated); and
- iii) long linear features will be sample excavated along their length - with investigative excavations distributed along the exposed length of any such feature and to investigate terminals, junctions and relationships with other features.

iv) both of the long faces of each trench will be cleaned by hand to allow the site stratigraphy to be understood and for the identification of archaeological features.

Where the above percentage excavation does not yield sufficient information to allow the form and function of archaeological features/deposits to be determined full excavation of such features/deposits may be required. Additional excavation may also be required for the taking of palaeoenvironmental samples and recovery of artefacts.

The full depth of archaeological deposits will be assessed. This may not require excavation to natural deposits if it is clear that complex and deep stratigraphy will be encountered.

Any variation of the above will be undertaken in agreement with English Heritage.

Reinstatement of the excavated trenches

The trenches will be backfilled at the end of the excavations and they will not be left open. To ensure that the excavations do not lead to a significant alteration to the sites the any surviving turf / topsoil will be removed and carefully stockpiled along one side of the trench with separate piles for stones and earth. At the end of the excavations, the trenches will be backfilled with a machine and any surviving turf placed back on top. This will be an interim measure pending full restoration of the surrounding ground.

Restoration of the damaged ground around the Scheduled Monument

Following evaluation trenching, and informed by its results, a method statement for the full restoration of the surrounding ground will be produced. This will be discussed and agreed with English Heritage and the solar farm contractors.

The ground will be restored by the solar farm contractors but the archaeologist will monitor the work.

Recording - general

- The position of the trenches will be marked onto a scaled base map (linked to the National Grid). Prior to the start of the evaluation, the position of the trenches will be marked out on the ground.
- Where a mechanical excavator is required, the trench will be excavated down to the level of the archaeology or the top of the natural subsoil by mechanical excavator/swing shovel, which has been fitted with a toothless bucket, and then hand cleaned.
- All features shall be hand-dug and recorded in plan and section at scales of 1:10, 1:20 or 1:50. All scale drawings shall be undertaken at a scale appropriate to the complexity of the deposit/feature and to allow accurate depiction and interpretation. Site drawings (plans, sections, locations of finds) will be made by pencil (4H) on drafting film; all plans will be linked to the Ordnance Survey Landline (electronic) map; all drawings will include standard information: site details, personnel, date, scale, north-point.
- All features and finds will be accurately located at an appropriate scale. Sections will normally be drawn at 1:10 and plans at 1:20.
- All archaeological contexts will be described to a standard format linked to a continuous numbering sequence.
- Photography: scaled monochrome photography will be used as the main record medium, with colour digital images used more selectively and for illustrative purposes. This will include both general and site specific photographs. Photographs should have a scale and detailed ones should include a north arrow. Photographs will be taken to illustrate the principal features and finds discovered, in detail and in context. The photographic record will also include colour digital working shots to illustrate more generally the nature of the archaeological operation mounted. All photographs of archaeological detail will feature an appropriately-sized scale.
- Drawings and photographs will be recorded in a register giving details of feature number and location.
- Sealed/undisturbed archaeological contexts in the form of buried soils, layers or deposits within significant archaeological features (ditches and pits, etc) will be sampled for environmental evidence and dating material. Advice may be needed from Vanessa Straker English Heritage (Regional Advisor for Archaeological Science).
- All spoil from the excavations will be adequately inspected for finds

- If human remains are discovered on the site they will be treated with respect. Human remains must initially be left *in-situ*, covered and protected. English Heritage and the Ministry of Justice will be informed. All recording will conform to best practice and legal requirements.
- Where any artefacts are identified as treasure or potential treasure, including precious metals, groups of coins or prehistoric metalwork, be exposed, these will be removed to a safe place and reported to the local coroner according to the procedures relating to the *Treasure Act 1996 Code of Practice (2nd Revision)*. Where removal cannot be effected on the same working day as the discovery suitable security measures will be taken to protect the finds from theft.

Treatment of finds

The archaeological fieldwork may produce artefactual material.

- All finds in significant stratified contexts predating 1800 AD (eg, settlement features) should be collected by context and described. Post medieval or modern finds may be disposed of at the cataloguing stage. This process will be reviewed ahead of its implementation.
- All finds will be collected in sealable plastic bags which will be labelled immediately with the context number or other identifier.

Archiving

Following review with the HE Project Manager the results from the fieldwork will be collated as an archive. This will involve washing and cataloguing of finds, the indexing and cross-referencing of photographs, drawings and context records.

All finds, etc will be stored in a proper manner (being clearly labelled and marked and stored according to HE guidelines).

- All records (context sheets, photographs, etc) will be ordered, catalogued and stored in an appropriate manner (according to HE guidelines).
- The site archive and finds will initially be stored at HE premises and transferred to the Royal Cornwall Museum and the RCM conditions for archives will be followed.
- In the event that there are no finds, the documentary archive in due course shall be deposited with the Cornwall Record Office, but in the medium term will be stored at ReStore. All digital records will be filed on the Cornwall Council network.

Archive report

The results from the project will be drawn together and presented in a concise report.

A draft report will be submitted to English Heritage for comment prior to its formal submission

Hard copies of the report shall be supplied to the Client, English Heritage and to the Cornwall HER. In addition to the hard copies of the report, one copy shall be provided to the National Monuments Record and the Cornwall Historic Environment Service in digital format.

This will involve:

- producing a descriptive text;
- producing maps and line drawings;
- selecting photographs;
- report design;
- report editing;
- dissemination of the finished report;
- Deposition of archive and finds in the Royal Cornwall Museum, Truro.

The report will have the following contents:

- Summary - Concise non-technical summary.
- Introduction - Background, objectives, aims and project methodology.

- Results - Factual description of the results of the various aspects of the project with separate sections as necessary for discussion and interpretation.
- Discussion - Discussion of the interpretation of the results, highlighting information gained on a chronological or thematic basis.
Discussion of the recent damage and its impact on the monument.
A consideration of evidence within its wider context.
Recommendations for further analysis and publication.
- Summary table - A summary table and showing the features, classes and numbers of artefacts recovered and soil profiles with interpretation
- Archive - A brief summary and index to the project archive.
- Appendices - List of contexts
- List of finds and soil samples
- Specialist analyses.
- Illustrations - General location plan.
- Detailed location plans to link fieldwork results to OS map.
- Selected plans and section drawings of each trench, or part of trench, in which archaeological features are recognised. Plans will show the orientation of trenches in relation to north. Section drawing locations will be shown on these plans. Archaeologically sterile areas will not be illustrated unless this can provide information on the development of the site stratigraphy or show palaeoenvironmental deposits that have influenced the site stratigraphy.
- Finds drawings (if appropriate).
- Photographs showing the general site layout and exposed significant features and deposits that are referred to in the text. All photographs will contain appropriate scales.
- An online OASIS (Online Access to the Index of archaeological investigations) form shall be completed in respect of the archaeological work. This will include a digital version of the report. The report will also include the OASIS ID number.

FURTHER CONTINGENCY WORK

In the event that significant deposits which require further study or conservation are recovered from the evaluation trenches it may be appropriate for further stages of analyses and publication to take place. Costs associated with these stages are given as contingencies in the accompanying estimate.

Analysis

The structural and stratigraphic data and artefactual material will be reviewed with English Heritage to establish whether further analyses and reporting is appropriate. The outline of the final report, and the work required to produce it will be determined.

In the event of significant remains being recovered (eg, prehistoric artefacts) it may be appropriate to:

- Liaise with specialists (eg, artefacts) to arrange for analyses of the potential for further analysis and reporting.
- Consult with English Heritage over the requirements for analysis and reporting.

Updated project design and final publication

In the event that significant remains being recorded and no further stages of recording are to take place, the scope and final form of the report will be reviewed; for example whether in addition to an archive report the results should be published in an academic journal (eg, *Cornish Archaeology*).

Monitoring

- This project design will need to be approved by English Heritage.
- Prior to the project commencing SMC will be obtained for the evaluation trenching.
- The recording exercise will be monitored. English Heritage should be informed 2 weeks in advance of the intention to start the recording, unless a shorter period is agreed, of commencement of the fieldwork. Details will be agreed of any monitoring points where decisions on options within the programme are to be made.
- Monitoring will continue until the deposition of the site archive and artefacts, and the satisfactory completion of an OASIS report.
- The archaeological contractor undertaking the fieldwork will notify English Heritage upon completion of the fieldwork stage of these works.
- HE Projects will liaise with English Heritage to advise on the programme and progress of work, and agree site meetings as required.
- In the event that significant remains are encountered an updated project design will be agreed with English Heritage.

Project Staff

An experienced archaeologist employed by HE Projects will carry out the archaeological fieldwork.

The report will be compiled by experienced archaeologist(s) employed by HE Projects.

Relevant experienced and qualified specialists will be employed to undertake appropriate tasks during the analysis stages of the project.

The project will be managed by a manager who is a Member of the Institute for Archaeologists, who will:

- Take responsibility for the overall direction of the project.
- Discuss and agree the objectives and programme of each stage of the project with project staff, including arrangements for Health and Safety.
- Monitor progress and results for each stage.
- Edit the project report.

Timetable

The archiving and archive report will be completed within 1 month of the ending of the fieldwork. The timetable for any further stages of analyses and publication will be agreed with English Heritage in the light of the results of the excavations.

Health and safety during the fieldwork

Health and safety statement

The Historic Environment is within the Environment Directorate of Cornwall Council. HE Projects follows the Council's *Statement of Safety Policy*.

Prior to carrying out any fieldwork HE Projects will carry out a risk assessment.

Insurance

As part of Cornwall Council, HE is covered by Public Liability and Employers Liability Insurance.

Historic Environment Projects

HE Projects follows the Institute for Archaeologists' Standards and Code of Conduct and is a Registered Archaeological Organization.

As part of Environment Directorate, Cornwall Council, the HE Projects has certification in BS9001 (Quality Management), BS14001 (Environmental Management), OHSAS18001 (Health, Safety and Welfare), Investors in People and Charter Mark.

Excavation and evaluation

- HE Projects has undertaken numerous excavations and evaluations of archaeological sites in Cornwall and Scilly since 1987. These include Bronze Age settlement and Iron Age cemetery at Trethellan Farm, Newquay (1987), A30 Project including Gaverigan Barrow, Penhale Round and Highgate ritual enclosure (1992-93), Bronze Age landscape at Stannon, Bodmin Moor (1998-9), the Bryher Iron Age sword and mirror burial (1999) the multi-phase landscapes on the site of the new Cornish university at Tremough and at Scarcewater, St Stephen in Brannell (2004) and the round barrow on Constantine Island (2007).

Copyright

Copyright of all material gathered as a result of the project will be reserved to Cornwall Council. Existing copyrights of external sources will be acknowledged where required.

Use of the material will be granted to the client.

Freedom of Information

All information gathered during the implementation of the project will be subject to the rules and regulations of the Freedom of Information Act 2000.

Notes:

- The client will be responsible for the Health and Safety arrangements onsite (including fencing, etc), and it is assumed that welfare facilities will be made available.
- The requirement for a post-excavation programme (analysis and publication) will need to be reviewed in the light of the fieldwork.
- Plant hire for excavating trenches / restoring the ground are not included within this project design and estimate

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Appendix 3: Method Statement for re-instating area adjacent to Scheduled Monument (29620) Bronze Age barrow.

NB The re-instatement for the area adjacent to the Scheduled Monument will require the presence of a qualified archaeologist to monitor the work, ensure that there is no damage to the barrow mound, and report on progress.

Phase 1

Backfilling of any ruts caused by the intrusion of the wheeled vehicles within the designated area. To achieve this:

- A tracked excavator not exceeding 8 tonnes will be used with a toothless grading bucket, not exceeding 1.8m in width.
 - A tracked vehicle will subject the area to less stress, the tracks will re-distribute the weight of the vehicle causing less wear and tear on the exposed natural within the site.
 - The excavator will be utilised to level the top layer of the damaged area and redistribute the excess material into the ruts left by the wheeled vehicles.

Phase 2

Rotavation of the ground to reduce compaction and improve drainage.

- A wide wheel based tractor, hauling a rotavator, will then be utilised to break up any areas of the surface compacted by the excavator ensuring water can ingress into the lower material and ensure adequate drainage within surface the area of the site.
 - The teeth of the rotavator will not exceed a depth of 5cm (2") when flaying the ground, so as not to impact on any sub surface features within the site.

Phase 3

Harrowing and rolling the ground to level and allow development of a grass sward.

NB This will be carried out during dryer weather and will require a visit by an archaeologist to ensure full compliance with the re-instatement methodology.

- A grass harrow and roller will be utilised to flick the top soil of the site to ensure re-instatement is completed and the ground is adequately covered to protect the area around the monument.