



# **Dodman Point, St Goran, Cornwall Archaeological Assessment and Management Plan**



**Cornwall Archaeological Unit**



# **Dodman Point, St Goran, Cornwall**

## **Archaeological Assessment and Management Plan**

<b>Client</b>	<b>Miss E Letcher</b>
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The Project Manager was Charles Johns. The ecological appraisal was carried out by John Sproull of Cornwall Environmental Consultants (CEC) Ltd. The assessment of the Napoleonic signal station and watch house was carried out by Eric Berry, Historic Buildings Consultant.

The views and recommendations expressed in this report are those of Cornwall Archaeological Unit and are presented in good faith on the basis of professional judgement and on information currently available.

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Cover illustration

Dexter cattle grazing on Dodman Point

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## **Contents**

<b>1</b>	<b>Summary</b>	<b>1</b>
<b>2</b>	<b>Introduction</b>	<b>3</b>
2.1	Project background	3
2.2	Aims	3
2.3	Methods	4
2.3.1	Fieldwork	4
2.3.2	Fieldwork	4
2.3.3	Ecological assessment	4
2.3.4	Assessment of the watch house	4
<b>3</b>	<b>Location and setting</b>	<b>4</b>
3.1	Location and extent of study area	4
3.2	Topography, geology and soils	5
3.3	Access	5
3.4	Designations	5
3.5	Historic Landscape Characterisation	5
<b>4</b>	<b>Previous archaeological and historical work</b>	<b>6</b>
<b>5</b>	<b>Summary of resource and significance</b>	<b>6</b>
5.1	The resource	7
5.2	Management Recommendations for cliff castles, barrows and medieval strip fields	8
5.3	Statements of Significance	9
5.3.1	The cliff castle and barrow cemetery	9
5.3.2	The medieval field system	10
5.3.3	The Watch House	11
<b>6</b>	<b>Overview of Condition</b>	<b>11</b>
6.1	Current land use	11
6.2	Assessment of condition and recommendations	12
6.2.1	The Bulwarks (Management Areas 1A-1C)	12
6.2.2	The Cliff Slopes (Management Areas 2 [A-D] and 3)	13
6.2.3	The watch house (Management Area 4)	14
6.2.4	The medieval field system (Management Area 5)	14
6.2.5	Ecological assessment	15
<b>7</b>	<b>Supporting management recommendations, issues and opportunities</b>	<b>16</b>
7.1	Issues	16
7.2	Opportunities	17
7.3	Recommendations in the 2008 archaeological survey	18
7.4	Ecological recommendations	19
7.5	Recommendations for the watch house	19
7.6	General Guiding Principles	20
7.6.1	Bracken control	20

7.6.2	Scrub control	20
7.6.3	Grazing management	21
7.6.4	Fencing	21
7.6.5	Water supply	21
7.6.6	Erosion repair	21
<b>8</b>	<b>Management Compartment One: The Bulwarks</b>	<b>33</b>
8.1	Management Area 1A (MA1A): The central bulwark	33
8.1.1	Land parcels and vegetation coverage	34
8.1.2	Vegetation management: bracken and scrub clearance (timescale: HLS Agreement years 2-3 [1 December 2014-30 November 2016])	34
8.1.3	Continuing Management: bracken and scrub clearance (HLS Agreement years 3-10 [1 December 2014-30 November 2026])	35
8.1.4	Erosion repair (HLS Agreement years 2-3)	35
8.1.5	Fencing (HLS Agreement years 2-3)	35
8.1.6	Water supply (HLS Agreement years 2-3)	36
8.2	Management Area 1B (MA1B): The eastern bulwark	36
8.2.1	Land parcels and vegetation coverage	36
8.2.2	Vegetation management: maintain bracken and scrub clearance (HLS Agreement years 2-3)	37
8.2.3	Continuing Management: bracken and scrub clearance (HLS Agreement years 3-10 [1 December 2014-30 November 2026])	37
8.3	Management Area 1C (MA1C): The western bulwark	37
8.3.1	Land parcels and vegetation coverage	37
8.3.2	Vegetation management: maintain bracken and scrub clearance (HLS Agreement years 2-3)	38
8.3.3	Continuing Management: bracken and scrub clearance (HLS Agreement years 3-10 [1 December 2014-30 November 2026])	38
8.3.4	Vegetation management: stock grazing (HLS Agreement years 2-10)	38
8.3.5	Erosion repair (HLS Agreement years 2-3)	38
8.3.6	Fencing (HLS Agreement years 2-3)	39
<b>9</b>	<b>Management Compartment Two: The Western and South-Eastern Coastal Slopes</b>	<b>39</b>
9.1	Management Area 2A (MA2A): The coastal slopes	39
9.1.1	Land parcels and vegetation coverage	40
9.1.2	Vegetation management: bracken and scrub clearance (timescale: HLS Agreement years 2-3 [1 December 2014-30 November 2016])	40
9.1.3	Continuing Management: bracken and scrub clearance (HLS Agreement years 3-10 [1 December 2014-30 November 2026])	40
9.1.4	Vegetation management: stock grazing (HLS Agreement years 2-10)	40
9.1.5	Continuing Management: grazing (HLS Agreement years 3-10 [1 December 2014-30 November 2026])	41
9.2	Management Area 2B (MA2B): The northwest coastal slope	41
9.2.1	Land parcels and vegetation coverage	41
9.2.2	Continuing Management: bracken and scrub clearance (HLS Agreement years 3-10 [1 December 2014-30 November 2026])	41
9.2.3	Vegetation management: stock grazing (HLS Agreement years 2-10)	41

9.2.4	Continuing Management: grazing (HLS Agreement years 3–10 [1 December 2014–30 November 2026])	41
9.3	Management Area 2C (MA2C): The spring	42
9.3.1	Land parcels and vegetation coverage	42
9.3.2	Vegetation management: bracken and scrub clearance (HLS Agreement years 2-3)	42
9.3.3	Vegetation management: stock grazing (HLS Agreement years 2-10)	42
9.3.4	Continuing Management: grazing (HLS Agreement years 3–10 [1 December 2014–30 November 2026])	42
9.3.5	Archaeological survey and recording (HLS Agreement years 2-3)	43
9.4	Management Area 2D (MA2D): The post-medieval gardens	43
9.4.1	Land parcels and vegetation coverage	43
9.4.2	Vegetation management: stock grazing (HLS Agreement years 2-10)	43
9.4.3	Continuing Management: grazing (HLS Agreement years 3–10 [1 December 2014–30 November 2026])	43
9.4.4	Archaeological survey and recording (HLS Agreement years 2-3)	44
<b>10</b>	<b>Management Compartment Three: The Eastern Coastal Slope</b>	<b>44</b>
10.1	Management Area 3 (MA3): The eastern coastal slope	44
10.1.1	Land parcels and vegetation coverage	44
10.1.2	Continuing Management: bracken and scrub clearance (HLS Agreement years 3–10 [1 December 2014–30 November 2026])	44
10.1.3	Archaeological survey and recording (HLS Agreement years 2-3)	44
<b>11</b>	<b>Management Compartment Four: The Signal Station and Watch House</b>	<b>45</b>
11.1	Management Area 4 (MA4): The watch house enclosure	45
11.1.1	Land parcels and vegetation coverage	45
11.1.2	Vegetation management: bracken and scrub clearance (HLS Agreement years 2-3)	45
11.1.3	Continuing Management (HLS Agreement years 3–10)	46
11.1.4	Vegetation management: stock grazing (HLS Agreement years 2-10)	46
11.1.5	Watch house repairs, survey and recording (HLS Agreement years 2-3)	46
<b>12</b>	<b>Management Compartment Five (MC5): The Medieval Field System</b>	<b>46</b>
12.1.1	Boundary repairs (HLS Agreement years 2-3)	48
12.1.2	Fencing (HLS Agreement years 2-3)	48
12.1.3	Continuing Management (HLS Agreement years 3–10)	49
12.2	Management Area 6 (MA6): the eastern coastal slope (part)	49
<b>13</b>	<b>Costs and Timetable of Works</b>	<b>49</b>
<b>14</b>	<b>References</b>	<b>63</b>
14.1	Primary sources	63
14.2	Publications	63
14.3	Websites	64
<b>15</b>	<b>Project archive</b>	<b>64</b>
<b>16</b>	<b>Appendices: Principles informing management recommendations</b>	<b>65</b>
16.1	Scheduled Monuments	65

16.2	HEATH guidance on heathland management	65
16.2.1	Summary of general aims of managing heathland for the historic environment	65
16.2.2	Vegetation control; grazing	65
16.2.3	Vegetation control; scrub reduction	67
16.2.4	Vegetation control; bracken reduction	68
16.2.5	Habitat creation; pools	68
16.2.6	Countering disturbance or erosion	68
16.2.7	Access and interpretation	69
16.3	Guidance on erosion repair of archaeological earthworks	69
16.3.1	Extracted from Streeton (1994)	69
16.4	Guidance on boundary repairs under HLS Capital Items Specifications	70
16.4.1	Earth bank restoration	70
16.4.2	Casting Up Supplement - Hedgebank Options Specification	71
16.4.3	Stone Faced Hedgebank Repair or Restoration Specification	71



## **List of Figures**

- Fig 1 Location of Dodman Point to the south of Penare Farm and in relation to Gorran Haven and St Austell
- Fig 2 The extent of the study area for archaeological assessment, coinciding with that of the designated Scheduled Monument, outlined in red
- Fig 3 Looking westwards along the trackway between The Bulwarks. The ramparts are under cover of bracken and scrub with some small to medium trees and these are encroaching onto the trackway
- Fig 4 Looking southwest towards one of the field lanes cut through the southern rampart of The Bulwarks. Some slumping of rampart materials is apparent and rampart materials may have been used to bolster the field lane to the west
- Fig 5 Signs of animal burrows in the Cornish hedging of the northern rampart of The Bulwarks
- Fig 6 Slippage of materials from the southern rampart of The Bulwarks onto the trackway, looking east
- Fig 7 Severe erosion and animal burrowing on part of the southern rampart of The Bulwarks, looking southeast from one of the field lanes
- Fig 8 Eroded profile of the southern rampart towards the western end of The Bulwarks, looking southwest; small scrubby trees and bracken are obscuring the view
- Fig 9 Cornish hedging has replaced sections of the northern rampart of The Bulwarks, obscured here by the cover of scrubby trees and some bracken, looking northwest
- Fig 10 A break in the Cornish hedging of the northern rampart of The Bulwarks created by walkers seeking alternative access around the trackway, looking north. Bracken and ivy cover the walling which is topped by gorse
- Fig 11 Looking northeast across the western section of The Bulwarks on the west side of Dodman Point. The coastal path crosses the ramparts here and walkers and stock movement have caused severe erosion to the profile of the ramparts in this area
- Fig 12 Looking northeast across the western section of The Bulwarks on the west side of Dodman Point where a worn path has been created by stock roaming freely along the coastal slopes
- Fig 13 Looking north along the coastal path on the east side of Dodman Point where it crosses The Bulwarks. The path has caused some erosion but vegetation in this area has been cleared under the National Trust's scrub clearance programme
- Fig 14 Unknown and undated earthworks on the east side of Dodman Point adjacent to the southern rampart of The Bulwarks, looking south. The coastal path crosses these from north to south
- Fig 15 Shetland ponies grazing on areas of cleared coastal slope on the west side of Dodman point, looking north. Stands of gorse, blackthorn and bracken remain in uncleared areas
- Fig 16 Unknown and undated earthworks on the east side of Dodman Point adjacent to the southern rampart of The Bulwarks, looking south. The coastal path crosses these from north to south
- Fig 17 Looking northeast from the lookout platform adjacent to the watch house; cleared glades have been created, retaining some distinctive Monterey pines but the historic sightlines out to other signal stations on nearby coastal points remain obscured

- Fig 18 The pathway through the watch house enclosure from the east side of Dodman Point, looking southwest. The watch house enclosure still retains a large percentage of scrub and bracken cover, restricting access and blocking sightlines
- Fig 19 Looking towards the watch house and its small enclosure from the south. Although cleared of some scrub there is still some poor boundary definition and sightlines are obscured by scrub and large trees in places
- Fig 20 The watch house and lookout platform, looking northwest from inside the enclosure. Climbing ivy threatens the lookout tower and the walls of the watch house and the built structure shows signs of disrepair
- Fig 21 A section of the principal enclosure boundary along the east side of Dodman Point; partly eroded with gorse along the top of the surviving section. Looking northeast towards one of the two known barrows (MCO2549)
- Fig 22 Looking northwest across one of the medieval strip boundaries on Dodman Point, partly eroded and denuded by stock movement and with low gorse along the surviving sections.
- Fig 23 The principal water trough used by stock grazing within the medieval field system on Dodman Point. The ground area around the trough is severely trampled and eroded. Looking north
- Fig 24 Looking northeast through one of the open gateways within the medieval field system on Dodman Point. The entrance way is severely trampled and the exposed ends of the field boundaries are eroded and topped with gorse and blackthorn

## **List of Plans**

- Plan A – Boundaries referred to in the Management Plan
- Plan 1 – Scrub management
- Plan 2 - Chemical bracken spraying
- Plan 3 - Fencing
- Plan 4 – Water supply
- Plan 5 – Scrub management for the watch house enclosure
- Plan 6 – Boundary repairs
- Plan 7 – Erosion repairs

## **Abbreviations**

- |       |  |
|-------|--|
| AEL   | Anciently Enclosed Land (HLC Zone)   |
| AONB  | Area of Outstanding Natural Beauty (national, statutory designation)                     |
| BAP   | Biodiversity Action Plan   |
| CAU   | Cornwall Archaeological Unit   |
| CC    | Cornwall Council   |
| CEC   | Cornwall Environmental Consultants Ltd   |
| CIfA  | Chartered Institute for Archaeologists   |
| CRG   | Coastal Rough Ground (HLC Type)  |
| CRO   | Cornwall Record Office   |
| CROW  | Countryside and Rights of Way Act (formalising extents of public access to rough ground) |
| FEP   | Farm Environment Plan (HLS; lists sites for enhanced management)                         |
| HAP   | Historical and Archaeological Feature Protection   |
| HARPO | Heritage at Risk Project Officer (EH)  |

HE	Historic England (formerly English Heritage)
HER	Cornwall's Historic Environment Record, records and databases of archaeological and historical sites held at CC
HLC	Historic Landscape Character (prevailing character of an area of landscape, reflecting the historical processes which shaped it)
HLS	Higher Level Stewardship (discretionary scheme for farm environmental enhancement)
MA	Management Area
MC	Management Compartment
MCO	Monument number in Cornwall and Scilly HER
MPP	Monuments Protection Programme
NHLE	National Heritage List Entry
NMP	National Mapping Programme (plotting of sites from aerial photographs)
OD	Ordnance Datum
OS	Ordnance Survey
PROW	Public Right of Way
REL	Recently Enclosed Land (HLC Zone)
SM	Scheduled Monument (archaeological site designated nationally important)

# **Section One: Background, Method and Principles**

## **1 Summary**

In 2014, Cornwall Archaeological Unit (CAU), Cornwall Council, was commissioned by Miss E Letcher, tenant farmer at Penare Farm, St Goran, Cornwall, to carry out an archaeological assessment and management plan for Dodman Point through Natural England's Higher Level Stewardship Scheme. The holdings covered by the assessment are owned by the National Trust and lie within an area of great archaeological significance, with a range of features and finds exhibiting considerable time-depth being contained within the substantial earthworks of a late prehistoric cliff castle, the whole being designated as a nationally important Scheduled Monument.

Dodman Point was entered into Higher Level Stewardship (HLS) as part of Penare Farm (HLS agreement No. AG00462831) in 2013 following 20 years of management under two Countryside Stewardship Schemes. These saw the cessation of cultivation, new fencing, scrub clearance and an increase in grazing management.

An HLS 'Farm Environment Plan' (HLS FEP) and Historic Environment Report prepared for the holding noted the need for a management plan to address issues adversely affecting the Scheduled Monument, the condition of which is currently at high risk due to scrub growth and damage by erosion.

The archaeological assessment reviewed the condition of the Scheduled Monument area and identified where there was a continued need for effective scrub control, boundary repairs, repairs to targeted areas of erosion and the locating of any necessary infrastructure for effective grazing, such as fencing and water supply.

A management plan was then produced, taking into account the archaeological and ecological requirements of the site. A plan of agreed works was drawn up following consultation with the agreement holder as to what was practical and affordable within the term of the HLS agreement, with the priority being the clearance of scrub and bracken and the extension of an effective grazing regime for on-going management of the site. The ultimate aim has been to ensure that the monument is brought out of risk by the term of the agreement in 2023.



Fig 1 Location of Dodman Point to the south of Penare Farm and in relation to Gorrnan Haven and St Austell



Fig 2 The extent of the study area for archaeological assessment, coinciding with that of the designated Scheduled Monument, outlined in red

## **2 Introduction**

### **2.1 Project background**

In 2014, Cornwall Archaeological Unit (CAU), Cornwall Council, was commissioned by Miss E Letcher, tenant farmer at Penare Farm, St Goran, Cornwall, to carry out an archaeological assessment and management plan for Dodman Point through Natural England's Higher Level Stewardship Scheme. The holdings covered by the assessment are owned by the National Trust and lie within an area of great significance for its archaeology, with a range of features and finds exhibiting considerable time-depth being contained within the substantial earthworks of a late prehistoric cliff castle, the whole being designated as a nationally important Scheduled Monument (see Figs 1 and 2 for location).

Dodman Point was entered into Higher Level Stewardship in 2013 as part of Penare Farm (HLS agreement No. AG00462831) following 20 years of management under two Countryside Stewardship Schemes. These saw the cessation of cultivation, new fencing, scrub clearance and an increase in grazing management.

CAU's Written Scheme of Investigation underpinning the assessment (Johns 2014) follows the requirements set out in a brief by the Senior Archaeologist, Countryside Advice, Information and Policy Team, CC (Reynolds 2014). The brief followed on from a Higher Level Stewardship 'Farm Environment Plan' (HLS FEP) and Historic Environment Report prepared for the holding (Reynolds 2013), which noted the need for a management plan to address issues adversely affecting the Scheduled Monument, the condition of which is currently at high risk due to scrub growth and damage by erosion. The brief identified the need for effective scrub control, boundary repairs, repairs to targeted areas of erosion and the locating of any necessary infrastructure for effective grazing, such as fencing and water supply.

External contributions to the assessment include an ecological appraisal of the site by John Sproull of Cornwall Environmental Consultants (CEC) Ltd (Sproull 2014) and an assessment of the Napoleonic signal station and watch house by Eric Berry, Historic Buildings Consultant (Berry 2014).

### **2.2 Aims**

The aims of the project were to:

- Review the character and condition of previously recorded sites tabled in the 2008 management assessment (Parkes 2008), along with further features or areas of archaeological potential identified, though the discovery and recording of the latter is not an aim of the project.
- Identify target areas for scrub clearance and erosion repair and identify and prioritise field boundaries for repair and protection; to carry out targeted minimal recording of boundaries proposed for restoration (on Dodman SM only).
- Assess the sensitivity of the sites, particularly in relation to current proposals to introduce/continue/extend grazing, together with any associated infrastructure needs and its impact on the historic landscape character of the study areas, noting potential needs for Statutory Consents.
- Outline the current and future management requirements of the sites identified within the study area by the 2008 management assessment (Parkes 2008).
- Update the management recommendations made in view of these using any existing reports (see below) and the HER for additional baseline data and to work closely with the National Trust and the tenant to ensure that recommendations are realistic and achievable within their circumstances and the parameters of the agreement.
- Develop a simple philosophy to underpin and guide management of the medieval field system on the Dodman (and which may be more widely applicable on the holding of Penare) and to produce a statement of significance and guiding principles for the ongoing management of the whole of the Dodman.

- Identify fencing needs which respect archaeological features and the landscape setting and would meet the needs of the grazier.
- Identify suitable lines for any water supply pipelines which meet the needs of the grazing regime.
- Include a baseline ecological appraisal of the site (by an appropriate ecological consultant).
- Include an assessment identifying the consolidation requirements of the watch house and flag pole base (by an appropriate historic buildings consultant).
- Gather together the results of the above into a Management Plan.
- Oversee the implementation of selected management works.

## **2.3 Methods**

### **2.3.1 Fieldwork**

During the desk-based assessment historical databases and archives were consulted in order to obtain information about the history of the site and the structures and features that were likely to survive. The main sources consulted were as follows:

- Cornwall HER
- Images of England online listed buildings database
- Early maps and photographs (see Section 14.1 for details)
- Relevant 'grey' literature (unpublished management reports), and publications, in particular the 2008 management assessment (Parkes 2008) and the HEATH Project guide to managing rough ground in west Cornwall (Kirkham 20110 (and see Section 16.2)

### **2.3.2 Fieldwork**

Fieldwork for this assessment included a project site meeting on 11 November 2014 and a follow up visit on 24 November 2014 to assess the priority management needs for the western bulwark and to take general photographs of the site as a whole. A further site visit was undertaken on 8 January 2015 to assess the management needs of the sites identified in the 2008 management assessment (Parkes 2008) and to meet with Miss E Letcher, tenant of Penare Farm, and Phil White, the National Trust warden for the area. An overview of the condition of the monument, including threats, issues and management recommendations is presented below (Sections 6 and 7).

### **2.3.3 Ecological assessment**

An ecological assessment of The Bulwark, coastal slopes and headland plateau was carried out on 18 November 2014 by Cornwall Environmental Consultants (CEC) Ltd. A full report, including maps, was compiled and the appraisal and recommendations are summarised below (Section 7.4).

### **2.3.4 Assessment of the watch house**

A buildings survey of the signal station and watch house was carried out in December 2014 by Eric Berry, Historic Buildings Consultant. A full report, including digital photographs, was compiled and the statement of condition and recommendations for repair and restoration are summarised in Section 7.5 below.

## **3 Location and setting**

### **3.1 Location and extent of study area**

The Dodman is a prominent and distinctive headland on the south coast of Cornwall, situated between Veryan Bay and Mevagissey Bay. Dodman Point, where the present study is focussed, occupies the southernmost extent of the headland, centred on NGR SX 0019 3962. The steep rocky sides of the promontory cliffs rise to a broad plateau of land, enclosed to the north by the large bivallate ramparts ('The Bulwarks') of a late prehistoric promontory fort or cliff castle. The plateau has seen a much broader scope

of human activity, however, from earlier in the prehistoric period through to the present day; the plateau fields are now under a grazing regime by Penare Farm, around 800m to the north, currently owned by the National Trust. Within the study area (also the area defined as the cliff castle) there is a great complexity of archaeological sites illustrating a considerable time depth of human activity and the whole has been designated as a Scheduled Monument (NHLE 1020865; formerly UID 32970) of local, regional and national importance.

### **3.2 Topography, geology and soils**

Dodman Point is a broadly rectangular coastal promontory projecting out into the English Channel from the dissected plateau of the Roseland Peninsula. Steep-sided cliff slopes flank a level headland plateau at around 112m OD. The southern tip of the peninsula stands at 114m OD, the highest point on the plateau and the south coast of Cornwall.

The underlying geology of Dodman Point comprises sedimentary Dodman Formation siltstones and mudstones laid down in the Devonian Period. The steep cliff slopes are covered by a mantle of periglacial Head deposits. Soils are typically brown rankers; shallow well-drained loamy soils over rock (Soils Survey of England and Wales 1983).

### **3.3 Access**

The primary access to Dodman Point is via a Public Right of Way (PROW), which runs as a trackway south from Penare, extending out onto the Dodman plateau as a footpath leading from a gated access way at the eastern end of the cliff castle ramparts. The trackway itself continues westwards along the internal ditch between the castle ramparts (not a designated PROW), where it meets a section of coastal path from Hemmick Beach. The coastal path runs south along the west side of Dodman Point and continues around the peninsular, northeastwards towards Bow or Vault Beach.

The headland plateau of the Dodman contains the remains of a medieval field system, currently managed under a grazing regime of Dexter cattle. The PROW runs south and south-west across the fields on the eastern side of Dodman, accessing the area of coastal rough ground surrounding the Napoleonic signal station (MCO45827) and granite cross (MCO5238) on the headland. The steep coastal slopes are predominantly under cover of dense coastal scrub and are largely inaccessible to visitors. Some areas of post-medieval quarrying lie within the areas of coastal slope enclosing the Dodman peninsular and there may be issues of health and safety for visitors straying into these areas away from the established pathways.

### **3.4 Designations**

The late prehistoric cliff castle at Dodman Point, and the combined archaeological sites and monuments contained within it, is designated as a 'heritage asset' of local, regional and national importance, a Scheduled Monument (NHLE 1020865 [formerly UID: 32970]).

The monument also falls within the area of the south Cornish coast nationally designated as the South Coast Central Area of Outstanding Natural Beauty (AONB).

### **3.5 Historic Landscape Characterisation**

During 1994, CAU carried out a map-based historic landscape assessment across the whole of Cornwall, using existing field patterns and early map and place-name evidence among other systematic sources to characterise the landscape (Cornwall County Council 1996). This characterisation reflects the historic processes that have shaped the Cornish landscape and involved dividing the county into a series of zones, each of which reflects a particular set of historic processes and tends to contain a predictable range of archaeological sites and historic features.

Dodman Point is characterised within this framework of Historic Landscape Characterisation (HLC) as predominantly 'Coastal Rough Ground' (CRG) along the cliff slopes and across the southernmost part of the plateau. This is largely unimproved



ground having a mix of scrub, bracken, gorse and heather. This type of ground typically provides a resource for grazing animals and furze for fuel, with grazing the traditional form of land management. Along the inner edges of the cliff castle ramparts in the north of the study area there is a section of farmland characterised as Farmland Prehistoric/Farmland Medieval (formerly referred to as 'Anciently Enclosed Land' - AEL) - farmland within the agricultural heartland of Cornwall whose current boundary definition was substantially formed during the medieval period. On Dodman Point this comprises the remains of a well-preserved medieval strip field system, the form of which is partly fossilised by post-medieval Cornish hedges, stone walls or earth banks. In addition two areas within the Dodman interior are characterised as Farmland: C20 (formerly referred to as 'Recently Enclosed Land' - REL) - largely relating to prehistoric or medieval farmland (AEL) whose field boundaries have been substantially altered by large-scale hedge removal during the 20<sup>th</sup> century (Cornwall County Council 1996).

## **4 Previous archaeological and historical work**

Sketch surveys of the Dodman were carried out in the 1970s by Peter Sheppard of the Cornwall Committee for Rescue Archaeology and in the 1990s Ann Preston-Jones of Historic England (formerly English Heritage) (Parry 2102).

A National Trust 'greyback' volume (National Trust 1986) briefly described the features then known from fieldwork and documentary evidence. The site was assessed in 2003 as part of English Heritage's Monument Protection Programme (MPP) as a result of which the area previously designated as Scheduled Monument (SAM 590) was expanded considerably (SM 32970). Scheduling was previously confined to the ramparts and field system on the plateau, but did not include the flanks; it now extends to the whole of the area of the headland within the ramparts of the promontory fort together with a small area outside on the western side (Parry 2012).

Mapping of archaeological features on the Dodman from air photographs has been undertaken as part of the National Mapping Programme (NMP). This included the plotting of a number of linear features, most probably representing medieval and post-medieval divisions within the field system, together with three broadly circular features which may represent ditches associated with further barrows (Parry 2012).

Geophysical surveys have been carried out over a substantial area inside and outside the Bulwarks in the early 2000s (GSB Prospection Ltd 2004; 2005; 2006). These confirmed the locations of ring ditches underlying two previously known barrows and revealed a penannular ditch nearby. It also identified traces of probable prehistoric field systems in fields immediately outside the Bulwarks and of medieval and post-medieval field boundaries within the enclosed area on the headland. A possible internal quarry ditch has been located on the south side of the main bank of the Bulwarks, with clusters of anomalies possibly representing pits nearby (Parry 2012). A further geophysical survey was carried out by Archaeophysica Ltd as part of the 'Unlocking our Coastal Heritage Project' (Roseveare and Roseveare 2013).

In addition, CAU has carried out a number of projects on the Dodman including: 'Farm Historic Environment Information' for Penare Farm (Herring 2003); 'The Dodman and St Austell Bay Archaeological Survey' for the National Trust, which included The Dodman and Penare (Parkes 2008), fieldwalking exercises (Thorpe 2005 and 2007) and watching briefs during trenching for a replacement lightning conductor and for water supplies (Kirkham 2006 and 2007).

## **5 Summary of resource and significance**

This section is extracted from the Historic England Scheduled Monument entry (1020865: Later prehistoric cliff castle, two prehistoric round barrows, medieval field system, and associated remains on Dodman Point) and the Statements of Significance and Management Recommendations for cliff castles, barrows and medieval outfield in Kirkham (2011), with some additions. Sites included in the Cornwall and Scilly HER

have the monument number (prefix MCO) in brackets. Sites included only within the National Trust Sites and Monuments Record have the monument number (prefix NT) in brackets.

## **5.1 The resource**

The monument includes an Iron Age cliff castle, two known Bronze Age round barrows (and several possible others) and a medieval field system, situated on Dodman Point; a prominent flat-topped headland projecting south into the English Channel, south west of Gorran Haven. Additional archaeological features within the scheduled area include a medieval (or later) holloway, the site of a post-medieval beacon, a Napoleonic signal station and possible ancillary buildings (no longer extant), post-medieval extractive pits, two post-medieval boundary stones (no longer in situ), a 19<sup>th</sup> century cross, undated earthworks or spoil heaps and a cluster of possible World War II bomb craters.

The cliff castle (MCO6545), extending over most of the scheduling, is irregular in plan, measuring up to approximately 830m north-south by 800m east-west externally, and covering a total area of 34 ha. It is enclosed by two closely spaced ramparts (The Bulwarks) of earth and stone, with external ditches and a counterscarp or outer bank. These earthworks follow a slight natural slope around the north edge of the plateau on top of the headland, and continue on the steep coastal slopes below, incorporating outcrops of bedrock and (on the east) natural rock walls and fissures. The ramparts have steeply sloping sides and flat tops. The inner rampart is 7m-9m wide. Its height is up to 2m inside and 4m outside. The outer rampart is 3.5m-7m wide and around 1.5m high. Both show limited modification for reuse as field boundaries. The inner ditch, cut into the bedrock, is 4m-5m wide and 0.5m-2m deep. On the west slope, the outer ditch is 4m wide and 0.7m deep. On the plateau, it is largely silted or filled by ploughing, but is marked in places by hollows 2m-5m wide and 0.5m deep. The counterscarp is visible to the west as an uneven, rounded bank approximately 5m wide and up to 1m high. It is considered to continue across the headland as a buried feature.

The two known round barrows (MCO2549; MCO2550) are located on the plateau, one near the centre of the scheduling, the other towards the north. Both have earth and stone mounds, with no evidence for external ditches. They measure 22m in diameter and 0.9m high, and 27m NNW-SSE by 20m WSW-ENE and 1.3m high, respectively. The northern barrow is partly truncated on the ENE side by a field boundary bank. Several further possible barrows (NT96883-4; NT96887-9; NT96898) have been indicated by a geophysical survey of this area, potentially suggesting a larger cemetery group.

The field system (MCO20853), of medieval origin, extends over the whole of the scheduling. The medieval strip fields forming its core lie on the top and shoulders of the headland. They are shown on old maps and aerial photographs, and are partially visible on the ground. Many strip boundaries are upstanding while others have been modified to form modern boundaries. Within this scheduling the field system contains over 30 known strip fields, each slightly curving in plan, 10m-30m wide and around 100m-250m long. The relict strip divisions are banks of earth and stone, 2m-4m wide and around 0.3m high, or scarps up to 0.9m high where they run along the contour. The modern field boundaries fossilising elements of the medieval field system (which continue north beyond the scheduling) are commonly banks 1.5m wide and 1.0m high, faced with local small stones. Some have a coping or top course of projecting slabs. The field system was extended with boundaries similar to these in post-medieval times, defining blocks of rough pasture on the steep lower slopes. A medieval or later trackway runs for approximately 80m through the field system, in the northern section of the scheduling. The track is 2m wide and bounded by banks of post-medieval type. It forms part of a route linking the Dodman peninsula with the hamlet of Penare, passing through the ramparts of the cliff castle, and along the ditch between them, before continuing north.

Old maps provide evidence of a medieval or post-medieval beacon (MCO4045) for transmitting warnings of hostile shipping, near the later signal station on the high level

ground towards the south end of Dodman Point. This may have had a bonfire mound, or a pole or tower, for a brazier. The signal station (MCO45827) was built in 1794 as part of a coastal chain supplying information on shipping movements to the navy. It has a square plot measuring 12m across internally, enclosed by stone-faced banks around 1m wide and 0.5m-1.1m high, with a gateway on the west side. In the corners of the plot are stone blocks 0.4m high, each fitted with an iron shackle. Cables would have run from these to a central signalling pole, to stabilise it. A watch house stands northwest of the centre of the plot. The station was reused by the coastguard by the mid-1830s, and again in World War I. A sub-rectangular earthwork south west of the signal station is thought to be an 18th or 19th century building (NT96909). It measures 6.7m north west southeast by 3.1m north east-south west externally, and has an earth and stone bank 1.6m wide and up to 0.2m high on three sides, and a boundary bank on the north east. Its interior forms a slight hollow.

A number of plots, possibly remains of a 19th century field system or market garden complex (NT96914), are visible on the coastal slopes at Dodman Horse, on the south east of the headland. The plots exploit natural hollows or moderate gradients between outcrops of natural rock, and so are irregular in plan and size. They are around 15m across, and form scarps up to 1m high above the slope. Some boundaries have rough walling of rubble slabs. Two boundary stones (MCO45828) lying east of centre in the scheduling were found nearby. Each bears the inscription IMW; they may have marked land in the ownership of a local estate.

*Note: the boundary stones were not found during the site walkover and the tenant farmers do not recall having seen them.*

The cross (MCO5238), also designed as a minor daymark for shipping, stands above the coastal slope on the southern tip of the headland. On the north east side of the middle step is an inscription with the date 1896.

There are a dozen or more extractive pits in the scheduling, mainly to the southwest and northeast, on the shoulders and upper slopes of the Dodman.

Three possible bomb craters (NT96893-5), on the north east side of the plateau, are circular dish-like hollows about 10m apart.

Currently the inner ditch of The Bulwarks is used as a pedestrian and vehicular trackway that creates an access point onto the headland to the south and the coastal paths to the west and east. Along the eastern section of trackway large puddles provide a habitat for the protected fairy shrimp (*Anostraca*); this does not affect the western section of the trackway at present. The views from within and across the ramparts to the adjoining parts of the headland are clearly a point of appreciation to visitors. The way in which the ramparts are understood and appreciated as part of the wider cliff castle is substantially affected at present by the high levels of scrub and vegetation cover, which both impairs safe access to and around the ramparts and compromises the historic and landscape value of the wider monument.

## **5.2 Management Recommendations for cliff castles, barrows and medieval strip fields**

The following management recommendations for cliff castles, barrows and medieval outfield strip cultivation taken from 'Managing the historic environment on East Cornwall's rough ground' (Kirkham 2011).

**Cliff Castles;** *The large numbers of people using the South West Coast Path render cliff castles more subject to pressure from visitor footfall than most later prehistoric sites and damage to stony ramparts may also result from casual interference. Their exposed position means that erosion on these sites is made worse by climatic extremes; rainfall runoff is more severe and protective vegetation is slower to regenerate.*

*Their exposed location means that some of these sites are vegetated with relatively low-growing maritime vegetation communities, but in other cases dense scrub and bracken reduce the visibility of the monument and prevent access to areas of interest as well as being a potential threat to standing and buried archaeology. Grazing may not be a viable option on such sites and manual clearance and / or spraying are likely to be necessary.*

*As with hillforts, there has been little detailed analytical survey of cliff castles and this remains a high priority for improved understanding.*

**Barrows;** *Barrows and cairns are susceptible to damage from scrub and bracken growing on them, from visitor pressure where they lie under or close to paths and to disturbance and removal or rearrangement of loose stone by visitors in the construction of walkers' cairns, for example. Over-grazing can erode earth mounds and fires may damage peripheral stones and prompt erosion through removal of the surface vegetation mat. Earthen barrows are liable to damage from burrowing animals.*

*Some barrows and cairns at the smaller end of the range may not be easily recognised as archaeological features, rendering them prone to damage from vehicle movements. Key elements of management are maintenance of a low-intensity grazing regime to control vegetation, together with appropriate manual clearance of scrub. Burning in the vicinity of monuments should be avoided where vegetation is dense. Erosion requires monitoring and where severe may need to be repaired; if erosion is the consequence of a footpath running over or near the feature a diversion of the route may be appropriate. All works on or around barrows and cairns should be based on specific and detailed archaeological advice.*

*This class of monument is relatively poorly understood in west Cornwall. Large numbers of barrows and cairns were excavated by antiquarians during the eighteenth, nineteenth and early twentieth centuries, but recording was usually poor; very few have been excavated to modern standards. New, carefully targeted investigations (coupled with some reassessment of earlier finds) would provide substantial information on the chronology and architecture of these monuments, their social and religious significance and the landscapes in which they were placed. Such work would be valuable for improved interpretation and presentation but could also evaluate the impact of vegetation damage, past fires, animal erosion and visitor pressure, providing a basis for improved prescription for future management.*

**Medieval outfield strip cultivation;** *Traces of narrow outfield strips on Cornwall's downs and cliffs are evidence for parts of the rough ground in these areas having occasionally been temporarily cultivated in the later medieval and early post-medieval periods. The outfield strips are a reminder of the former communalism of farming in Cornwall and the flexibility of the agricultural system, allowing farmers to cultivate land beyond the usual margins when conditions were appropriate.*

*Traces of outfield cultivation are potentially vulnerable to damage from vehicles and to erosion where pedestrian and animal traffic is concentrated by vegetation. As with most rough ground features, the key management prescription is non-intensive grazing.*

## **5.3 Statements of Significance**

### **5.3.1 The cliff castle and barrow cemetery**

Cliff castles are coastal promontories adapted as enclosures and fortified on the landward side by the construction of one or more ramparts accompanied by ditches. On the seaward side the precipitous cliffs of the promontory provided a natural defence, only rarely reinforced by man-made features. Cliff castles date to the Iron Age, most being constructed and used between the second century BC and the first century AD, although some were reused in the medieval period. They are usually interpreted as high status defensive enclosures, related to the broadly contemporary classes of hillfort.

Around 60 cliff castles are recorded nationally, of which 40 are located around the Cornish coast. Cliff castles contribute to our understanding of how society and the landscape was organised during the Iron Age and illustrate the influence of landscape features on the chosen locations for prestigious settlement, trade and industry. All cliff castles with significant surviving archaeological remains are considered worthy of preservation. All would benefit from more detailed survey and all can be expected to have complex and revealing belowground remains. Many have local names and some have folk stories attached to them. Their amenity value is high, being adjacent to the South West Coast Path and sited on some of the most dramatic of the area's rocky promontories.

Despite modification of its ramparts and partial burial of its outer ditch and counterscarp bank, the cliff castle at Dodman Point survives well. The underlying old land surface, and remains of any structures or other deposits associated with this and with the upstanding earthworks and ditches, will also survive; recent geophysical survey of the interior of the cliff castle has revealed possible evidence for enclosures and settlement-related features although these have not been corroborated through excavation and remain undated at present. The unusually large area of the cliff castle and the scale and form of its enclosing earthworks show the complexity of this monument type, and will contribute to our understanding of the social and economic organisation in the Iron Age.

The very prominent coastal location of Dodman Point demonstrates how important topography was in the siting of cliff castles, and the presence of the round barrows indicates that this factor was already important in Bronze Age ritual activity. There are tens of thousands of later Neolithic and Early Bronze age barrows in Britain, and hundreds in Cornwall, but excavations indicate that there is considerable variety within an archaeological class that is now widely considered to be too broadly defined. In some respects each monument can be considered unique, with its own suite of below- and above-ground features, and its own relationship to landscape and other cultural features. The archaeological potential of barrows is high: complex structures, created through careful design, and often incorporating artefacts and special deposits, reveal much about contemporary ideologies and society. There is a high potential for buried soils beneath the mounds, with all the information they can hold about pre-barrow environments.

### **5.3.2 The medieval field system**

The medieval field system on the headland plateau of Dodman point survives as an upstanding feature containing the earlier barrow cemetery and encompassed by the cliff castle. Its significance lies in its origins as an area of medieval outfield characterised by parcels of narrow strips created by the local tenant farmers; testament to a communal mixed farming system characteristic of Cornwall; convertible or 'ley' husbandry. This pattern of communal strips is unusual when set against the national pattern of strip field farming, more commonly associated with the nucleated villages and large open field systems of central England.

Low earth and stone boundaries on the plateau headland reflect the subsequent enclosure of the medieval strip parcels by individual tenant farmers. The larger banked hedges surrounding these would have formed stock-proof boundaries so that arable cultivation and rough grazing on the headland were kept separate. During the post-medieval period there was some expansion of the field system; some existing boundaries were modified or added to and additional pasture enclosures extended out onto the cliff slopes; the remains of former pasture boundaries are still visible running along the flanks of the lower coastal slopes. Surviving field boundaries are collectively of great historic and archaeological value. They are intrinsic to local historic landscape character, reflecting traditional farming methods and land organisation as well as local vernacular building styles and materials.

Over time the arable fields gradually fell out of cultivation and the cliff slopes were abandoned even for rough grazing. Bracken and scrub has become established on the former grazing land, obscuring the remains of the former enclosure boundaries where they extend out along the coastal slopes. The once arable fields of the headland plateau are now grazed as semi-improved grassland.

Medieval field systems of the type surviving on Dodman Point and elsewhere within Cornwall contribute to our understanding of local agri-environments and land management within the county during the medieval period, how these subsequently adapted and evolved in response to environmental and social change and how they relate to the wider context of national farming practices during this period. They also demonstrate the vulnerability of such field systems on marginal land to the threats of erosion and vegetation damage.

### **5.3.3 The Watch House**

The well-preserved Napoleonic signal station on the southern point of the Dodman peninsular provides a good example of the modern role of prominent coastal locations in national systems of communication and maritime regulation.

The signal station and watch house formed part of a chain of Napoleonic signal stations established along the south coast during the late 18<sup>th</sup> century. It was also one of the bases used for an early OS triangulation survey, which provided a framework for accurate topographical mapping. The significance of the intervisibility of the signal station and former beacon on Dodman with other prominent coastal locations and landscape markers (to include similar signal stations at Gribben Head - MCO4049; Nealand Point - MCO53894 and St Anthony Head - MCO28700) is presently lost due to the continuing levels of vegetation cover in this area; the enclosure is named as 'Beacon Piece' in the c1840's Tithe Apportionment and is noted as being under arable cultivation; this indicates that the enclosure was historically retained as an open space and that scrub and vegetation cover in this area is probably a relatively recent occurrence. Low walled enclosures to the southwest of the watch house enclosure may be additional buildings associated with the signal station and these would benefit from being surveyed and recorded as part of any consolidation works on the watch house.

The significance of the signal station lies in its being part of a wider chain of Napoleonic coastal defences. Also, its place in the inaugural OS topographical surveys is of national importance. Restoring the historic fabric of the watch house and re-establishing the historic sightlines between identified historic landscape markers (as much as practically possible) would restore the historic context of the watch house and also increase understanding and appreciation of its intended function to visitors.

## **6 Overview of Condition**

### **6.1 Current land use**

The Bulwarks are not currently under any management regime and the archaeological fabric of the ramparts and ditches is under significant threat as a result. The ramparts have been modified in parts to reflect re-use as field boundaries; the northern rampart is now largely marked by a line of Cornish hedge with only a few surviving sections of historic earthworks.

The headland plateau, comprising the medieval field system and flanking grassland, is currently managed under a grazing regime by a traditional hardy breed of Dexter cattle. This area is designated as a lowland meadow and pastures BAP habitat, largely recognised by the HLS agreement to be species-rich semi-natural grassland requiring sustained maintenance and protection. Two small field parcels (2389; 2694) in the northeast of the plateau and one to the east of the watch house in the south (3048) are highlighted as areas of species-rich semi-natural grassland on difficult ground that requires improvement and restoration. The fields immediately north of the northern rampart have a funnel shaped end, which historic mapping indicates may have been

part of a routeway leading down to Penare. The breaks in the ramparts may therefore have been deliberately created as a means of creating droveway access to and from the headland as a part of historic (medieval and post-medieval) grazing practices. By the early to mid-19<sup>th</sup> century these were closed off once more by sections of Cornish hedge, probably coinciding with the cessation of extensive grazing on the headland.

The coastal slopes of Dodman Point are designated as a maritime cliff and slope BAP habitat, largely areas of rough grazing land with remnant areas of species-rich coastal grassland and heathland. These areas are currently threatened by invasive vegetation dominated by bracken and blackthorn scrub but this is being slowly improved through a programme of targeted clearance by the National Trust, supported by a grazing regime by Shetland ponies. The watch house enclosure ('Beacon Piece') is included in this scheme of management; under threat of vegetation cover and with its boundary walls now largely obscured by bracken, bramble and blackthorn scrub it has also been under a programme of gradual scrub clearance by the National Trust and grazed by ponies.

## **6.2 Assessment of condition and recommendations**

The wider extent of the cliff castle, to include the multi-period archaeological sites within it, is a designated Scheduled Monument (NHLE 1020865 [formerly UID: 32970]). The monument is currently on Historic England's Heritage at Risk Register (HAR), where it is described as being in generally satisfactory but declining condition, with significant localised problems (English Heritage 2014). The recommended works over the ten years of the HLS Stewardship scheme will be aimed at bringing the monument out of risk by the end of that period.

### **6.2.1 The Bulwarks (Management Areas 1A-1C)**

The principal threat to The Bulwarks (the ramparts and ditches of the late prehistoric cliff castle) is from bracken, scrub (including blackthorn, bramble and gorse) and tree growth, which has impacted on the structural form and visible profile of the ramparts and ditches. This profile has potentially been further reduced through erosion, a degree of re-use as field boundaries, and through the gradual build-up of ground levels since its initial construction. The ditch between the double ramparts has seen long historic use as a pedestrian and vehicular trackway (Fig 3) and historic breaks in the ramparts are visible on late 19<sup>th</sup> century maps, indicating where access routes have been created between the trackway and the fields on the southern side (Fig 4).

The extent of any potential damage to The Bulwarks through animal burrowing or erosion is not easy to assess given the present level of vegetation cover. Some burrows are visible through the vegetation (Fig 5) and there are some areas of the bank that have eroded out or been subject to patch repairs. Some slippage has occurred in places and areas of overburden from the banks are visible on the trackway (Fig 6). Three areas of urgent need have currently been identified (Figs 7, 8 and 11), although others may become apparent once vegetation clearance commences. A programme of targeted erosion repair and archaeological recording is recommended for the areas currently identified. Erosion repairs and any associated evaluation and recording will require Scheduled Monument Consent before works begin.

The northernmost rampart has been modified along much of its line for re-use as field boundaries, with sections of Cornish stone hedging facing parts of the inner bank along the trackway and former ditch (Fig 9). Along these sections the vegetation cover is notably less than where sections of the earth and stone ramparts remain. There has been some damage by animal burrowing, although this cannot be fully assessed at present. Blackthorn and gorse top the Cornish hedge and there are some breaks in the walling where access to the western end of the trackway has been created by walkers. Bracken predominates along the sections of surviving rampart (Fig 10).

The coastal path cuts across the western and eastern ends of The Bulwarks. Traffic along this path to the west has previously been controlled through fencing and a designated stile. Currently there is severe erosion to the section of ramparts bordering the coastal path on this side of Dodman Point due to the removal of fencing and the

resulting spread of pedestrian traffic and now unrestricted movement of grazing stock along the coastal path (Figs 11 and 12). The ramparts on the eastern side fare better (Figs 13 and 14), although minor erosion along the coastal path should continue to be monitored in this area. There is also some visitor erosion around the area of the cross on the headland, which should be monitored for signs of deterioration.

The clearance of the majority of bracken and scrub (around 80% in total) from The Bulwarks is recommended to restore the visual experience of the prehistoric ramparts and interior ditch. Clearance of scrub from the trackway and the up casting or removal of slumped materials would open up the trackway to provide better and drier access to the headland, hopefully avoiding the need for further breakthrough of the ramparts by walkers attempting to access the headland and coastal paths. This approach would be relatively un-intrusive and could still allow for some scrub cover to be maintained for nesting birds and other wildlife. In particular, retaining some cover in the area of The Bulwarks inhabited by the protected fairy shrimp would be optimal, although this could lead to this part of the trackway being less accessible at times.

Existing fencing along the exterior of The Bulwarks should be replaced to fit purpose in keeping with the appropriate guidance, to include moving some sections off the earthworks; this element will require Scheduled Monument Consent before works begin. New fencing sections are required at the western end of The Bulwarks to control stock in this area and along part of the north side of the northern ramparts. Suitable stock and pedestrian gates should be incorporated where required.

#### **6.2.2 The Cliff Slopes (Management Areas 2 [A-D] and 3)**

Bracken and scrub on the cliff slopes has been under a programme of clearance by the National Trust, supported by the current grazing regime by Shetland ponies (Fig 15). It is the intention to put the Penare Dexter herd onto the coastal slopes and the further grazing of this area will assist the gradual clearance and maintenance; it has been agreed that stock fencing could be introduced along the western end of The Bulwarks to make this possible. Some further clearance may be required to bring it within the prescriptions of the HLS Agreement for Penare Farm (AG00462831 part 2a; part 3) but once the expanded grazing regime is in place scrub clearance in this area could take place bi-annually, freeing up time and manpower for other areas.

Two archaeological sites on the west and southeast cliffs would benefit from some targeted scrub and bracken clearance to open up the areas:

A spring on the western cliffs (Management Area 2C) was assessed by Parkes (2008) where it was shown to have a rounded chamber measuring around 1m across with a metre deep opening into a low scarp in the subsoil. A stone slab either side of the opening may have held a wooden door and a possible earthwork to the north of the well may have been a small dammed pond for watering stock. Exposed in 2003 through vegetation clearance the spring is now obscured and could not be accessed during the site visits.

A group of small abandoned enclosures occupy a natural shelf on the coastal slope at Dodman Horse, comprised of stone faced banks and natural bedrock and sheltered by prominent rock outcrops. The enclosures may date to the early to mid-19<sup>th</sup> century, although they are not securely mapped or dated. An assessment of the gardens by Parkes (2008) included historic pasture boundaries, a nearby trackway (NT96914) and possible building platform (NT96913). The gardens on the southeast cliffs (Management Area 2D) were also not accessed due to difficult access and adverse weather conditions but Parkes (2008) noted that they were in stable condition, standing in rough pasture under grass, bracken and scrub.

Clearance in these two areas would allow proper evaluation of any survey and recording needs and whether any repairs or restoration are required. It would also open up these sites for visitors to enjoy safely. A possible fish cellar (NT96902) is documented at



Collars Road on the western shoreline. This was not accessed by Parkes (2008) or by recent site visits and remains unidentified.

There is an area of earthworks on the east side of the headland to the south of The Bulwarks (Management Compartment 3), the function and date of which are unknown. They have been variously interpreted as possible quarry dumps, World War II military trenches or other (currently undated) earthworks (Fig 16). The area has been cleared as part of the National Trust's scrub clearance programme on the coastal slopes and the Shetland ponies graze this area. It is recommended that the earthworks undergo proper archaeological survey and recording to establish their historic function and potential significance to the wider site.

### **6.2.3 The watch house (Management Area 4)**

There has been a programme of scrub clearance within the watch house enclosure and this has created some clearings and glades along the main pathway through this area. The enclosure banks are currently overgrown, with scrubby blackthorn and bracken predominating. Blackthorn stands are evident between the clearings and there are some distinctive Monterey Pines closer to the watch house itself (Fig 17). The main trackway running through the enclosure is cleared but smaller pathways leading into the site from the southeast are heavily overgrown (Fig 18). An historic access into the enclosure from the west is no longer discernible but clearance in this area could potentially re-open this route. There are currently no clear sightlines from the lookout platform to other locally prominent sites, such as Gribben Head, Nealand Point and St Anthony's Head. Further scrub clearance is recommended in this area to open up additional pathways, restore the profile of enclosure boundaries and open up historic sightlines to other coastal signal stations nearby; the watch house enclosure is part of the larger field parcel comprising the coastal slopes and the level of clearance required to fulfil the parcel options within the HLS agreement for Penare Farm (AG00462831 part 2A) will apply. A recorded survey of the earthworks to the southwest of the main enclosure should be carried out to inform whether these represent ancillary buildings or structures associated with the signal station complex.

An assessment of the watch house itself (Berry 2014) has highlighted the need for repairs and consolidation to the watch house roof, window and walls (Figs 19 and 20). Climbing ivy is threatening the built fabric of the watch house and adjacent turret and platform and there is visible graffiti on the site, both historic and recent. The watch house grounds are cleared but the boundary walls would benefit from some repair and the gate into the enclosure would benefit from being painted in a more appropriate finish and oiled to make it easier to open; visitors are using other means of entry, causing damage to the external boundary walls. Some of the external ironwork on the site is rusting to the point of failure in places. Signage on the site is minimal and an information board would assist visitors to better understand and appreciate the site and its significance. It is currently understood that an information board has been commissioned by the National Trust through a recent RDPE funded project.

### **6.2.4 The medieval field system (Management Area 5)**

The grazing regime by Dexter cattle has helped maintain the semi-natural grassland on the headland plateau. The principal stock boundaries have been maintained and enclosed with stock proof wire and post fencing. There are some areas of erosion and stock breakthrough, however, and gorse and blackthorn top the boundaries in a number of places (Fig 21). Within the central area the surviving historic boundaries (fossilising former medieval strips) are in poor condition, having been severely denuded and eroded away by stock movement across them (Fig 22). In some places this has reduced the boundaries to ground level. The movement of stock has created established pathways across the field enclosures to access the water troughs by The Bulwarks. One trough is out of commission due to a faulty water pipe whilst the principal trough has an area of significant trample and surface erosion around it (Fig 23). Two open gateways on the eastern side of the fields show significant wear by stock

movement, both the ground surface, which is well trampled, and the edges of the boundary walls, which show some damage from animals pushing past them (Fig 24).

A continued grazing regime is recommended for this area but ideally some of the pressure on stock movement pinch points and areas of erosion should be alleviated where possible. Repair to the principal grazing compartment boundaries and the replacement of fencing in these areas is recommended; this should include the consolidation of the exposed ends of boundaries where open access ways have been created. Repairs to the existing water supply to reinstate the currently redundant water trough and the consolidation of the ground surface around the principal water trough in this area are also recommended. Historic repairs to the boundaries over time have resulted in a variety of buildings methods and materials being used. Where repairs are carried out the philosophy should be to repair breaks and erosion in the style of the adjacent boundary section (or surviving boundary structure if sufficient remains to determine this). Repairs to new and recent breaks coinciding with some areas of sacrifice to permit stock movement might also help by reducing further stock damage.

The less invasive methods of historic cultivation and the now semi-improved grassland on this area means there is good potential for well-preserved below ground archaeology; geophysical survey of the interior fields has recorded a number of possible enclosure boundaries and settlement-related features, although these have not yet been confirmed by archaeological evaluation. The dates of any surviving below ground features are not known but they may relate to settlement activity associated with the late prehistoric cliff castle, or alternatively settlement and agricultural features associated with the medieval field system. The standing field boundaries are probably late to post-medieval in date, although older fabric may survive internally. The crucial consideration is the preservation of the historic boundary lines and the intrinsic pattern of the medieval strips and later enclosure boundaries. A programme of archaeological evaluation and recording, with slots cut through selected points, would permit proper assessment of the dating and form of the boundaries as well as allow preservation by record where lasting material repair cannot be achieved. Archaeological evaluation of the below ground features recorded by the geophysical survey would also be optimal to assess their potential significance to the wider site and its ongoing management.

#### **6.2.5 Ecological assessment**

An ecological assessment of the site was carried out on 18 November 2014 by Cornwall Environmental Consultants (CEC) Ltd. A brief summary of findings and recommendations is given below (for sources see Sproull 2014).

The cover and dominance of certain types of scrub vegetation was noted on The Bulwarks, coastal slopes and within the watch house enclosure, as described above. In parts the historic field boundaries were poorly defined through being overgrown with blackthorn, bramble and bracken, in others (principally those of the medieval field system on the headland) they were severely denuded and no longer stock proof.

The reduction of scrub cover was considered optimal to reduce its dominance at the expense of other species-rich habitats. Dense scrub does, however, provide potential habitats for nesting and foraging birds whilst open scrub in mosaic with semi-natural grassland may be of value to invertebrates and potentially provide shelter for reptiles. Hedgerows are a priority habitat for conservation listed on the UK and County BAPs. They can provide valuable habitat for a range of faunal species and can serve as important wildlife corridors within otherwise intensively managed agricultural or developed landscapes. Coastal grassland and heath can be valuable for a range of floral and faunal species. Sea cliffs of the Atlantic and Baltic coasts are protected under Annex I of the EC Habitats Directive. Coastal/maritime cliffs and slopes are also of national importance and have been identified as a UK priority BAP habitat.

Field signs of badger including pawprints and latrines were recorded within scrub on the southern ramparts. It is possible, therefore, that dense areas of scrub in the areas to be cleared could hide a badger sett. The seasonally wet wheel ruts at the eastern

end of The Bulwarks support the rare fairy shrimp and the retention of some scrub in this area may be of value in providing shading and shelter.

### **Invasives**

No invasive plant species were recorded within the site during the survey.

### **Ecological Constraints**

Key ecological constraints highlighted by the November 2014 site visit relating to proposed works were as follows:

- Badger: could be present within areas of scrub/bracken to be cleared (including along the bulwark). Badgers and their setts are protected under the Protection of Badgers Act 1992 and the Wildlife & Countryside Act 1981.
- Nesting birds: a suite of species is likely to make use of areas of scrub and potentially bracken). Birds and their nests are protected under the Wildlife and Countryside Act 1981 (HM Government, 1981 as amended).
- Reptiles, including slow worm, common lizard and adder are likely to be present in areas of rough grassland and may shelter/hibernate within hedges and some areas of scrub during winter. Slow-worm, grass snake, adder and common lizard are priority species on the UK BAP and protected under the Wildlife and Countryside Act 1981 (as amended).
- Potential presence of BAP habitats/species (includes hedges and fairy shrimp and potentially BAP grassland and heath as well as species of bird, reptile and invertebrate). There should be a presumption in favour of conserving BAP habitat and species in line with species/habitat action plans and The Natural Environment and Rural Communities (NERC) Act 2006. Birds and their nests are protected under the Wildlife and Countryside Act 1981. Badgers and their setts are protected under the Protection of Badgers Act 1992 and the Wildlife & Countryside Act 1981.

## **7 Supporting management recommendations, issues and opportunities**

Effective and sensitive vegetation management of the holdings on Dodman Point will ensure a richer understanding of the highly significant historic landscape, preserve and protect the rich archaeology of the site and help restore the balance and diversity of the valuable natural habitats. It will also help increase and improve safe access to visitors across the site and generally enrich the visitor experience.

*Note: The HLS Agreement (part 3) states that 'at Penare Farm the principle objective of bracken control is to better reveal the archaeological features associated with the Scheduled Monument and to enhance areas of coastal grassland. However, some areas of bracken should be retained as to support populations of butterfly (such as small pearl-bordered fritillary)'.*

### **7.1 Issues**

1. The Bulwarks comprise the ramparts and ditches enclosing the late prehistoric cliff castle on Dodman Point. The level of bracken and scrub cover is substantial in places and there is a significant risk of root and rhizome damage to archaeological features; excavation elsewhere (at Bosiliack in Penwith for example – Jones 2012) has demonstrated the potential damage to elements of complex archaeological features, including Scheduled Monuments and their settings, and sites of equivalent value. The dominance of bracken and scrub also potentially degrades the natural habitat of local plant communities.

2. There is currently some evidence for erosion caused by weathering and/or animal burrowing in places along the line of The Bulwarks. Additional erosion may be present but the current level of scrub and vegetation cover means this cannot be fully assessed at present.
3. The northern rampart of The Bulwarks has been replaced in places by Cornish stone hedging for re-use as a field boundary. This has resulted in a partial loss of the historic form of the late prehistoric ramparts and the relationship between the various components of the Bulwarks as a whole.
4. The trackway running along the interior ditch of The Bulwarks is encroached upon by scrub in places and some slumping of materials from the rampart banks. Seasonally prone to flooding it is also causing walkers to find alternative routes to the western side of the headland, involving some breaking through of the Cornish hedging on the north side of The Bulwarks to create new paths and access ways.
5. There is severe erosion of the rampart banks where the coastal path crosses The Bulwarks on the west side of the headland. The removal of fencing has allowed walkers to stray from the coastal path and permit stock to have free access along the western coastal slopes.
6. A programme of bracken and scrub clearance supported by grazing of Shetland ponies along the coastal slopes has reduced the levels of invasive vegetation in these areas. There are some archaeological sites that remain obscured by vegetation, however, including the spring on the west side and the garden allotments on the southwest side. There is some potential for root and rhizome damage in these areas to sensitive archaeological features as well as degraded natural habitats of local plant communities.
7. The watch house enclosure has been subject to a programme of bracken and scrub clearance but substantial areas of scrub and bracken remain. The enclosure boundaries are obscured by bracken and scrub, potentially threatening the natural diversity of the hedgerow habitats and diminishing the visual aesthetic of the site.
8. The built fabric of the watch house and signal station is under threat if repairs and consolidation of standing structures are not carried out in the near future.
9. The interior dividing boundaries of the medieval field system on the headland are severely eroded in places and denuded of hedgerows. There is free movement of stock across many areas and a number of pinch points have occurred. Surface erosion from stock trample is also an issue around some water troughs and open gateways; this has the potential to impact on any surviving below ground archaeology in this area.
10. Dodman Point is an iconic and frequently visited monument, and the sensitive management and conservation of the historic and natural context in which it sits is considered to the wider benefit of all interested parties. Currently, however, the extent of vegetation cover and the threat of further erosion put the iconic ramparts and ditches of the late prehistoric cliff castle at real risk. Furthermore, the monument's interrelationship with the wider suite of archaeological sites and the varied and important landscape features enclosed by it are in danger of being irretrievably lost to us.

## **7.2 Opportunities**

1. Vegetation control could expose the historic profile of The Bulwarks, assisting access and opening up views to and from the late prehistoric ramparts and the archaeological sites they contain, increasing both the experience of these and their relationship with the wider historic landscape in which they sit.

2. A programme of repair and recording for The Bulwarks could provide the opportunity to increase current understanding of late prehistoric cliff castle form and function and the place of these within the wider context of hillforts and cliff castles in Cornwall. It would also actively assist the preservation of the monument for future research and visitor appreciation.
3. A programme of repair and recording for the medieval field boundaries could help restore an important historic component of the rich agricultural landscape and re-establish its local and national importance. Encouraging hedgerow growth along the main dividing boundaries in place of the dominant scrub species could help restore wildlife habitats for these protected areas.
4. Replacing the water supply and installing additional troughs along The Bulwarks and onto the headland would provide an opportunity to evaluate and record any archaeological features exposed by the works. These may inform on any interior settlement-related features and structures associated with the late prehistoric cliff castle or later activity on the headland.
5. Repairs to the watch house and signal station would help maintain the site into the future. Opening up historic sightlines would reinstate the context of the watch house and beacon within the coastal defence landscape. The survey and recording of additional enclosures to the southwest might inform whether the watch house was historically part of a larger complex.
6. There is generally an opportunity for works to include opportunities for evaluation, survey and recording that would increase our understanding of the origin and chronology of archaeological features on Dodman Point. This would expand our knowledge of how the site has been used and appreciated through prehistory and into the present day, increasing research potential and potentially improving the visitor experience.
7. Visitors attracted to the iconic landscape of Dodman Point could be encouraged, by revealing sites and landscape through vegetation control and traditional grazing, to explore the area more widely and for longer, bringing greater understanding of the wider historic landscape context and an appreciation of the complexity and time depth of human activity and response evidenced by this. Sensitive vegetation management across the site could also help restore wildlife habitats and redress the ecological balance.
8. Because the headland of Dodman Point captures archaeological sites of many types and eras, and contains coastal rough ground bounded by 'time deep' farmland, there is the potential for further analysis of the historic landscape and its development, and for education.

### **7.3 Recommendations in the 2008 archaeological survey**

The management recommendations for individual sites on Dodman Point in the 2008 archaeological survey (Parkes 2008) were very brief, largely advocating maintenance of the existing clearance and grazing programmes and the clearing of scrub away from those sites that had become notably obscured or impacted by vegetation cover; this particularly highlighted The Bulwarks, the watch house enclosure and its boundary walls, the spring on the westward slopes and the gardens on the south eastward slopes. Further evaluation and recording were suggested for The Bulwarks, the watch house and possible ancillary buildings, the spring (to include the possibility of restoration), the medieval field boundaries, the barrow cemetery on the headland and the unknown earthworks on the eastward side of the headland. Sites within grass pasture were considered generally stable and the maintenance of the grazing regime in these areas was recommended. Some erosion through visitor pressure around the area of the cross was noted with a recommendation to monitor this. It was also recommended that The Bulwarks, the watch house enclosure boundary and medieval field boundaries were monitored and assessed for erosion and repair needs. An historic

access way to the watch house from the westward slopes was recommended for reinstatement.

## **7.4 Ecological recommendations**

The following recommendations are taken from the ecological assessment (Sproull 2014).

Scrub clearance should be undertaken with caution during winter months (ideally October-February inclusive) to avoid the nesting bird season. If this is not possible, depending upon the exact time of year, an ecologist must carry out a search of the vegetation by hand, immediately before clearance. If nesting birds are found, work within 5m of the active nest must stop until the chicks have fledged. Peak nesting season is usually April to July, and works are most likely to be delayed during these months. The retention of some larger hawthorns growing on the bulwark embankments would be desirable to preserve some structural variety and potential nesting habitat. In some areas where scrub is cleared, cyclical management to produce more varied stands of scrub of different age-classes may be more appropriate than attempting to maintain areas of open grassland.

In the event that a badger sett is discovered it is recommended that work stops and CEC are contacted for advice. Potentially 'disturbing' works within 30m of an active sett may need to be carried out under licence from Natural England. In practice this is unlikely to include scrub clearance but depending upon the circumstances it may be necessary to adopt a different working practice to avoid contravening the legislation. (Such as the use of hand-tools rather than a tractor mounted flail). As a precaution any excavations should be covered overnight or provided with a means of escape (such as a sloping plank) so that badger and other animals cannot become trapped.

Any ground works affecting areas with potential for reptiles (such as archaeological excavation in areas of semi-improved grassland, coastal grassland and heath and open sections of hedgerow – including the bulwark) should be undertaken during the active season for reptiles (April-October). Before turves are lifted, grass should first be trimmed in two stages initially to a height of around 200mm and subsequently to ground level with a pause between to give any reptiles present a chance to move to safety. Work in these areas should be carried out in one direction working towards suitable areas of habitat to be retained so that reptiles do not become trapped in unsuitable areas of habitat. If this is not possible some of the vegetation clearance and excavation may need to be carried out under ecological watching brief.

The retention of occasional free-standing hawthorns and some patches of scrub along the bulwark might be considered. This would conserve some nesting habitat in the area and potentially allow the bulwark to continue to function as a wildlife corridor. Retention of some scrub cover at the eastern end of the bulwark in the vicinity of the fairy shrimp colony should be considered if it is felt that ephemeral pools could be vulnerable to increased drying following the total removal of shade producing vegetation.

## **7.5 Recommendations for the watch house**

The following recommendations are taken from the assessment of the watch house (Berry 2014).

- Where present, ivy needs to be removed before any repair works to the built fabric of the watch house and lookout tower are started. Repointing of walls should be done by removing loose material and repointing with lime mortar flush to the joints where necessary. Where rendered, this could be removed and restored to the same finish as other walls; alternatively simply limewash. Lime-washing (many thin coats) should follow mortar repairs to protect wall surfaces and to restore the original appearance of the building. Internal wall surfaces should also be limewashed to restore a cohesive appearance. Coping stones on the lookout tower should be reset.

- Repairs to the roof should be undertaken by carefully removing existing slates, salvaging all the good slates and re-laying the salvaged slates making good with new or similar slates – consider wet-laying (ideally using scantle slate) or alternatively using resin bedding to protect slates from lifting in strong winds. The verge slates will probably have to be re-fastened because of essential roof repairs but the position of each slate should be recorded so that it can be returned to its original location.
- The window frame needs scarp repairs and the Perspex is in need of replacement. Restoring to a likely window design for the building should be considered, with paint colour and finishes appropriate to this.
- Ceiling boarding needs to be examined to determine whether there is asbestos content; if so the boarding should be replaced, ideally with a lath and plaster ceiling and ceiling and roof timbers finished with limewash.
- The external wall plaque fastenings need to be replaced with non-corrosive screws and plaque should be repainted.
- The information panel needs to be replaced with similar artwork and the opportunity is there to use its replacement as an opportunity to update information.
- The iron stanchion above the lookout walls should be carefully cleaned to remove loose material, followed by rust-proofing and finishing with appropriate painted finish.
- Vegetation management should ensure that the anchor points remain visible; condition of iron eyes should be monitored and rust-proofed if necessary.
- The enclosure gate must be easily to open and painted in an appropriate finish.

## **7.6 General Guiding Principles**

Some general principles for the management recommendations particular to Dodman Point are given here. Wider reference to the general guidance to managing the historic environment on rough ground is provided in Section 16.

### **7.6.1 Bracken control**

Bracken cutting or crushing is effective management where invasive bracken may be having a damaging impact on the archaeological and natural resource (and see Section 16.2.4). Cutting or crushing should ideally be done twice a year, first in mid-June, and then again in late July. If only one cut is possible, this should be done in late July. Spraying with an approved chemical can be carried out in June or July, with the bracken fronds cut back once in the brown (this could be incorporated into the scrub cutting season of October to February). Much of the bracken cover on Dodman Point, particularly across The Bulwarks, exists within a scrub mosaic and cutting by hand or machine flail in October to February is an option in these areas, possibly to coincide with chemical spraying of any concentrated bracken clumps.

### **7.6.2 Scrub control**

Where scrub becomes invasive it can threaten the integrity of the historic landscape character and potentially damage the underlying archaeological resource (and see Section 16.2.3). It is, however, a valuable wildlife habitat and its control should be managed sympathetically. Manual cutting of scrub to ground level, avoiding any pulling up or dragging out of roots, should be done from October to February to avoid the bird nesting season. Some areas of cover should be maintained to provide shade and shelter for birds and other wildlife.

*Note: for the control of bracken and scrub on The Bulwarks to be effective over the longer term, these need to be kept down through annual maintenance. Where woody scrub exists, the most effective scrub control is likely to be achieved through rotational cutting and selective treatment of cut stumps with herbicide. Elsewhere on Dodman Point scrub clearance should be followed up by a grazing regime in order to maintain vegetation levels.*

### **7.6.3 Grazing management**

Light grazing of Coastal Rough Ground (CRG) is beneficial, both to maintaining heathland in vigorous condition and in controlling undesirable vegetation. This form of grazing is a traditional form of management and a valuable follow up to scrub clearance (Natural England 2012). Its benefits for archaeology are greater visibility of underlying remains and reduced root damage. Guidance on stocking levels is given in the HLS agreement (AG00462831 part 3) for Penare Farm. Currently the coastal slopes are grazed by Shetland ponies and the headland interior by Dexter cattle. Installing appropriate stock fencing along the rampart line on the west side of Dodman Point will permit additional grazing by the Dexters on the coastal slopes. This will both support and help increase the clearance of vegetation in these areas.

*Note: grazing is not a recommended option for The Bulwarks where annual maintenance through scrub and bracken clearance is more appropriate.*

### **7.6.4 Fencing**

Appropriate fencing allows for stock control and grazing management. This can help maintain cleared archaeological monuments and prevent active stock damage. Where required, fencing should ideally be kept to a minimum and, where possible, follow the line of existing boundaries; discreet, wire and post fencing is advised and/or temporary electric fencing if and where required (and see Section 16.2.2). Where fencing will cross a Public Right of Way (PROW), stiles or appropriate access gates will be necessary and these should reflect local traditional examples and be constructed relevant to any necessary permissions.

### **7.6.5 Water supply**

There is already some provision of water troughs for grazing stock on Dodman Point. At least one trough is currently out of use, however, due to a faulty water supply. The line of the historic water pipes supplying the Dodman is not known and would benefit from replacement; additional troughs could also be installed to aid stock management. Additional troughs should be carefully positioned away from archaeological pressure points to avoid surface erosion of archaeological features. They should also be positioned to avoid stock crossing sensitive archaeology in order to access them (and see Section 16.2.2). Areas of surface trample and erosion around water troughs should be addressed by consolidation of the ground surface using gravel or cobbles to reduce further wear and tear; this work may benefit from an accompanying archaeological watching brief, particularly if additional areas of the ground surface are to be removed as part of the remedial works.

### **7.6.6 Erosion repair**

Where repairs to earthworks are necessary these should use traditional local materials and methods and incorporate a programme of archaeological evaluation and recording, subject to necessary consents. Principal sources of guidance are included in Sections 16.3 and 16.4 and repairs should be undertaken by a suitable professional contractor. Accompanying recording and evaluation will be undertaken by staff from CAU. Repairs to historic field boundaries should respect their respective form; to include casting up of earth, restoration of stone facing and making stock-proof through allowing some scrubby re-growth along the tops. This will maintain the historic field pattern and imitate the centuries of repair that have already occurred. Archaeological evaluation and recording will be carried out by staff from CAU; consents will be requested for any intrusive evaluation (E.g. slots through historic boundary profiles).





*Fig 3 Looking westwards along the trackway between The Bulwarks. The ramparts are under cover of bracken and scrub with some small to medium trees and these are encroaching onto the trackway*



*Fig 4 Looking southwest towards one of the field lanes cut through the southern rampart of The Bulwarks. Some slumping of rampart materials is apparent and rampart materials may have been used to bolster the field lane to the west*



*Fig 5 Signs of animal burrows in the Cornish hedging of the northern rampart of The Bulwarks*



*Fig 6 Slippage of materials from the southern rampart of The Bulwarks onto the trackway, looking east*



*Fig 7 Severe erosion and animal burrowing on part of the southern rampart of The Bulwarks, looking southeast from one of the field lanes*



*Fig 8 Eroded profile of the southern rampart towards the western end of The Bulwarks, looking southwest; small scrubby trees and bracken are obscuring the view*



*Fig 9 Cornish hedging has replaced sections of the northern rampart of The Bulwarks, obscured here by the cover of scrubby trees and some bracken, looking northwest*



*Fig 10 A break in the Cornish hedging of the northern rampart of The Bulwarks created by walkers seeking alternative access around the trackway, looking north. Bracken and ivy cover the walling which is topped by gorse*



*Fig 11 Looking northeast across the western section of The Bulwarks on the west side of Dodman Point. The coastal path crosses the ramparts here and walkers and stock movement have caused severe erosion to the profile of the ramparts in this area*



*Fig 12 Looking northeast across the western section of The Bulwarks on the west side of Dodman Point where a worn path has been created by stock roaming freely along the coastal slopes*



*Fig 13 Looking north along the coastal path on the east side of Dodman Point where it crosses The Bulwarks. The path has caused some erosion but vegetation in this area has been cleared under the National Trust's scrub clearance programme*



*Fig 14 Unknown and undated earthworks on the east side of Dodman Point adjacent to the southern rampart of The Bulwarks, looking south. The coastal path crosses these from north to south*



*Fig 15 Shetland ponies grazing on areas of cleared coastal slope on the west side of Dodman point, looking north. Stands of gorse, blackthorn and bracken remain in uncleared areas*



*Fig 16 Unknown and undated earthworks on the east side of Dodman Point adjacent to the southern rampart of The Bulwarks, looking south. The coastal path crosses these from north to south*



*Fig 17 Looking northeast from the lookout platform adjacent to the watch house; cleared glades have been created, retaining some distinctive Monterey pines but the historic sightlines out to other signal stations on nearby coastal points remain obscured*



*Fig 18 The pathway through the watch house enclosure from the east side of Dodman Point, looking southwest. The watch house enclosure still retains a large percentage of scrub and bracken cover, restricting access and blocking sightlines*





*Fig 19 Looking towards the watch house and its small enclosure from the south. Although cleared of some scrub there is still some poor boundary definition and sightlines are obscured by scrub and large trees in places*



*Fig 20 The watch house and lookout platform, looking northwest from inside the enclosure. Climbing ivy threatens the lookout tower and the walls of the watch house and the built structure shows signs of disrepair*



*Fig 21 A section of the principal enclosure boundary along the east side of Dodman Point; partly eroded with gorse along the top of the surviving section. Looking northeast towards one of the two known barrows (MCO2549)*



*Fig 22 Looking northwest across one of the medieval strip boundaries on Dodman Point, partly eroded and denuded by stock movement and with low gorse along the surviving sections.*



*Fig 23 The principal water trough used by stock grazing within the medieval field system on Dodman Point. The ground area around the trough is severely trampled and eroded. Looking north*



*Fig 24 Looking northeast through one of the open gateways within the medieval field system on Dodman Point. The entrance way is severely trampled and the exposed ends of the field boundaries are eroded and topped with gorse and blackthorn*

## Section Two: Management Plan



Fig 25 Management Compartments identified for the Dodman Point Management Plan

*Note: Accompanying management plans and tables are provided below in section 13*

The term of the HLS Agreement (AG00462831) for Penare Farm runs from 1 December 2013 to 30 November 2023. The capital works of the management plan are presently expected to commence within year 2 of the HLS agreement – 1 December 2014 to 30 November 2015) and continue into year 3 – 1 December 2015 to 30 November 2016. These will be referred to as year 2 and year 3 in the management plan and accompanying maps and plans.

## 8 Management Compartment One: The Bulwarks

### 8.1 Management Area 1A (MA1A): The central bulwark

The coverage of bracken and scrub is creating poor and declining conditions along the central section of the Bulwarks (Figs 3-10). The most important issue is effective and sensitive vegetation management, to ensure both a richer understanding of this highly significant historic landscape feature and lessened physical damage by agents such as roots and rhizomes. To protect the archaeological monument the central section of The Bulwarks will be cleared of around **80% of bracken and scrub** by year 3 of the HLS Agreement. Mature trees such as hawthorn will be retained for added landscape value; it may be necessary to remove some mature trees where these are putting undue stress on the rampart's structure. Retaining some stands of vegetation along the eastern end of The Bulwarks will provide shade and shelter for nesting birds and burrowing animals, such as the protected badger.

Some areas of urgent erosion repairs have been identified and these require repair and restoration to ensure the longer survival of The Bulwarks' historic form and structure.

Sections of existing wire and post fencing along the exterior line of The Bulwarks are now in need of replacing; within land parcel 2694 the fencing line extends onto the southern rampart in several places and this will be repositioned along its base. Existing fencing within land parcel 2913 is considered not in need of replacement. New fencing is required along a section of the northern rampart in land parcel 0895.

A new water supply is required to feed the existing troughs along The Bulwarks and to reinstate the currently dry trough in land parcel 1186. The eroded ground surface around the existing trough within land parcel 0172 will be consolidated using gravel or cobbles to create a more durable surface and a new hard base will be out down around the replacement trough in land parcel 1186. Additional troughs required within land parcels 9285, 9887 and 0895 are outside the management area and will be installed independently of the management plan.

### 8.1.1 Land parcels and vegetation coverage

The central section of The Bulwarks incorporates parts of a number of Rural Land Register land parcels (see Plan 1). The total area of bracken and scrub coverage within this section has been calculated as below, based on fieldwork assessment and mapped using GIS set against the OS Mastermap:

	Predominant vegetation in MA1A	Vegetation coverage (in hectares)
Western Section	Mixed scrub and bracken	0.5 hectares
	Percentage to be cleared - 100%	<b>0.5 hectares</b>
Eastern Section	Mixed scrub and bracken	0.8 hectares
	Percentage to be cleared - 80%	<b>0.6 hectares</b>

### 8.1.2 Vegetation management: bracken and scrub clearance (timescale: HLS Agreement years 2-3 [1 December 2014-30 November 2016])

*Note: vegetation clearance guidelines are given in Section 7.6 (and see Section 16)*

Contributory costs towards the clearance of the central section of The Bulwarks (MA1A) during years 2 and 3 will be claimed as standards items payments (see costs tables; Section 13). The National Trust will practically assist with clearance where possible.

#### Management (see Plans 1 and 2)

The western end of the central bulwark will be cleared of 100% **scrub and bracken** in total (interior and exterior slopes), but retaining some mature trees for amenity value. The eastern end of the central section will be cleared to around **75% scrub and bracken** in total, retaining some mature trees and stands of vegetation to provide shelter for wildlife and shading for the puddles containing the rare fairy shrimp.

	Timeframe for scrub clearance	Responsibility
Western Section	October 2014 - February 2015	Miss Letcher
Eastern Section	October 2015 - February 2016	Miss Letcher

The chemical spraying of bracken will follow up the scrub clearance.

	Timeframe for bracken spraying	Responsibility
Western Section	July 2015	Miss Letcher
Eastern Section	July 2016	Miss Letcher

### 8.1.3 Continuing Management: bracken and scrub clearance (HLS Agreement years 3–10 [1 December 2014–30 November 2026])

Miss Letcher will be responsible for annual maintenance of the central section of The Bulwarks, with practical assistance from the National Trust; the aim will be to maintain the cleared area at **100% of scrub and bracken** across the western section and **80% of scrub and bracken** across the eastern section.

### 8.1.4 Erosion repair (HLS Agreement years 2-3)

Contributory costs towards erosion repairs and archaeological recording and evaluation will be claimed under HAP (see costs tables; Section 12). Scheduled Monument Consent for erosion repairs has been granted by the Secretary of State for Culture, Media and Sport.

*Note: erosion repair guidelines are given in Section 7.6 (and see Section 16)*

#### Management (see Plan 7)

Erosion repairs to sections of The Bulwarks will be undertaken by a suitable professional contractor. The works will be supervised and recorded by staff from the Cornwall Archaeological Unit (CAU).

Identified erosion points are:

- **E1** - A particularly severe area of erosion along one of the field lanes cutting the southern ramparts (Fig 7). The inner matrix is exposed along much of the lane and a section of the north face of the southern rampart. Animal burrowing has caused extensive damage and the structure is currently highly unstable.
- **E2** - A hollowed out section of the interior face of the southern rampart (Fig 8) where the ramparts profile has been eroded or quarried.

	Timeframe	Responsibility
Erosion repairs	Summer/Autumn 2015	Professional contractor TBA
Archaeological supervision and recording of erosion repairs (15 days allocated – to include MA1C)	Summer/Autumn 2015	CAU

### 8.1.5 Fencing (HLS Agreement years 2-3)

Contributory costs towards fencing will be claimed as standard items payments (see costs tables; Section 13). Scheduled Monument Consent for fencing works has been granted by the Secretary of State for Culture, Media and Sport.

*Note: fencing guidelines are given in Section 7.6 (and see Section 16)*

#### Management (see Plan 3)

The following lines of post and wire fencing will be erected or replaced:

- **B1a - 433.6m** along the north side of The Bulwarks (land parcels 8484, 9285, 9887 and 0895)
- **B1b - 535m** along the south side of The Bulwarks (land parcels 0172 and 2694), repositioning this where it currently extends onto the ramparts.

New gates will be positioned at the top of the field lanes on the south side of The Bulwarks, within land parcels 0172 and 1883. The digging of new post holes will be monitored by CAU, who will record any archaeological finds or features exposed.

	Timeframe	Responsibility
Fencing	Summer/Autumn 2015	Miss Letcher
Gate post monitoring (2 days allocated – to include MA1C and M5)	Summer/Autumn 2015	CAU

### 8.1.6 Water supply (HLS Agreement years 2-3)

Contributory costs towards the replacement of the water supply will be claimed as standard items payments (see costs tables; Section 13). Scheduled Monument Consent for water supply works has been granted by the Secretary of State for Culture, Media and Sport.

*Note: water supply guidelines are given in Section 7.6 (and see Section 16)*

#### Management (see Plan 4)

A new length of water pipe will be laid along the trackway leading up to Dodman Point and will run along the north side of the Bulwarks before teeing off towards the water troughs on the south side of The Bulwarks in land parcels 0172 and 1883. New troughs on the north side of The Bulwarks will be installed independently by the tenant holder, Miss Letcher. The pipe will be laid using an underground mole at a depth of around 1.5m underground. Open pits will be cut at the teeing points on the north side of The Bulwarks, outside of the management (and Scheduled Monument) area. Further pits will be opened within the central trackway of The Bulwarks and an open trench will run from these to the water troughs, following the historic field lanes. The open works will be monitored by CAU, who will undertake any necessary evaluation and recording work if archaeological finds or features are exposed.

An existing trough in land parcel 0172 will remain in place and the currently redundant trough in land parcel 1883 will be replaced.

The ground surface around the troughs in land parcels 0172 and 1883 will be consolidated and a hard base of gravel or cobbles lain. There should be no need for further surface disturbance and these works will not be monitored by CAU.

	Timeframe	Responsibility
Water supply	Summer/Autumn 2015	Miss Letcher
Archaeological monitoring and recording of water supply works (2 days allocated)	Summer/Autumn 2015	CAU

## 8.2 Management Area 1B (MA1B): The eastern bulwark

This area (Figs 13 and 14) is currently under a programme of vegetation clearance by the National Trust. Only part of this area is accessible for safe manual clearance but this is currently cleared to around **100% of bracken** and around **40% of scrub**; the remaining 60% of scrub largely consists of a row of scrubby trees on the southern rampart next to the coastal path (Fig 14) where the steepness of the slope is a safety consideration. The Bulwarks within MA1B are largely stable although minor erosion created by the coastal path should be monitored for any deterioration. The row of scrub on the southern rampart provides some wildlife cover but should also be monitored for undue stress on the rampart's structure.

### 8.2.1 Land parcels and vegetation coverage

The eastern section of The Bulwarks is incorporated within two Rural Land Register land parcels, 3510 and 7381. The calculated extent of bracken and scrub clearance to be maintained is shown below, based on fieldwork assessment and mapped using GIS set against the OS Mastermap:

Predominant vegetation in MA1B	Vegetation coverage (in hectares)
Mixed scrub and bracken	0.02 hectares
Percentage already cleared - 100%	<b>0.02 hectares</b>
Bracken (with some scrub)	0.13 hectares
Percentage already cleared - 100%	<b>0.13 hectares</b>

### 8.2.2 Vegetation management: maintain bracken and scrub clearance (HLS Agreement years 2-3)

Contributory costs towards the chemical spraying of bracken will be claimed as standard items payments (see costs tables; Section 13).

*Note: vegetation clearance guidelines are given in Section 7.6 (and see Section 16)*

#### Management (see Plan 2)

The areas of bracken will be sprayed using a knapsack sprayer during July 2016.

Timeframe for bracken spraying	Responsibility
July 2016	Miss Letcher

### 8.2.3 Continuing Management: bracken and scrub clearance (HLS Agreement years 3–10 [1 December 2014–30 November 2026])

The National Trust will continue to maintain this section of The Bulwarks through their programme of manual vegetation clearance. The aim will be to maintain the cleared area at **100% of scrub and bracken** across the accessible area.

## 8.3 Management Area 1C (MA1C): The western bulwark

This area is also currently under a programme of vegetation clearance by the National Trust. Vegetation cover has recently been cleared to around **100% of bracken and scrub**, although this is showing signs of some grow-back.

Where the ramparts of the cliff castle extend down onto the coastal slopes these survive as relatively low earthworks. Their condition is largely stable at present, except where the coastal path crosses the southernmost rampart. This is now an area of grassland with some scrubby gorse; deeply scored in two places by the coastal path and a path created by the ponies grazing the western coastal slope (Figs 11 and 12). There are also some sizeable pockets of erosion on the southern rampart's north face, causing considerable deterioration of the rampart structure and interior matrix (Fig 12).

In addition to the necessary erosion repairs in this area a new section of fence will be erected to control stock movement and restrict access by walkers to the designated path; the fencing will continue downslope to include a narrow stock path along the clifftop. This will have the dual result of protecting this section of the ramparts and allowing additional grazing by the Dexter herd on the coastal slopes. A wooden field gate will be installed to control stock movement and a kissing gate installed across the coastal path (subject to necessary permissions).

#### 8.3.1 Land parcels and vegetation coverage

The western section of The Bulwarks is incorporated within one large Rural Land Register land parcel; 7381. The calculated extent of bracken and scrub clearance to be maintained is shown below, based on fieldwork assessment and mapped using GIS set against the OS Mastermap:

Predominant vegetation in MA1C	Vegetation coverage (in hectares)
Mixed scrub and bracken	0.1 hectares
Percentage already cleared - 100%	<b>0.1 hectares</b>
Bracken (with some scrub)	0.2 hectares
Percentage already cleared - 100%	<b>0.2 hectares</b>
Grassland with some scrub (around 30%)	0.02 hectares
Percentage to be cleared - 0%	0 hectares



### 8.3.2 Vegetation management: maintain bracken and scrub clearance (HLS Agreement years 2-3)

Contributory costs towards the chemical spraying of bracken will be claimed as standard items payments (see costs tables; Section 13).

*Note: vegetation clearance guidelines are given in Section 7.6 (and see Section 16)*

#### Management (Plan 2)

The areas of bracken will be sprayed using a knapsack sprayer during July 2016.

Timeframe for bracken spraying	Responsibility
July 2016	Miss Letcher

### 8.3.3 Continuing Management: bracken and scrub clearance (HLS Agreement years 3–10 [1 December 2014–30 November 2026])

The National Trust will continue to maintain this section of The Bulwarks through their programme of manual vegetation clearance. The aim will be to maintain the cleared area at **100% of scrub and bracken** across the accessible area.

### 8.3.4 Vegetation management: stock grazing (HLS Agreement years 2-10)

Currently the slopes within MA1C are grazed by five Shetland ponies. Once the appropriate stock fencing is in place this area will be available to the Penare Farm Dexter herd. These will implement the follow up regime of grazing in this area, which will maintain and increase the levels of vegetation clearance.

Timeframe for grazing	Responsibility
From Autumn 2015	Miss Letcher

### 8.3.5 Erosion repair (HLS Agreement years 2-3)

Contributory costs towards erosion repairs and archaeological recording and evaluation will be claimed under HAP (see costs tables; Section 13). Scheduled Monument Consent for erosion repairs has been granted by the Secretary of State for Culture, Media and Sport.

*Note: erosion repair guidelines are given in Section 7.6 (and see Section 16)*

#### Management (see Plan 7)

Erosion repairs to this section of The Bulwarks will be undertaken by a suitable professional contractor. Works will be supervised and recorded by staff from CAU.

The identified erosion point is:

- **E3** – a section of the southern rampart on the western coastal slope, crossed by the coastal path. The profile of the rampart has been significantly reduced through stock movement across it and by walkers deviating from the coastal path. Animal burrowing has also contributed to the damage and there are currently large depressions where the matrix of the rampart structure has been removed. The aim of the repairs will be to reinstate the profile of the ramparts in this area to an agreed level, eradicate the stock trackway and repair any erosion created by walkers.

	Timeframe	Responsibility
Erosion repairs	Summer/Autumn 2015	Professional contractor TBA
Archaeological supervision and recording of erosion repairs (15 days allocated – to include MA1A)	Summer/Autumn 2015	CAU

### 8.3.6 Fencing (HLS Agreement years 2-3)

Contributory costs towards repairs, replacement or new fencing will be claimed as standard items payments (see costs tables; Section 13). Scheduled Monument Consent for fencing works has been granted by the Secretary of State for Culture, Media and Sport.

*Note: fencing guidelines are given in Section 7.6 (and see Section 16)*

#### Management (see Plan 3)

The following line of post and wire fencing will be erected:

- **B2 – 100m** along the south side of The Bulwarks (land parcel 7381)

A new wooden field gate will be positioned at a suitable point along the fence line to control stock movement. A kissing gate (not covered by the capital works) will be positioned across the coastal path. The digging of new post holes will be watched by CAU, who will undertake any necessary evaluation and recording work if archaeological finds or features are exposed.

	Timeframe	Responsibility
Fencing	Summer/Autumn 2015	Miss Letcher
Gate post monitoring (2 days allocated – to include MA1A and M5)	Summer/Autumn 2015	CAU

## 9 Management Compartment Two: The Western and South-Eastern Coastal Slopes

### 9.1 Management Area 2A (MA2A): The coastal slopes

The coastal slopes along the west, south and south-eastern sides of Dodman Point are currently under a programme of vegetation clearance by the National Trust, with the upper slopes being gradually restored to semi-improved or rough grassland. This has been aided by the follow up regime of grazing by Shetland ponies. On the lower slopes and along some less accessible areas of cliff there are still large areas of dense vegetation, with patchy areas of scrub, gorse and bramble amidst the predominating bracken (see Sproull 2014).

In respect of the archaeological monument, the target indicators for success within the HLS Agreement (part 3) set out that bracken cover should be gradually reduced throughout the agreement so that by year 10 cover is between **25% and 50%**. Also by year 10, cover of invasive trees and shrubs including bramble, gorse and blackthorn is expected to be **less than 10%**. These prescriptions apply for land parcels 7381 and 3510, with part of the former and all of the latter falling outside of the area of this management plan. Some additional clearance is required within the area of the Scheduled Monument to achieve the target indicators, although much of this vegetation is located on the lower coastal slopes, beyond safe access. Management will therefore include a small amount of additional targeted clearance with the remainder being tackled through a grazing regime. Once new stock-proof fencing is erected along the western section of The Bulwarks (see MA1C) the introduction of Dexter cattle onto this area should help push back the vegetation, supported by the maintained programme of manual clearance. It is recommended that the success of the management regime on the coastal slopes is monitored during the 10 year programme, as it may be that the target indicators will not be achievable owing to the poor access to some areas. A derivation for these areas may be required if this proves to be the case.

The HR5 requirements of the HLS agreement (Part 3) note that some areas of bracken should be retained on the coastal slopes to support populations of butterfly. John Sproull of CEC has noted that in general terms butterflies are likely to favour sheltered

sunny aspects. No specific areas are identified for clearance but on this basis south and west facing slopes as well as those sheltered from the prevailing south westerly winds might be prioritised for management. Cyclical clearance of a proportion of bracken should allow violets to persist; the food source of the larvae of small pearl-bordered fritillary (and other species of fritillary).

#### 9.1.1 Land parcels and vegetation coverage

The coastal slopes within the Scheduled Monument area are incorporated within one larger Rural Land Register land parcel; 7381. The (approximated) calculated extent of bracken and scrub cover within MA2A is given below, based on fieldwork assessment and mapped using GIS set against the OS Mastermap:

Predominant vegetation in MA2A	Vegetation coverage (in hectares)
Mixed scrub and bracken	10 hectares
Percentage already cleared - 100%	<b>1.9 hectares</b>
Percentage to be cleared - 100%	<b>0.24 hectares</b>

#### 9.1.2 Vegetation management: bracken and scrub clearance (timescale: HLS Agreement years 2-3 [1 December 2014–30 November 2016])

Contributory costs towards vegetation clearance will be claimed as standard items payments (see costs tables; Section 13). A bracken control supplement and a supplement for difficult sites are also available for land parcel 7381 as separate land management options under HR5 and HR7 of the HLS agreement (part 3).

*Note: vegetation clearance guidelines are given in Section 7.6 (and see Section 16)*

#### Management (Plans 1 and 2)

An area of additional scrub and bracken will be cleared from along the southern exterior of the watch house enclosure (MA4) to delineate the enclosure boundaries and expose any existing access paths.

Timeframe for scrub clearance	Responsibility
October 2015 – February 2016	Miss Letcher

The chemical spraying of bracken will follow up the scrub clearance.

Timeframe for bracken spraying	Responsibility
July 2016	Miss Letcher

#### 9.1.3 Continuing Management: bracken and scrub clearance (HLS Agreement years 3–10 [1 December 2014–30 November 2026])

The National Trust will continue to maintain the coastal slopes through their programme of manual vegetation clearance. The aim will be to maintain the cleared area at **100% of scrub and bracken**.

#### 9.1.4 Vegetation management: stock grazing (HLS Agreement years 2-10)

A grazing supplement for native breeds at risk is included for land parcel 7381 as part of a separate land management option under HR2 of the HLS agreement (part 3).

Once the appropriate stock fencing is in place (see MA1C) this area will be made available to the Penare Farm Dexter herd, which will supplement the current grazing by the Shetland ponies.

Timeframe for grazing	Responsibility
From Autumn 2015	Miss Letcher

### 9.1.5 Continuing Management: grazing (HLS Agreement years 3–10 [1 December 2014–30 November 2026])

The grazing regime will be maintained with the objective of pushing back the vegetation cover on the coastal slopes to help restore this area to improving grassland. The aim will be to achieve a cleared area of greater than **90% of scrub** and **between 50% and 75% of bracken** by year 10 of the HLS agreement (this target indicator applies to land parcel 7381 as a whole).

## 9.2 Management Area 2B (MA2B): The northwest coastal slope

This discrete area of the Scheduled Monument (NHLE 1020865 [formerly UID: 32970]) on the west side of Dodman Point may contain some fossilised boundaries of the medieval field system to the north of The Bulwarks; the c1840's Tithe map documents this area as part of Port Bulla, Park Bulla Piece and Plain Piece, within arable cultivation, pasture and common land respectively. This area has been part of the vegetation clearance programme by the National Trust, although this has started to grow back. Further clearance is required to bring this area in line with the target indicators contained within the HLS Agreement (part 3). This area is currently grazed by the Shetland ponies on Dodman Point and will be implemented with the Penare Farm Dexter herd once the proper stock-proof fencing is in place (see MA1C).

### 9.2.1 Land parcels and vegetation coverage

This section of the western coastal slopes on Dodman Point is incorporated within the large Rural Land Register land parcel 7381. The calculated extent of bracken and scrub cover within MA2B is given below, based on fieldwork assessment and mapped using GIS set against the OS Mastermap:

Predominant vegetation in MA2B	Vegetation coverage (in hectares)
Mixed scrub and bracken	0.9 hectares
Percentage already cleared - 100%	<b>0.3 hectares (approximately)</b>
Percentage to be cleared - 100%	<b>0 hectares</b>

### 9.2.2 Continuing Management: bracken and scrub clearance (HLS Agreement years 3–10 [1 December 2014–30 November 2026])

The National Trust will continue to maintain the coastal slopes through their programme of manual vegetation clearance. The aim will be to maintain the cleared area at **100% of scrub and bracken**.

### 9.2.3 Vegetation management: stock grazing (HLS Agreement years 2-10)

A grazing supplement for native breeds at risk is included for land parcel 7381 as part of a separate land management option under HR2 of the HLS agreement (part 3).

Currently the slopes within MA2B are grazed by five Shetland ponies. Once the appropriate stock fencing is in place (see MA1C) this area will be available to the Penare Farm Dexter herd. These will implement the follow up regime of grazing in this area, which will maintain and increase the levels of vegetation clearance.

Timeframe for grazing	Responsibility
From Autumn 2015	Miss Letcher

### 9.2.4 Continuing Management: grazing (HLS Agreement years 3–10 [1 December 2014–30 November 2026])

The grazing regime will be maintained with the objective of pushing back the vegetation cover on the coastal slopes to help restore this area to improving grassland. The aim will be to achieve a cleared area of greater than **90% of scrub** and **between**

**50% and 75% of bracken** by year 10 of the HLS agreement (this target indicator applies to land parcel 7381 as a whole).

### 9.3 Management Area 2C (MA2C): The spring

The spring on the western coastal slopes of Dodman Point is currently obscured by vegetation and therefore inaccessible to visitors (and possibly stock). Reviewing the management recommendations by Parkes (2008), the area around the spring requires clearance of the surrounding bracken and scrub to **100%**, retaining any mature trees for landscape value; once cleared the spring and any associated structures or features will be properly recorded and any restoration needs assessed.

#### 9.3.1 Land parcels and vegetation coverage

The spring is incorporated within Rural Land Register land parcel 7381. The extent of the spring and any associated features are not known but an approximated extent of bracken and scrub cover within MA2C is shown below, based on fieldwork assessment and mapped using GIS set against the OS Mastermap:

Predominant vegetation in MA2C	Vegetation coverage (in hectares)
Mixed scrub and bracken	0.04 hectares
Percentage to be cleared - 100%	<b>0.04 hectares</b>

#### 9.3.2 Vegetation management: bracken and scrub clearance (HLS Agreement years 2-3)

Contributory costs towards vegetation clearance will be claimed as standard items payments (see costs list; Section 13).

*Note: vegetation clearance guidelines are given in Section 7.6 (and see Section 16)*

#### Management (Plan 1)

The area around the spring will be manually cleared of **100%** of bracken and scrub from around the spring as part of the ongoing programme of clearance of the coastal slopes, retaining any mature trees as landscape value.

Timeframe for scrub clearance	Responsibility
October 2015 – February 2016	The National Trust for Miss Letcher

#### 9.3.3 Vegetation management: stock grazing (HLS Agreement years 2-10)

A grazing supplement for native breeds at risk is included for land parcel 7381 as part of a separate land management option under HR2 of the HLS agreement (part 3).

Currently the coastal slopes are grazed by five Shetland ponies. Once the appropriate stock fencing is in place (see MA1C) this area will be made available to the Penare Farm Dexter herd. These will implement the follow up regime of grazing in this area, which will maintain and increase the levels of vegetation clearance. The opened up spring should provide an additional water source for stock.

#### 9.3.4 Continuing Management: grazing (HLS Agreement years 3-10 [1 December 2014-30 November 2026])

The grazing regime will be maintained with the objective of pushing back the vegetation cover on the wider coastal slopes to help restore this area to improving grassland. The aim will be to achieve a cleared area of greater than **90% of scrub** and **between 50% and 75% of bracken** by year 10 of the HLS agreement (this target indicator applies to land parcel 7381 as a whole).

Timeframe for grazing	Responsibility
From Autumn 2015	Miss Letcher

### 9.3.5 Archaeological survey and recording (HLS Agreement years 2-3)

Contributory costs towards a structural survey and recording will be claimed under HAP (see costs tables; Section 13).

Staff from CAU will carry out a structural survey and recording of the spring once vegetation has been cleared.

	Timeframe	Responsibility
Survey and record the spring (1 day allocated)	Spring 2016	CAU

## 9.4 Management Area 2D (MA2D): The post-medieval gardens

The gardens lie within an area of the coastal slopes currently under a vegetation clearance programme by the National Trust. Reviewing the management recommendations by Parkes (2008), the area around the gardens should ideally be cleared of sufficient vegetation for an archaeological survey of the garden enclosures and any associated structures or to be carried out. Vegetation clearance reduces the potential damage to structures by roots and rhizomes as well as improving access and amenity value. The National Trust will not clear further vegetation from this area at present as it is hoped a grazing regime will achieve control and maintenance more effectively in this area. If needed to facilitate a proper survey to be carried out, spot areas will be cleared by hand as required. The aim will be to achieve around **100% clearance of bracken and scrub** in this area by the end of year 10, retaining any mature trees as landscape value.

### 9.4.1 Land parcels and vegetation coverage

The gardens are incorporated within Rural Land Register land parcel 7381. The extent of the gardens and any associated features are not known but an approximated extent of bracken and scrub cover within MA2D is given below, based on fieldwork assessment and mapped using GIS set against the OS Mastermap:

Predominant vegetation in MA2D	Vegetation coverage (in hectares)
Mixed scrub and bracken	0.9 hectares
Percentage to be cleared (through grazing) - 100%	<b>0.9 hectares</b>

### 9.4.2 Vegetation management: stock grazing (HLS Agreement years 2-10)

A grazing supplement for native breeds at risk is included for land parcel 7381 as part of a separate land management option under HR2 of the HLS agreement (part 3).

Currently the coastal slopes are grazed by five Shetland ponies. Once the appropriate stock fencing is in place (see MA1C) this area will be made available to the Penare Farm Dexter herd. These will implement the grazing regime in this area, which will maintain and increase the levels of vegetation clearance.

Timeframe for grazing	Responsibility
From Autumn 2015	Miss Letcher

### 9.4.3 Continuing Management: grazing (HLS Agreement years 3-10 [1 December 2014-30 November 2026])

The grazing regime will be maintained with the objective of pushing back the vegetation cover on the wider coastal slopes to help restore this area to improving grassland. The aim will be to achieve a cleared area of greater than **90% of scrub** and **between 50% and 75% of bracken** by year 10 of the HLS agreement (this target indicator applies to land parcel 7381 as a whole).

#### 9.4.4 Archaeological survey and recording (HLS Agreement years 2-3)

Contributory costs towards a structural survey and recording will be claimed under HAP (see costs tables; Section 13).

Staff from CAU will carry out an archaeological survey of the gardens. The National Trust will carry out spot clearing within the area to assist this if required.

	Timeframe	Responsibility
Survey and record the gardens (2 days allocated)	Summer/Autumn 2015	CAU

## 10 Management Compartment Three: The Eastern Coastal Slope

### 10.1 Management Area 3 (MA3): The eastern coastal slope

The eastern coastal slopes of Dodman Point contain extensive undated earthworks, the function of which remain unknown but which are thought likely to be industrial spoil. The area has recently been cleared of bracken and scrub as part of the wider management of the coastal slopes by the National Trust. Mature trees have been retained for landscape value. The target indicators for success in the HLS Agreement (part 3) require the level of clearance to achieve and maintain between **50% and 75% clearance of bracken** and **90% of invasive trees and scrub** by year 10 (2023). The current grazing regime by Shetland ponies helps to maintain cleared levels. An archaeological survey and record of the earthworks will be carried out by CAU.

#### 10.1.1 Land parcels and vegetation coverage

The eastern coastal slope is incorporated within Rural Land Register land parcel 7381. The calculated extent of bracken and scrub cover within MA3 is given below, based on fieldwork assessment and mapped using GIS set against the OS Mastermap:

Predominant vegetation in MA3	Vegetation coverage (in hectares)
Mixed scrub and bracken	3.8 hectares
Percentage already cleared - 100%	<b>2.8 hectares (approximated)</b>
Percentage still to be cleared - 100%	<b>11 hectares</b>

#### 10.1.2 Continuing Management: bracken and scrub clearance (HLS Agreement years 3–10 [1 December 2014–30 November 2026])

The National Trust will continue to maintain this eastern section of the coastal slopes through their programme of manual vegetation clearance. The aim is to maintain the present level of vegetation clearance at around **100% of bracken and scrub**.

#### 10.1.3 Archaeological survey and recording (HLS Agreement years 2-3)

Contributory costs towards archaeological recording and evaluation will be claimed under HAP (see costs tables; Section 13).

Staff from CAU will carry out a survey and archaeological record of the earthworks.

	Timeframe	Responsibility
Survey and record the earthworks (4 days allocated)	Summer/Autumn 2015	CAU

## 11 Management Compartment Four: The Signal Station and Watch House

### 11.1 Management Area 4 (MA4): The watch house enclosure

The historic field (Beacon Piece) that contains the watch house and signal station enclosure has been partly cleared through the programme of vegetation clearance by the National Trust. The central trackway has been opened up and a number of glades created in the scrub alongside it, leaving isolated stands of scrubby blackthorn. The historic field boundaries are still obscured, however, as well as an historic access from the west and several trackways leading into the enclosure from the east. The historic sightlines to neighbouring signal stations along the coast to the east and west are no longer identifiable. A possible building enclosure (or enclosures) to the southwest of the watch house remains overgrown. Further clearance of the area will be carried out to increase the open extent and restore historic sightlines (as much as is possible); the retention of some patches of scrub will be beneficial for wildlife, however. Mature trees, including the distinctive Monterey pines will also be retained for landscape value. The aim is to clear Beacon Piece of **70% of bracken and scrub** by year 3 of the HLS agreement. The earthworks to the southwest will be surveyed and recorded to establish whether these reflect additional buildings associated with the signal station.

The watch house has been assessed (see Berry 2014) and the recommended structural repairs should be carried out to protect the watch house, lookout turret and signal station enclosure into the future. Owing to the permitted costs of the HLS agreement, however, only the flagpole and base and the external lookout platform will currently be restored. This work will be carried out by a professional contractor, with supervision and recording by staff from CAU.

#### 11.1.1 Land parcels and vegetation coverage

Beacon Piece is now incorporated within Rural Land Register land parcel 7381. The calculated extent of scrub and bracken cover within MA4 is given below, based on fieldwork assessment and mapped using GIS set against the OS Mastermap:

Predominant vegetation in MA4	Vegetation coverage (in hectares)
Mixed scrub and bracken	1.6 hectares
Percentage already cleared – 100%	<b>0.2 hectares (approximated)</b>
Percentage to be cleared to 70%	1.12 hectares
Percentage still to be cleared - 100%	<b>1.1 hectares</b>

#### 11.1.2 Vegetation management: bracken and scrub clearance (HLS Agreement years 2-3)

Contributory costs towards vegetation clearance will be claimed as standard items payments (see costs tables; Section 13). No difficult site supplement is applied to this area under capital works but a bracken control supplement and a supplement for difficult sites is available generally for land parcel 7381 as separate land management options under HR5 and HR7 of the HLS agreement (part 3).

*Note: vegetation clearance guidelines are given in Section 7.6 (and see Section 16)*

#### Management (see Plans 1, 2 and 5)

Beacon Piece will be cleared of **70% scrub and bracken** with the aim of reducing vegetation along the historic field boundaries and restoring some of the historic sightlines from the watch house out along the coast in both directions. Some stands of vegetation and mature trees will be retained for wildlife cover and landscape value.

Timeframe for scrub clearance	Responsibility
October 2015 to February 2016	Miss Letcher



The chemical spraying of bracken will follow up the scrub clearance.

Timeframe for bracken spraying	Responsibility
July 2016	Miss Letcher

### 11.1.3 Continuing Management (HLS Agreement years 3–10)

Miss Letcher will continue to maintain the vegetation levels within the watch house field, with practical assistance from the National Trust where possible. This will be supported by the grazing regime of Shetland ponies and Dexter cattle. The aim will be to maintain the cleared area at **70% of bracken and scrub**.

### 11.1.4 Vegetation management: stock grazing (HLS Agreement years 2-10) Management

A grazing supplement for native breeds at risk is included for land parcel 7381 as part of a separate land management option under HR2 of the HLS agreement (part 3).

Currently the area within MA4 is grazed by the Shetland ponies. Once the appropriate stock fencing is in place this area will also be available to the Penare Farm Dexter herd. This will implement the follow up regime of grazing in this area, which will maintain and increase the levels of vegetation clearance.

Timeframe for grazing	Responsibility
From Autumn 2015	Miss Letcher

### 11.1.5 Watch house repairs, survey and recording (HLS Agreement years 2-3)

Contributory costs towards repair works and archaeological recording will be claimed under HAP (see costs tables; Section 13). Scheduled Monument Consent for fencing works has been granted by the Secretary of State for Culture, Media and Sport.

Repairs to the flagpole base and external lookout platform will be carried out by a suitable professional contractor. Work will be supervised and recorded by staff from CAU. A survey of the possible building enclosure to the south of the watch house will also be made by staff from CAU.

	Timeframe	Responsibility
Repairs to flagpole base and lookout platform	TBA	Professional contractor TBA
Supervision and recording of repair works	TBA	CAU
Survey and record the earthworks (1 day allocated)	Summer 2015	CAU

## 12 Management Compartment Five (MC5): The Medieval Field System

The land parcels within the central area of the medieval field system to the south of The Bulwarks would originally have been farmed as communal strips, the current boundaries reflecting the subsequent enclosure of these by individual tenant farmers. They are currently incorporated into one large grazing unit for the Penare Farm Dexter herd. Over time stock movement through and across the boundary banks has eroded their profiles and adjacent ground surfaces. This is particularly severe around pinch points where stock have worn pathways through breaks in the boundaries and around the water trough within land parcel 0172. Below ground archaeology is, however, likely to be relatively well-preserved and free from the root and rhizome damage prevalent elsewhere on Dodman Point. The grazing regime is helping maintain the land within this area as species-rich semi-natural grassland BAP habitat.

Two land parcels, 2972 and 3048, make up a second grazing unit on the east side of Dodman Point. In the southeast corner curvilinear strip boundaries are visible as low earthworks, indicating that this area was also once part of the medieval field system on the headland. The hedged boundary enclosing 3048 appears to overlie these strips, suggesting a post-medieval or later date. The surviving form of the main north-south running boundary (B4) dividing the grazing units may also be largely post-medieval or later in date although this probably retains older elements. This area is also maintained as semi-natural grassland BAP habitat through grazing by the Dexter herd.

The historic field boundaries within this area reflect many phases of construction and repair. Some survive as low earth banks, some with single or double facings of stone. Different styles of stone repair are evident in places and this diversity is one of the distinctive characteristics of the monument. The central grazing boundary dividing the field system from north to south (B4) is a more substantial earth and stone hedge bank, topped by scrubby vegetation. It too has evidence for phases of repair and modification and retains some sections of single or double stone facing.

Ideally the historic field boundaries should be repaired and restored using traditional techniques and materials, respecting the different styles of construction and repair to preserve their diversity and historic character. Where stone facings survive these should be retained in-situ but where banks are reduced to earth mixed with stone these should be restored as earth banks, using casting up to replace fallen stone and spoil but without breaking the ground surface. This would protect below ground archaeological remains and help maintain historic character. The restored height of the boundaries should consider the relative height of similar adjacent boundaries; so that the boundaries marking the medieval strips would generally be lower than the (probably later or modified) boundaries dividing the larger field units. This philosophy could apply elsewhere on the holding where historic boundary repairs are required.

Currently it is agreed that only the main dividing grazing boundary (B4 and B5) and the ends of three main gateways (within B4, B6a and B7) (See Plan 3) will be restored to the following criteria:

- Where sections of earth bank survive these will be repaired to the NE specifications for earth hedge banks, retaining any mixed in stone and through the casting up of fallen spoil and stone but without digging further into the ground surface. A casting up supplement will be applied to these sections, calculated for both sides.
- Where sections of earth bank survive with a single side of stone facing these will be repaired to the NE specifications for earth banks but will retain any mixed in stone and preserve the one stone face in-situ. A casting up supplement will be applied to these sections, calculated for one side only.
- Where sections of double stone-faced hedge bank survive these will be repaired to the NE specifications for stone banks but will retain the two stone faces.
- The open gateways will be restored as double stone-faced banks back to a length of 1m from the gate ends on both sides and with a face of stone on both gateway ends.
- The hedge banks will be evenly restored to the height of the highest surviving point along boundary B4, even if this does not meet the 1.3m specified in the NE guidance.

For stock management and to protect the newly repaired hedge banks a new line of fencing will be erected along both sides of the central grazing boundary (B4) and along both sides of boundaries B5 and B6a (see Plan 3). A single line of fencing will be replaced along the west side of boundary B6b. A new wooden field gate will be inserted into the gateway in B4, between land parcels 2972 and 1883.

Alongside the boundary repairs staff from CAU will carry out a plan-based survey and photographic record of the medieval field system. Additional fieldwork will include putting in a number of slots through selected boundaries to record their historic profile,

phasing and method(s) of construction. Where lasting repair cannot be achieved this will help preserve the field system through a material record.

### 12.1.1 Boundary repairs (HLS Agreement years 2-3)

Contributory costs towards boundary repairs will be claimed as standard items payments. Contributory costs towards archaeological recording and evaluation will be claimed under HAP (see costs tables; Section 12). Scheduled Monument Consent for fencing works has been granted by the Secretary of State for Culture, Media and Sport.

*Note: boundary repair guidelines are given in Section 7.6 (and see Section 16)*

#### Management (see Plan 6)

The central grazing boundary (B4 and B5) will be repaired and restored using the NE specifications for stone-faced hedge bank and earth hedge bank restoration. The current condition of the boundary is extremely poor along much of its length and restoration is considered a more suitable option than repair. Loose stone from the surrounding area will be used, with additional stone brought in from around the holding if required. Shallow casting up of surface spoil and stone will be done along sections of earth hedge bank and sections of earth hedge bank where a single side of stone facing survives. The boundary has been assessed as having the following sections:

Earth hedge bank (no stone facing) – **71.5m**

Earth hedge bank with single stone facing – **242.7m**

Double-faced stone hedge bank – **53.1m**

The exposed ends of the open access ways in boundaries B4, B6a and B7 will be restored as stone-faced hedge bank to a length of **1m** back from the end faces, using additional stone from within the holding, as before.

A plan-based survey, evaluation and photographic record of the medieval field system will be carried out by staff from CAU.

	<b>Timeframe</b>	<b>Responsibility</b>
Boundary repairs	TBA	Miss Letcher
Medieval field system photography (2 days allocated)	Summer/Autumn 2015	CAU
Medieval field system evaluation (3 days allocated)	Summer/Autumn 2015	CAU
Medieval field system plan-based survey (5 days allocated)	Summer/Autumn 2015	CAU

### 12.1.2 Fencing (HLS Agreement years 2-3)

Contributory costs towards fencing will be claimed as standard items payments (see costs tables; Section 13). Scheduled Monument Consent for fencing works has been granted by the Secretary of State for Culture, Media and Sport.

*Note: fencing guidelines are given in Section 7.6 (and see Section 16)*

#### Management (see Plan 3)

The following lines of post and wire fencing will be erected or replaced:

- **B4 - 957.6m** along both sides (land parcels 2972, 1748, 2366, 1883 and 2389)
- **B5 - 140.3m** along both sides (land parcels 2972 and 2694)
- **B6a - 300.4m** along both sides (land parcels 1883, 1167 and 2366)
- **B6b - 101.5m** along the west side of land parcel 1883

A new gate will be positioned within boundary B4, between land parcels 2972 and 1883. The digging of new post holes will be monitored by CAU, who will record any archaeological finds or features exposed.

	<b>Timeframe</b>	<b>Responsibility</b>
Fencing	TBA	Miss Letcher
Gate post monitoring (2 days allocated – to include MA1A and MA1C)	TBA	CAU

### 12.1.3 Continuing Management (HLS Agreement years 3–10)

Miss Letcher will maintain the repair of the central grazing boundary (B4 and B5) and continue the grazing regime by the Dexter herd.

## 12.2 Management Area 6 (MA6): the eastern coastal slope (part)

There is an area of the eastern coastal slope (see Management Area Overview Map) that cannot be safely accessed by man or machine and which the grazing Shetland ponies also avoid. This area (around 2 hectares) cannot be effectively cleared and managed and will not form part of the management plan.

## 13 Costs and Timetable of Works

This section comprises a combined timetable of the individual work stages and tables showing the costs to be claimed under capital works and HAP. Plans to accompany the capital works are included below.

### Timetable of Works (Provisional but to be completed by November 2016)

<b>Area</b>	<b>Management Works</b>	<b>Timeframe</b>	<b>Responsibility</b>
MA1A (Western Section)	Scrub clearance	October 2014 – February 2015	Miss Letcher
MA1A (Western Section)	Bracken spraying	July 2015	Miss Letcher
MA1A and MA1C	Erosion repairs	Summer/Autumn 2015	Professional contractor TBA
MA1A and MA1C	Archaeological supervision and recording of erosion repairs (15 days allocated)	Summer/Autumn 2015	CAU
MA1A	Fencing	Summer/Autumn 2015	Miss Letcher
MA1A AND MA1C	Gate post monitoring (2 days allocated – to include M5)	Summer/Autumn 2015	CAU
MA1A	Water supply works	Summer/Autumn 2015	Miss Letcher
MA1A	Archaeological monitoring and recording of water supply works (2 days allocated)	Summer/Autumn 2015	CAU
MA1C	Fencing	Summer/Autumn 2015	Miss Letcher

MA2D	Survey and record the gardens (2 days allocated)	Summer/Autumn 2015	CAU
MA3	Survey and record the earthworks (4 days allocated)	Summer/Autumn 2015	CAU
MA4	Survey and record the earthworks (1 day allocated)	Summer/Autumn 2015	CAU
MA5	Medieval field system photography (2 days allocated)	Summer/Autumn 2015	CAU
MA5	Medieval field system evaluation (3 days allocated)	Summer/Autumn 2015	CAU
MA5	Medieval field system plan-based survey (5 days allocated)	Summer/Autumn 2015	CAU
MA1A (Eastern Section)	Scrub clearance	October 2015 – February 2016	Miss Letcher
MA2A (part)	Scrub clearance	October 2015 – February 2016	Miss Letcher
MA2C	Scrub clearance	October 2015 – February 2016	The National Trust for Miss Letcher
MA4	Scrub clearance	October 2015 to February 2016	Miss Letcher
MA2C	Survey and record the spring (1 day allocated)	Spring 2016	CAU
MA1A (Eastern Section)	Bracken spraying	July 2016	Miss Letcher
MA1B	Bracken spraying	July 2016	Miss Letcher
MA1C	Bracken spraying	July 2016	Miss Letcher
MA2A (part)	Bracken spraying	July 2016	Miss Letcher
MA4	Bracken spraying	July 2016	Miss Letcher
MA4	Repairs to flagpole base and lookout platform	TBA	Professional contractor TBA
MA4	Supervision and recording of repairs	TBA	CAU
MA5	Boundary repairs	TBA	Miss Letcher
MA5	Fencing	TBA	Miss Letcher
MA5	Gate post monitoring (2 days allocated – to include MA1A and MA1C)	TBA	CAU

### Capital Works and Costs

<b>Dodman Management Plan - Costing of Capital Works 03/2015</b>									
<b>Plan no.</b>	<b>Location/ Boundary Reference</b>	<b>Management Area</b>	<b>Code</b>	<b>Standard Item</b>	<b>Cost</b>	<b>Unit</b>	<b>Extent/Area</b>	<b>Total</b>	<b>To be completed by:</b>
<b>Scrub management</b>									
1	SW 99885 39725 - SX 00096 39849 (Western Bulwark)	MA1A	SC	Scrub Management - over 75% cover	583.00	per ha	0.5 hectares	291.50	30th Nov 2016
1	SX 00096 39849 - SX 00332 39955 (Eastern Bulwark)	MA1A	SC	Scrub Management - over 75% cover	583.00	per ha	0.6 hectares	349.80	30th Nov 2016
1	SX00040 39461	MA2C	SC	Scrub Management - over 75% cover	583.00	per ha	0.04 hectares	23.32	30th Nov 2016
1	SX00432 39408	MA2D	SC	Scrub Management - over 75% cover	583.00	per ha	0.9 hectares	524.70	30th Nov 2016
1 and 5	SX00175 39334 - SX00360 39425	MA2A (part)	SC	Scrub Management - over 75% cover	583.00	per ha	0.24 hectares	139.92	30th Nov 2016
1 and 5	SX00221 39404	MA4	SC	Scrub Management - over 75% cover	583.00	per ha	1.1 hectares	641.30	30th Nov 2016
			SS	Scrub management base payment	76.00	per agreement year	Years 2 and 3	152.00	30th Nov 2016
			BDS	Difficult site supplement for bracken and scrub control	7.00	per ha	2.28 hectares	15.96	30th Nov 2016
							<b>Total</b>	<b>2138.50</b>	
<b>Bracken control</b>									
2	SW 99885 39725 - SX 00096 39849 (Western Bulwark)	MA1A	BCA	Chemical bracken control	112.00	per ha	0.5 hectares	56.00	30th Nov 2016
2	SX 00096 39849 - SX 00332 39955 (Eastern Bulwark)	MA1A	BCA	Chemical bracken control	112.00	per ha	0.6 hectares	67.20	30th Nov 2016
2	SX 00332 39955- SX 00420 39966	MA1B	BCA	Chemical bracken control	112.00	per ha	0.15 hectares	16.80	30th Nov 2016

2	SW 99798 39694 - SW 99888 39731	MA1C	BCA	Chemical bracken control	112.00	per ha	0.3 hectares	33.60	30th Nov 2016
2	SX 00175 39334 - SX 00360 39425	MA2A	BCA	Chemical bracken control	112.00	per ha	0.24 hectares	26.88	30th Nov 2016
2	SX 00221 39404	MA4	BCA	Chemical bracken control	112.00	per ha	1.1 hectares	123.20	30th Nov 2016
			BCB	Chemical bracken control base payment	61.00	per agreement year	Years 2 and 3	114.00	30th Nov 2016
			BDS	Difficult site supplement for bracken and scrub control	7.00	per ha	1.79 hectares	12.53	30th Nov 2016
							<b>Total</b>	<b>450.21</b>	
<b>Fencing and gates</b>									
3	B1a	MA1A	FW2010/ FWB2010	Post and wire fencing	2.50	per m	433.6m	1084.00	30th Nov 2016
3	B1b	MA1A	FW2010/ FWB2010	Post and wire fencing	2.50	per m	535m	1337.50	30th Nov 2016
3	B2	MA1C	FW2010/ FWB2010	Post and wire fencing	2.50	per m	100m	250.00	30th Nov 2016
3	B3	MA5	FW2010/ FWB2010	Post and wire fencing	2.50	per m	406.3m	1015.75	30th Nov 2016
3	B4	MA5	FW2010/ FWB2010	Post and wire fencing	2.50	per m	957.6m	2394.00	30th Nov 2016
3	B5	MA5	FW2010/ FWB2010	Post and wire fencing	2.50	per m	140.3m	350.75	30th Nov 2016
3	B6a	MA5	FW2010/ FWB2010	Post and wire fencing	2.50	per m	300.4m	751.00	30th Nov 2016
3	B6b	MA5	FW2010/ FWB2010	Post and wire fencing	2.50	per m	101.5m	253.75	30th Nov 2016
3	SW 99878 39717	MA2A	GF	Wooden field gate	149.00	each	1	149.00	30th Nov 2016
3	SX 00013 39767	MA1A	GF	Wooden field gate	149.00	each	1	149.00	30th Nov 2016
3	SX 00165 39909	MA1A	GF	Wooden field gate	149.00	each	1	149.00	30th Nov 2016
3	SX 00236 39815	MA5	GF	Wooden field gate	149.00	each	1	149.00	30th Nov 2016
							<b>Total</b>	<b>8032.75</b>	

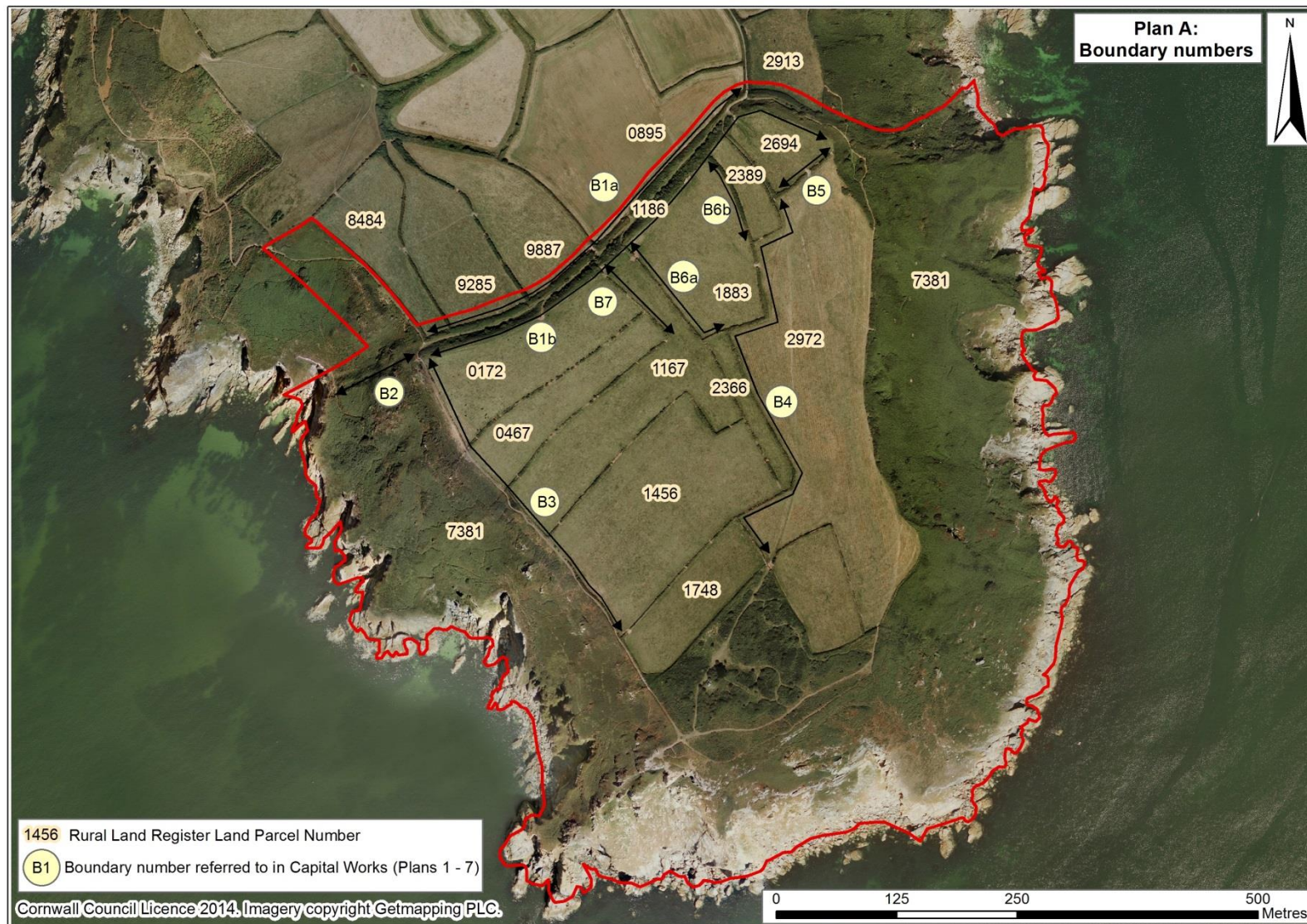
<b>Water supply</b>									
4	WP1	MA1A	WS	Water supply	2.00	per m	774.8m	1549.60	30th Nov 2016
4	HB1	MA1A	HBD	Hard Base for Livestock Drinker	85.00	each	1	85.00	30th Nov 2016
4	HB2	MA1A	HBD	Hard Base for Livestock Drinker	85.00	each	1	85.00	30th Nov 2016
4	WT1	MA1A	WT	Water trough	85.00	each	1	85.00	30th Nov 2016
							<b>Total</b>	<b>1804.60</b>	
<b>Boundary repair</b>									
6	B4	MA5	ER2010	Earth bank restoration	10.10	per m	314.2m	3173.42	30th Nov 2016
6	B5	MA5	ER2010	Earth bank restoration	10.10	per m	38m	383.80	30th Nov 2016
6	B4	MA5	BS2010	Stone-faced hedge bank restoration	55.00	per m	58.2m	3201.00	30th Nov 2016
6	B4	MA5	ERC	Casting up supplement - hedge bank options	1.20	per m (per side)	385.7m	462.84	30th Nov 2016
6	B5	MA5	ERC	Casting up supplement - hedge bank options	1.20	per m (per side)	38m	45.60	30th Nov 2016
6	B6a (gateway ends)	MA5	BS2010	Stone-faced hedge bank restoration	55.00	per m	5m	275.00	30th Nov 2016
6	B7 (gateway ends)	MA5	BS2010	Stone-faced hedge bank restoration	55.00	per m	5m	275.00	30th Nov 2016
6	B4; B6a; B7	MA5	WRS	Stone wall supplement - stone from holding	6.00	Per m	68.2m	409.20	30th Nov 2016
							<b>Total</b>	<b>8225.86</b>	
				<b>Total Capital Works</b>			<b>Total</b>	<b>20651.92</b>	



## Hap Works and Costs

<b>Dodman Management Plan - HAP Costs (Provisional)</b>								
Erosion repair works (estimated)								<b>8000.00</b>
Watch house repair works (estimated)								<b>5000.00</b>
WH enclosure – fencing (estimated on 50m) NB. Advice on the costs available for fencing this area is being sought from Natural England and it is not yet agreed whether or how this work will proceed.								<b>10000.00</b>
Stage 1 Archaeology Costs (Breakdown available)								
	Original (Excluding VAT)							5258.25
	Additional (Excluding VAT)							1855.00
						<b>Total</b>		<b>7113.25</b>
Stage 2 Archaeology Costs Breakdown available)								
	Fieldwork							16058.00
	Project Archive							4942.50
	Archive Report							8185.00
	Project Management							4590.00
						<b>Total</b>		<b>33775.50</b>
	Vat at 20%							6755.10
						<b>Total with VAT</b>		<b>40530.60</b>
							<b>Total HAP Costs (provisional)</b>	<b>70643.85</b>

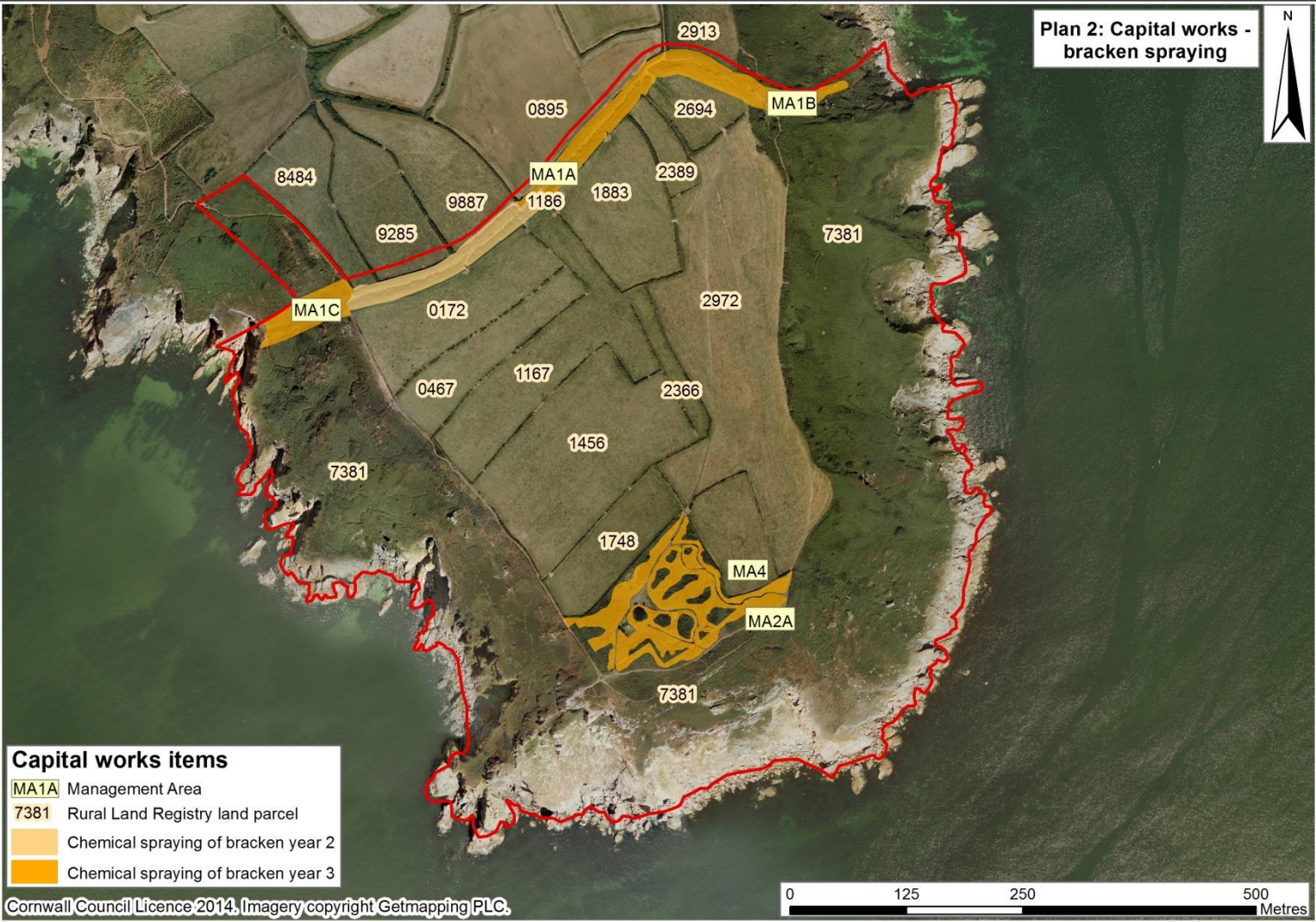
### Plan A – Boundaries referred to in the Management Plan



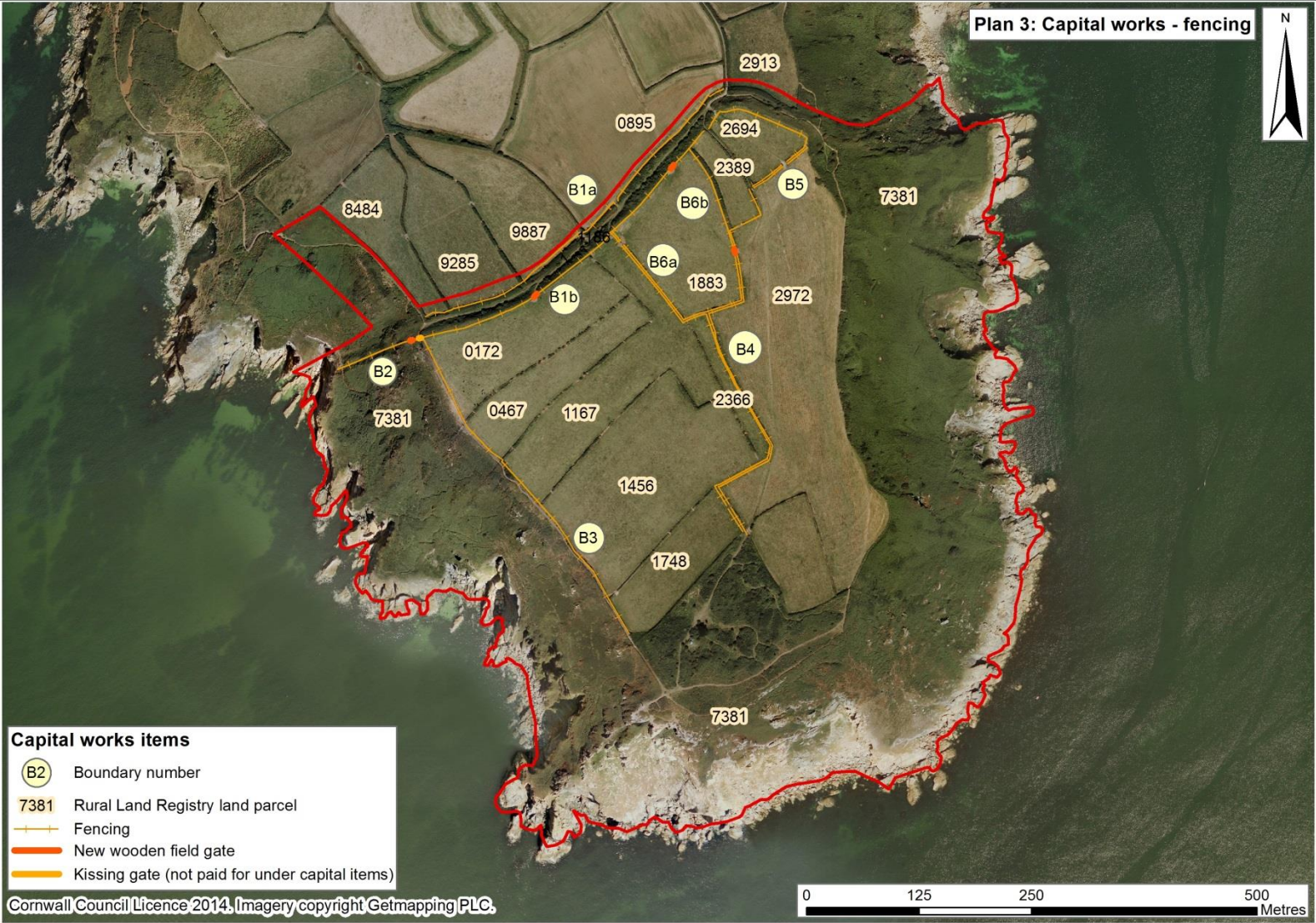
### Plan 1 – Scrub management



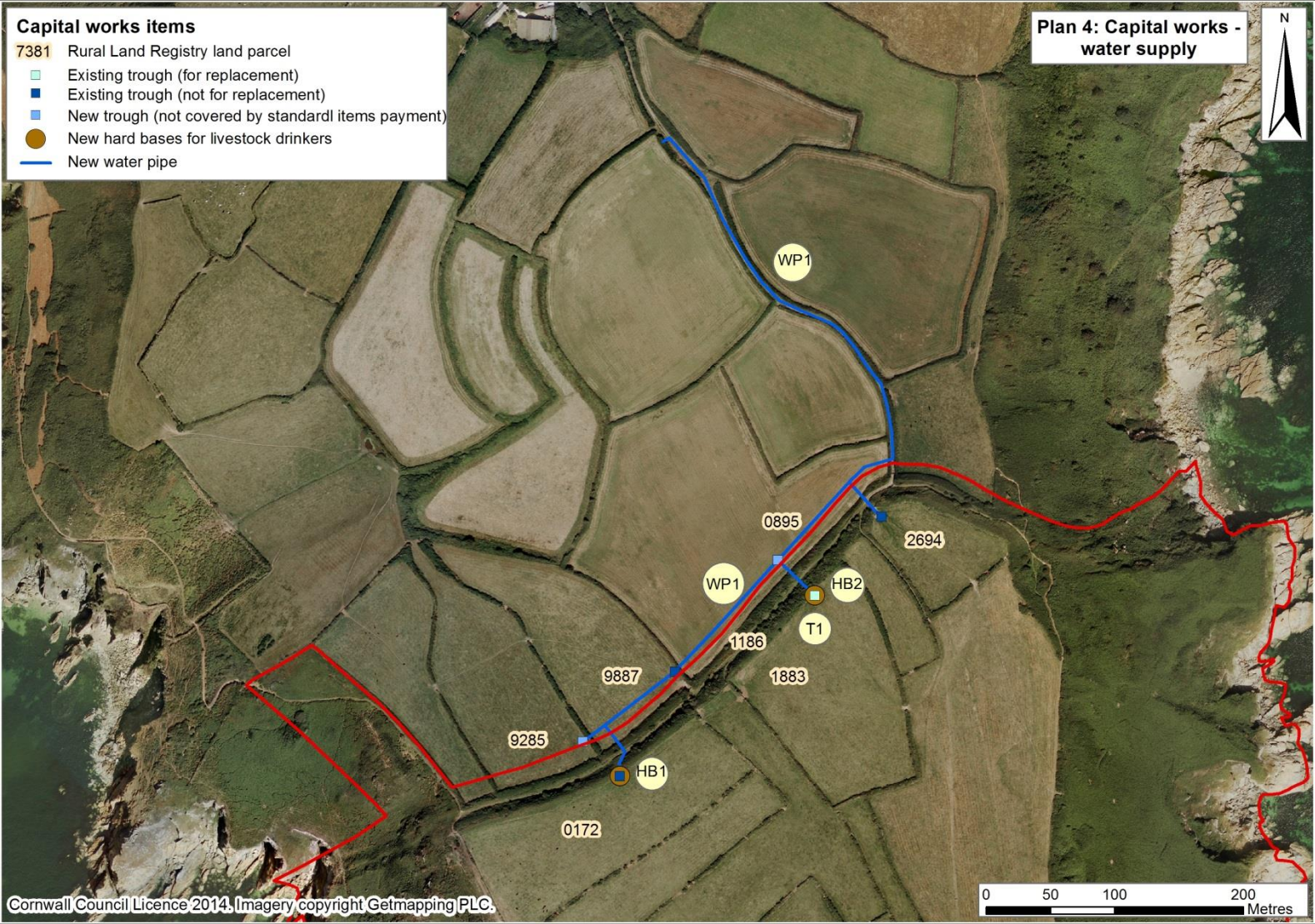
**Plan 2 – Chemical bracken spraying**



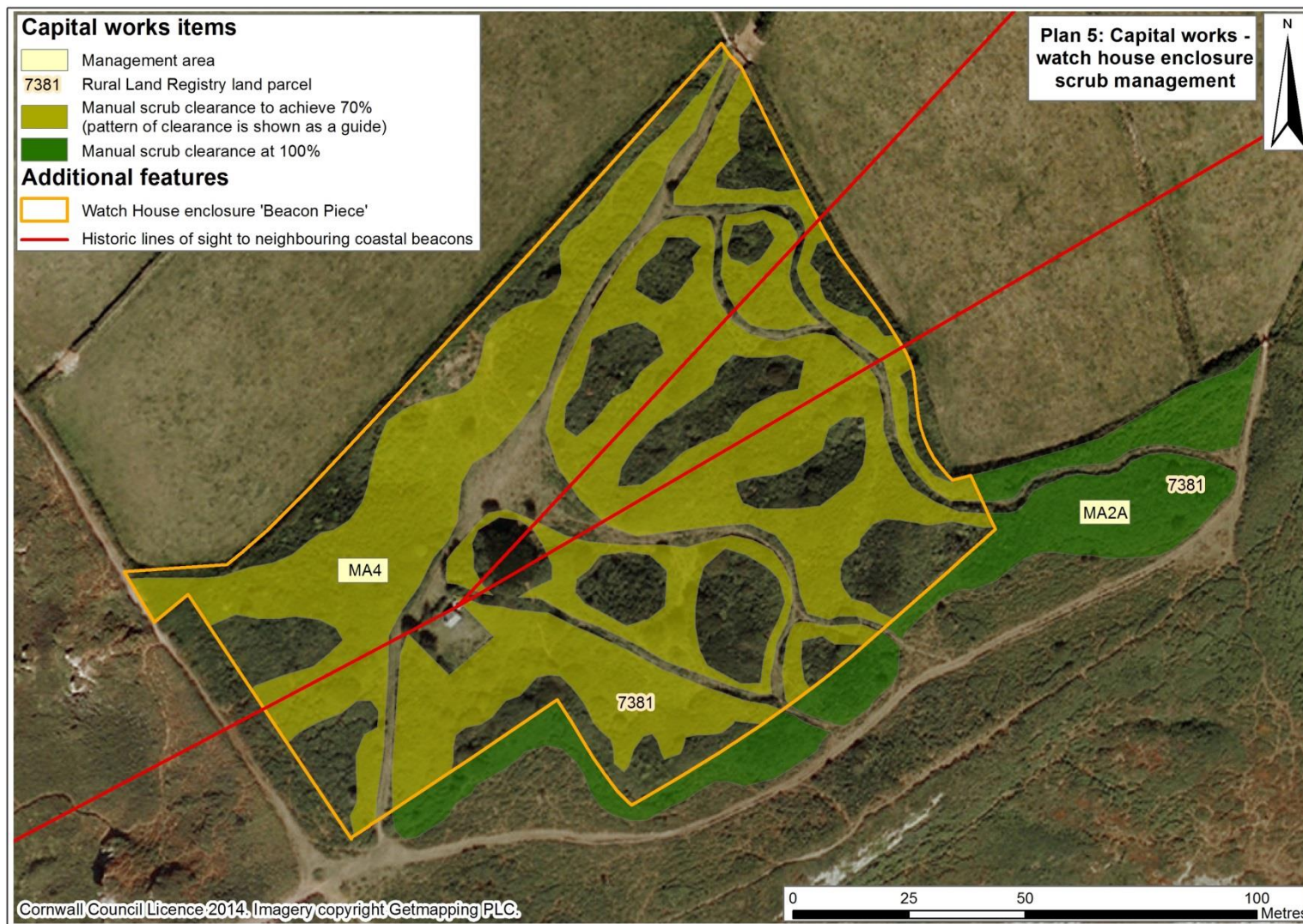
### Plan 3 - Fencing



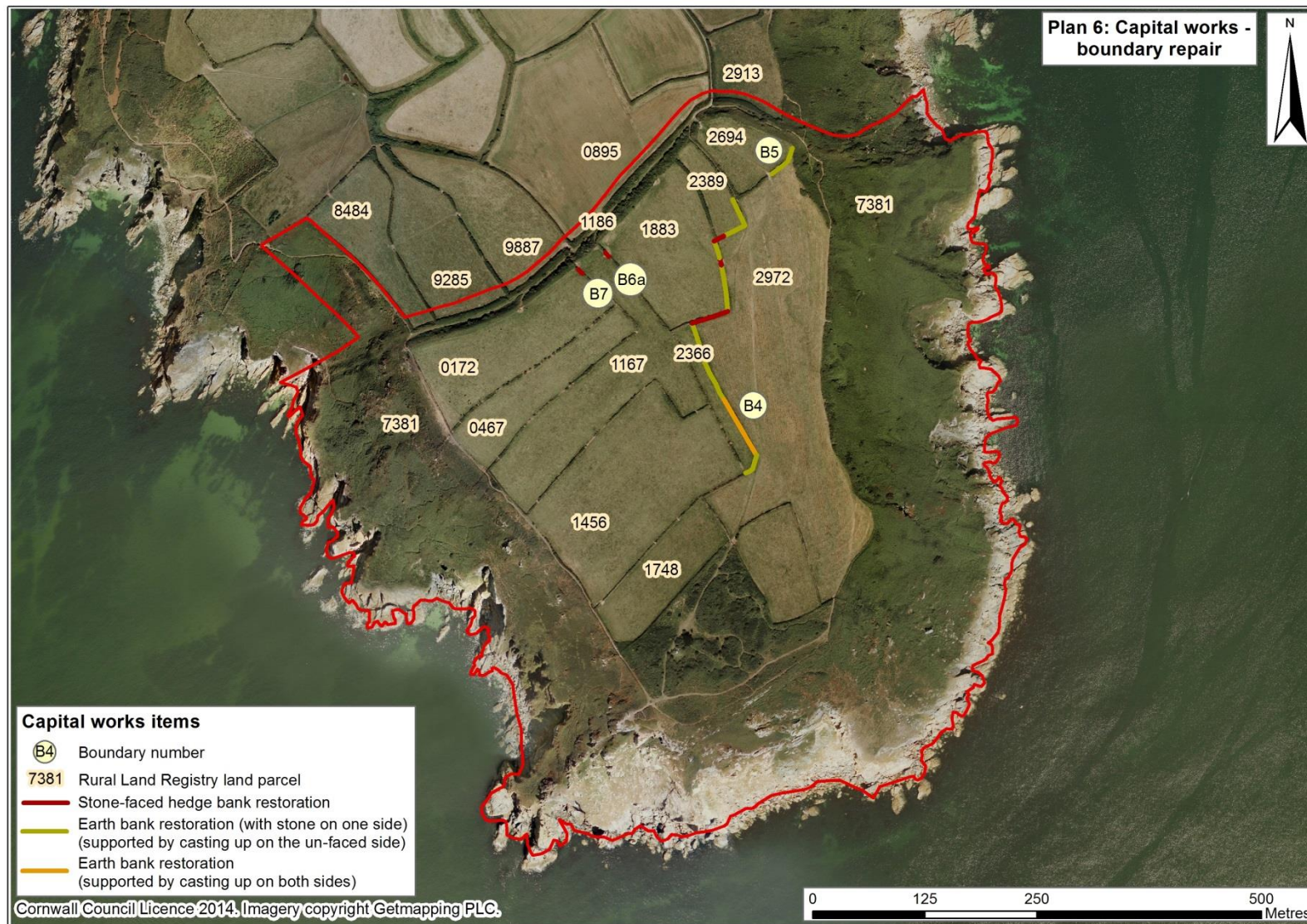
### Plan 4 – Water supply



### Plan 5 – Scrub management for the watch house enclosure

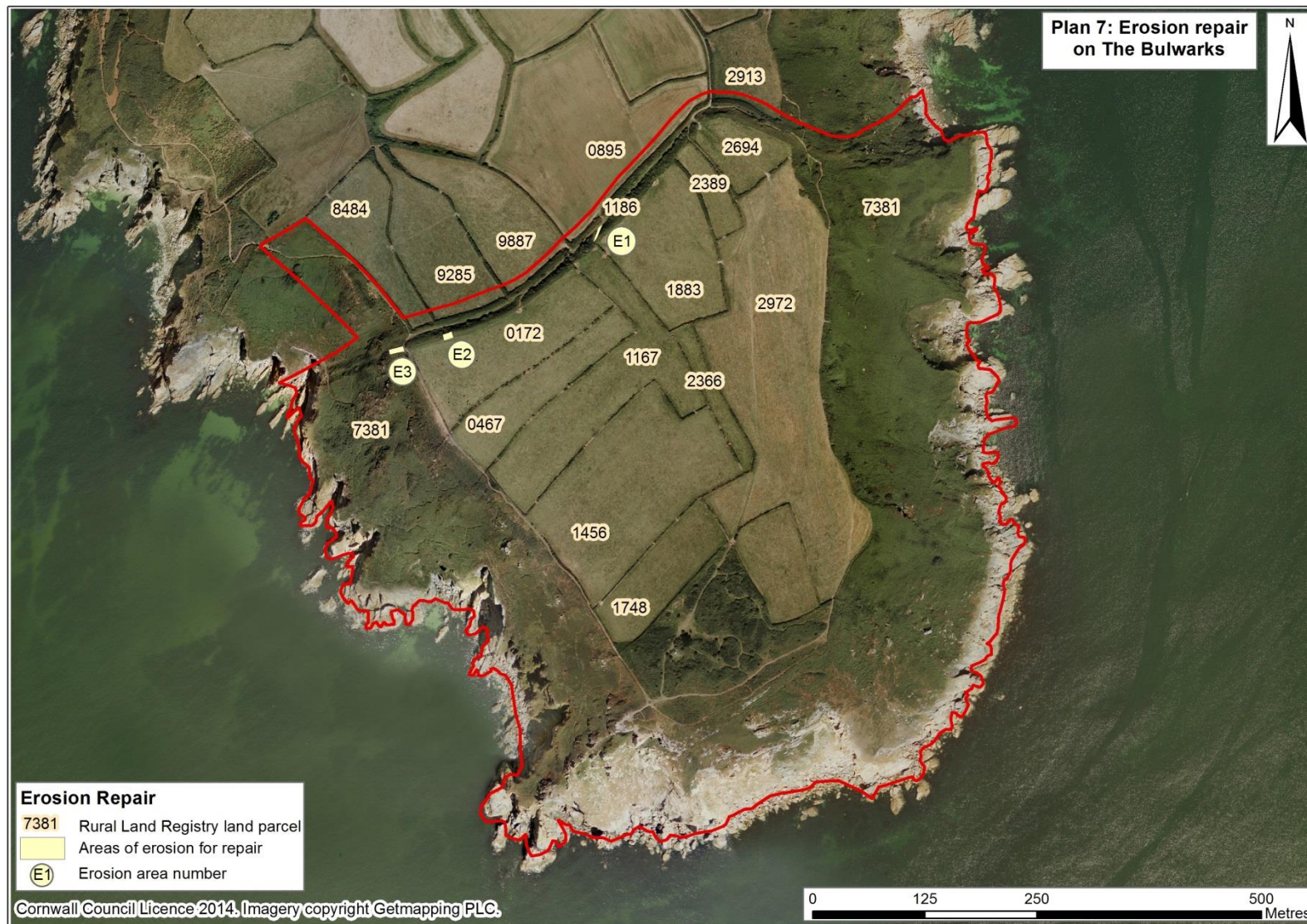


### Plan 6 – Boundary repairs





### Plan 7 – Erosion repairs



## 14 References

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### **14.3 Websites**

<http://www.heritagegateway.org.uk/gateway/>

Historic England's online database of Sites and Monuments Records, and Listed Buildings

<https://content.historicengland.org.uk/images-books/publications/har-2014-registers/sw-HAR-register-2014.pdf/>

Historic England's Heritage at Risk Register 2014 (South West)

## **15 Project archive**

The CAU project number is **146440**

The project's documentary, digital, photographic and drawn archive is maintained by Cornwall Archaeological Unit, Cornwall Council, Fal Building, County Hall, Treyew Road, Truro, TR1 3AY.

English Heritage/ADS OASIS online reference: cornwall2-215495

## **16 Appendices: Principles informing management recommendations**

### **16.1 Scheduled Monuments**

Written Scheduled Monument Consent (SMC) from the Secretary of State for Culture, Media and Sport may be required prior to proposed work on SMs. Historic England now handles Scheduled Monument Consent (SMC) on behalf of the Department of Culture, Media and Sport (DCMS); forms and guidance can be found on the Historic England website:

<https://www.historicengland.org.uk/>

### **16.2 HEATH guidance on heathland management**

General aims, good practice and methods for managing the archaeological resource and historic landscape character on heathland were set out as part of the Heathland: Environment, Agriculture, Tourism and Heritage (HEATH) Project (Kirkham 2011). The HEATH Management Assessment work has been used to inform the present assessment, and the principles it provides are given below.

#### **16.2.1 Summary of general aims of managing heathland for the historic environment**

- To preserve archaeological and historic remains.
- To maintain and enhance historic landscape character, including characteristic semi-natural vegetation.
- Where appropriate, to increase visibility of upstanding archaeological features.
- To increase public access, appreciation and understanding.
- Through the above, to achieve practical and economic benefits that contribute to sustaining the local economy.

#### **16.2.2 Vegetation control; grazing**

##### **Benefits of grazing to control scrub and bracken on archaeological sites**

Rhizomes, root systems and woody stems can damage both buried archaeology and standing features; bracken has a particularly severe impact on below-ground remains. Dense vegetation creates difficult walking and riding conditions and conceals archaeological features. Tracking of animals through dense scrub can also cause significant surface erosion. Fires, particularly where there is a deep layer of litter, can severely damage archaeological remains and surface soil layers. Re-introducing grazing or increasing grazing levels will have a beneficial effect in breaking up scrub cover and reducing bracken vigour, although the potential impact on any particularly sensitive archaeological remains or specific biodiversity interest should be assessed.

##### **Stock-proof boundaries**

Creation of stock-proof boundaries on areas to be grazed may require repair of existing boundaries, the building of new hedges or walls, or installation of new fencing. Where there is open access to heathland areas the creation or repair of stock-proof boundaries may require provision of new stiles or other means for walkers to cross them at convenient intervals. These should resemble existing stiles in the area.

##### **Hedges and walls**

Where new hedges, walls or banks are to be created, they should generally be sited away from remains of earlier boundaries and other features. The effect of inserting a new hedge or other boundary on adjacent archaeological remains and patterns of features should be considered: does it confuse or obscure the historic pattern, making it less coherent and understandable? Is there another location where this could be avoided? Where an existing or former boundary is to be re-used, it may be necessary

to take advice on an appropriate approach. Some heathland boundaries in west Cornwall date from the medieval period, the Iron Age or even the Bronze Age: disturbance to a boundary suspected to be early should be avoided as far as possible. If a boundary is required in the same location a wire fence running alongside may be preferable.

On later boundaries repairs to make them stock-proof should use traditional forms of patching - preferably based on techniques which can be seen in the boundary itself - and re-use stone from the boundary itself where possible. Full-scale restoration (taking down and rebuilding an entire length of wall or hedge) should be resisted as this can remove historic character and information, as well as diminishing the ecological value of the boundary. It is particularly important that hedgers and wallers do not source stone or earth fill from other archaeological remains, including ruined boundaries.

**Note:** *some boundary banks - specifically those where a row of bushes grows along the top of the boundary, or which incorporate archaeological features - may be subject to the Hedgerow Regulations of 1997, requiring formal notification to the local planning authority, should partial removal be proposed.*

### **Fences**

New fence lines should preferably follow existing or ruined boundaries, leaving the historic pattern clear and understandable. If installation of a high tensile fence involves trenching to keep lower strands clear of the ground then particular care should be taken where the fence lies near to archaeological remains. If such trenching could have an impact on such remains the fence should ideally be re-routed. Alternatively, archaeological recording may be necessary before and/or during the work.

### **Gates and gateways**

Gates should be located in existing breaks in boundaries wherever possible in order to avoid disturbing historic structures and to maintain the coherence of historic land use patterns. Where there are existing gateposts they should be re-used. New gates should be of the correct width for the opening in which they hang and of appropriate design and materials, similar to traditional gates in the area. Where a gateway is needed and there is no existing break, the terminals on either side of the new break should be finished in a form which closely resembles those on gateways in similar historic boundaries in the vicinity.

### **Water supplies**

Natural water sources on rough ground are likely to have been the focus of human activity over a long period. Where historic springs or wells are to be used to water grazing stock, any associated structures (walling, steps, paving, etc.) may need consolidating to avoid damage from trampling. Archaeological advice should be taken in advance of grazing introduction. New water troughs should be sited away from archaeological and historic features and located in positions where the development of new stock paths to access them and of poaching immediately around them will not have a negative impact. Pipeline trenches should avoid known archaeological remains and pipes should be tunnelled underneath rather than cut through any boundaries they cross. Care should be taken that any wet areas created by leakage or spills do not create problems from erosion or poaching.

### **Agricultural access**

Routes for agricultural vehicles engaged in stock inspection and other activities should be considered carefully in terms of their potential impact on typical heathland features such as prehistoric boundaries, clearance cairns and medieval cultivation ridges. Use of vehicles should be particularly avoided in wet seasons if it is likely to compact or churn up surfaces over or around known archaeological features. Driving at random across open areas, away from established tracks, is unwelcome because of the potential for damage.

### **16.2.3 Vegetation control; scrub reduction**

Targeted scrub reduction has a beneficial impact in terms of reducing root damage and the potential for fire damage to standing and buried remains, and also in increasing the visibility of the remains for public interest. Hand clearance may be necessary in the immediate area of archaeological features to avoid damage.

#### **Manual**

Manual clearance methods using hand or power tools should always be used where archaeological elements are known to be present which might be damaged by vehicle mounted methods.

#### **Mechanical**

Mechanical methods enable larger areas to be tackled, with resulting benefits for the visibility of historic features and understanding of historic landscape character, as well as cost-effective natural environment benefits. Mechanical treatments should be restricted to areas with no known sensitive archaeological remains, however, as tractors and flails could easily cause damage or disturbance.

#### **Root grubbing**

Roots should not be grubbed out on areas of known archaeological remains. In areas where there is a high incidence of historic remains (including much of the rough land in west Cornwall) grubbing should ideally only be done after the site has been checked to ensure that archaeology which may be damaged by the operation is not present.

#### **Spraying**

Manual spraying might be considered an appropriate technique for vegetation reduction on small-scale operations where there is a risk to known archaeological remains from carrier vehicles, if it can be established in advance that no adverse impact on the natural environment and ecology would result.

#### **Fire**

Burning is often seen as the main 'traditional' method of scrub reduction on heathland, but in the past grazing and fuel gathering would have kept vegetation low, and burning would have been seen as destructive of a valuable resource; though there may have been times when some was undertaken to refresh grazing or clear ground for temporary cultivation. Use of fire within modern heathland management can sometimes be useful (to remove build-up of vegetation litter or create areas of bare ground, for example). However, it does not kill bracken rhizomes, and demands careful planning and control to avoid damage to historic features and areas that it was not intended to treat. Where scrub is dense, with a significant layer of surface 'litter', fires may burn so intensely that there is damage to surface features (for example, heat spalling of stones), or the surface is opened up to erosion. Peaty soils and root mats can themselves burn, lowering the surface level of the soil, creating a further risk of erosion and exposing archaeological remains which were previously protected within the soil. Where firebreaks are required on heathland they can be positioned in order to increase the visibility of archaeological features.

#### **Disposal of removed vegetation**

Where scrub is to be cut the options of burning the resulting material on site, chipping and removing or mulching and removing, must be carefully considered: a balance must be struck between potential damage to features and surfaces from tractor movements across possibly sensitive areas, plus the costs of disposing of the chip or mulch, as against the possible impact of burning material on site. Brash fires should be carefully sited, well away from known archaeological features, and kept small. It is preferable to re-use established bonfire sites where reasonably possible so that damage is not multiplied across an area. Sheets of corrugated iron have been used successfully as bases for fires and should be considered near archaeological sites where there is the possibility of buried remains.

#### **16.2.4 Vegetation control; bracken reduction**

Recent research in Scotland (Rees and Mills 1999), on Dartmoor (Gerrard 2002), and more recently at the Bronze Age settlement at Bosiliack, to the northeast of Lanyon Quoit (Jones 2012), has shown the very severe impact which bracken has on buried archaeological deposits. Buried features such as the floor deposits in prehistoric roundhouses can be badly disturbed and effectively destroyed for archaeological purposes by the development of a dense mat of rhizomes. Bracken is most often treated by spraying and this might be preferable to mechanical methods such as rolling or flailing, where the presence of mechanical devices and tractors may itself be damaging to surface remains. However, bracken spraying can be a problem for archaeological and ecological interest where it is carried out on steep slopes or thin soils. Total removal of the bracken canopy can result in bare soil which is quickly eroded. An alternative approach may be preferable on steep slopes, thin soils, loose soils such as sand and where there is no vegetation layer below the bracken. In some locations of this kind control by hand or machine may be preferable.

#### **16.2.5 Habitat creation; pools**

Liddens (from Cornish lyn, 'pool') and fowling pools are historic features of some areas of rough ground, particularly around southwest Penwith, and many areas of upland rough ground preserve the remains of water management systems related to streamworking, mining, ore processing and other industrial activities. For obvious topographic and water supply reasons, the same or adjacent sites may be attractive for creating new open water features. Where such features are proposed, care should be taken that the remains of earlier structures, together with associated components such as leats, dams, sluices, hides, etc., are not damaged or obscured. Where it is desired to reinstate a historic feature such as a fowling pool, archaeological and environmental assessment, including surveys/recording, should take place prior to any works being undertaken; a watching brief on the work may also be appropriate to record any archaeological features or deposits which are exposed. Springs and watercourses within rough ground are likely to have been the focus for human activity over a long period and any actions having an impact on these should be considered in terms of their possible archaeological implications.

#### **16.2.6 Countering disturbance or erosion**

Animal burrowing in archaeological sites can disturb buried deposits and should be discouraged (within the relevant legislation) where it may affect important remains. Poaching and erosion of surfaces around standing features caused by animals using them as shelter or as scratching aids may damage sub-surface deposits and can also destabilise the adjacent structures. This is most often a consequence of over stocking but can be made worse by visitor erosion at particular 'honeypot' sites such as standing stones or stone circles. Potential counter-measures include reductions in stocking levels, stock exclusion and, in extreme cases, creating protective surfaces within the erosion hollows.

As with animals, the concentration of erosion in particular places arising from large numbers of visitors can be damaging to surfaces and the stability of monuments. Seeking co-operation from visitors through appropriate signage may have an effect but other measures such as temporary barriers or covering eroded areas with pegged down cut blackthorn, furze, etc., to enable vegetation to regenerate may also be appropriate. In some instances, however, repairs to erosion hollows will be necessary to resist further stock and visitor damage, protect buried archaeological layers and stabilise the adjacent structure. For monuments such as standing stones, stone circles and stone crosses, this has been successfully achieved through careful removal of loose material from the eroded area and infilling with a layer of carefully set stones, sand and rab prior to re-turfing. Dispersal of visitors through the opening up of scrub where this restricts access, and by the provision of trails, can also have a beneficial effect.

**Note:** *for works of this kind it is essential that archaeological advice is taken at the planning stage and that appropriate archaeological recording is carried out. For*

*Scheduled sites, Scheduled Monument Consent may be required prior to any works and consultation with the HE HARPO is advised.*

#### **16.2.7 Access and interpretation**

Increased access to heathland is usually welcome because of the benefits for visitor understanding and appreciation. At the same time, increases in access may place greater pressure on archaeological resources, damage ecological interests and have an impact on the tranquillity and remoteness which are crucial elements of the historic character of most heathland landscapes. There may also be increases in associated management costs: maintaining and expanding paths, providing parking, providing interpretation, etc. Increases in access may potentially require re-routing of some paths to avoid damage to known archaeological features.

#### **Health and safety**

Many heathland areas accommodate remains of former mines and quarries. Where access is to be increased it is strongly advisable that a survey is carried out to assess potential health and safety issues and identify appropriate measures.

#### **Reducing access**

Heathland is generally perceived as having open access (even where legally this may not be the case). Restrictions on access are unlikely to gain public acceptance other than where temporarily required to allow eroded areas to recover or to minimise disturbance during nesting/breeding seasons. Reductions may be achieved through signage and temporary barriers, or by pegging cut vegetation such as furze and blackthorn over areas to be protected. Temporary closures of parking areas may also be effective in reducing numbers of visitors.

#### **Off-road vehicles**

Uncontrolled use of rough ground by 4-wheel drive vehicles, motorbikes and quad bikes is likely to cause damage to archaeological and historic features and to natural habitats. It also often has a visual impact through scarring of the ground surface and reduces tranquillity and the potential for quiet enjoyment. Signs explaining the potential for damage and requesting that off-road vehicles do not use heathland areas may have some effect but physical barriers at access points may also be required. Use of rough ground for such activities is often unlawful and the involvement of the police should be considered.

#### **Horse riding**

Horse riding should be discouraged over known archaeological sites, including the relatively slight features often found on open rough ground such as clearance cairns and prehistoric field boundaries, because of the potential for damage. Frequent horse traffic on paths can cut up surfaces and produce significant erosion and hollowing; where this may have an impact on adjacent archaeology it should be carefully monitored and alternative routes provided if necessary. Alternatively, it may be necessary to restrict access or to repair erosion hollows and install new surfaces.

**Management guidance and indicators for success are also included in the HLS agreement for Penare Farm (AG00462831, part 3).**

### **16.3 Guidance on erosion repair of archaeological earthworks**

#### **16.3.1 Extracted from Streeton (1994)**

Intervention in managing the repair and reinstatement of archaeological earthworks can vary in scale from simple and largely preventative repair of small erosion scars through to extensive reinstatement intended to stabilise an earthwork and protect against significant losses of archaeological evidence. The need for reinstatement arises when active erosion is deep enough to degrade the contours of a monument, with



priority for action accorded to instances where identifiable archaeological features are at risk.

Principles of repair applied to the conservation of historic buildings and relevant to the repair and reinstatement of field monuments include:

- Avoiding unnecessary damage
- Adopting proven techniques
- Truth to materials
- The restoration of lost features

#### **Avoiding unnecessary damage**

The avoidance of damage presupposes that sources of material for reinstatement will safeguard against damaging interference with primary archaeological deposits which are themselves intended for preservation. Material might be salvaged in exceptional circumstances from identifiable scree associated with the monument itself; alternatively materials will be obtained from appropriate sources away from the areas of archaeological interest. The assumption is also made that, where practicable, repair techniques should avoid penetration of undamaged and hitherto undisturbed material within the earthwork.

#### **Adopting proven techniques**

Repair techniques should match or be compatible with existing materials and methods of construction. For the majority of repairs and reinstatements on ancient earthworks, appropriate methods will include the application of traditional techniques; the choice of local soils and compatible seed mixes and the specification of biodegradable materials for reinforcement. Intervention can be minimised by the application of laid turves, or the choice of biodegradable reinforcement in the form of concealed timber retaining boards, soil filled sacks and jute netting for stabilising exposed surfaces.

#### **'Truth of materials'**

This issue raises matters of archaeological principle relevant to the wider philosophy of conserving field monuments. Should synthetic materials and composites be introduced to the archaeological record and to what extent should there be a conscious effort to distinguish repairs from the undisturbed composition of a monument? By analogy with historic buildings conservation the introduction of new materials may be permissible where these are regarded as an essential and unavoidable means of preservation. New repairs should be apparent within the stratigraphy of the site but the insertion of a 'signature lens' (e.g. sand) of distinctive material at the bottom of the infill would be clear to excavators as an introduced layer. The re-exposure of this layer would also be legible to those monitoring the condition of a monument that it was again vulnerable to deterioration.

#### **Restoration of lost features**

There is a consideration as to the extent of intervention and repair to monument reinstatement. Should minimum standards of intervention be applied only so far as necessary to protect and stabilise vulnerable areas or should attempts be made to restore the appearance of the monument? In practice, safeguards to visual amenity are best assured by truth to materials rather than by overzealous commitment to the faithful replication of what are arbitrary surviving profiles.

## **16.4 Guidance on boundary repairs under HLS Capital Items Specifications**

### **16.4.1 Earth bank restoration**

The earth bank must be repaired according to the style and custom of the area.

Repair or restoration work on a bank with a hedge must not be carried out between 1 March and 31 July, the bird-nesting season.

Settlement must be allowed at each stage to stabilise the batter of the bank. The batter must be sufficient to ensure the bank is stable. The bank may be box shaped, 'A' shaped or concave.

Where the bank is faced with turves, take the turves up to the full height of the bank and finish off with loose soil or turf across the top.

Any earth fill brought in must come from a specified source and be agreed with your Natural England contact.

The bottom of the bank must be cast up in accordance with both good agricultural practice and local custom.

#### **Public Rights of Way**

Where the restored earth bank is crossed by a Public Right of Way, any stiles and gates must be restored to their original construction.

#### **Disposal of Material**

All surplus earth fill should be removed from site on completion of the work and the adjacent ground restored.

Restored earth banks must be maintained in good condition for the life of the agreement.

#### **16.4.2 Casting Up Supplement - Hedgebank Options Specification**

This supplement supports the use of machinery to move soil which has slipped from the bank due to erosion.

The use of machinery must not damage any important sites for wildlife or features of archaeological or historic interest.

Restoration work associated with this supplement must be completed to the relevant specification.

#### **16.4.3 Stone Faced Hedgebank Repair or Restoration Specification**

##### **General**

Restore the stone-faced hedgebank according to the style and custom of the local area. If the bank has a hedge, do not carry out work between 1 March and 31 July, the bird-nesting season.

Where double-faced, the hedge bank should taper evenly on both sides to the top. It should be at least 1.3m high and 1.3m wide at the base. The top width should be between 600 - 800mm, depending on the size and type of stone used and the local style.

Major rebuilding of the wall using suitable stone should take place from foundation level, where necessary, but the foundation stones must not be moved unless specified and agreed with your Natural England contact.

Dismantling of existing structures back to sound construction must be done by hand and with minimal disturbance to all wildlife, particularly breeding and hibernating animals. Stones must be separated from soil and other debris and sorted for re-use.

Stone must be replaced and laid in regular courses or randomly depending on the local style. A sound wall of even height and line should be constructed to tie in with adjacent hedge banks.

Where earth infill is required, it must be compacted and tamped down in layers to tie in with the existing bank. Any soil brought in must come from a source agreed with your Natural England contact.

##### **Stone brought in**

Imported stone should match the type, size and style traditional to the area. The source of stone should be agreed with your Natural England contact. Hauling stone must be done when ground conditions are firm enough to prevent damage to adjacent fields.

**Disposal of material**

All surplus earth fill and stones should be removed from site on completion of the work and the adjacent ground restored.

**Public Rights of Way**

Where the repaired or restored bank is crossed by a Public Right of Way, any stiles and gates must be restored to their original construction. Other features, such as creep holes must be restored.

The restored hedgebank should be maintained in good condition for the lifetime of the agreement.