



# Sea Wall, Kimmeridge Bay, Dorset

## Assessment of Heritage Impact of Proposed Works



Report No. 53382/1/1

September 2012

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September 2012

**Client:** Smedmore Estate

**Agent:** Chichesters Land Agents, 33 ~West Borough, Wimborne, BH21 1LT

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### Document Quality Control

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## Project Report Summary Page

Project Details			
<b>OASIS Reference</b>	terraina1-134078		
<b>Project Title</b>	Sea Wall, Kimmeridge Bay, Dorset		
<b>Short Description of Project</b>	A new sea wall to protect a boathouse on Kimmeridge Bay is proposed. This lies within an area of important late 16th and 17th century alum and glass manufacture, with associated hards and piers and 19- century shale exploitation works which are protected as a scheduled monument. The new sea wall lies the area close to the probable location of the earliest alum works and glass works adjacent to a large hard which was destroyed by storms in the mid 18- century. The small scale of the works and its position on the edge of the beach means that it is likely to have only a moderately adverse effect on the archaeological resource.		
<b>Project Dates</b>	Start: 10-09-2012	End: 18-09-2012	
<b>Previous/Future Work</b>	No/Yes		
<b>Project Code</b>	53382		
<b>Monument Type and Period</b>	Hard (post-medieval); Alum Works? (post-medieval); Glassmaking Site? (post-medieval)		
<b>Significant Finds</b>	None		
Project Location			
<b>County/District/Parish</b>	Dorset/ Purbeck/Kimmeridge		
<b>Site Address</b>	Adjoining the slipway, Kimmeridge Bay, Wareham, BH20 5PH		
<b>Site Coordinates</b>	SY 9089 7880		
<b>Site Area</b>			
<b>Height OD</b>			
Project Creators			
<b>Organisation</b>	Terrain Archaeology		
<b>Project Brief Originator</b>	English Heritage		
<b>Project Design Originator</b>	Terrain Archaeology		
<b>Project Supervisor</b>	Peter Bellamy		
<b>Project Manager</b>	Peter Bellamy		
<b>Sponsor or Funding Body</b>	West Dorset District Council		
Project Archive			
<b>Archive Type</b>	<b>Physical</b>	<b>Digital</b>	<b>Paper</b>
<b>Location/Accession No</b>	None		
<b>Contents</b>			

# Sea Wall, Kimmeridge Bay, Dorset

## Assessment of Heritage Impact of Proposed Works

### 1. Introduction

#### 1.1 Project Introduction

Terrain Archaeology has been commissioned by Smedmore Estate, through their agents, Chichester Land Agents, to undertake a heritage impact assessment of the proposed works to rebuild a sea wall adjacent to the slipway on Kimmeridge Bay.

The proposed works have received a grant of planning permission from Purbeck District Council, the Local Authority. However, the proposed works lie within the area of a Scheduled Monument No. 29096 *Alum works, other multi-period industrial remains and an associated group of jetties and breakwaters, Kimmeridge Bay* (Figure 1) and will require Scheduled Monument Consent (SMC). English Heritage have been consulted and have indicated that they require additional information on the impact of the works on the heritage assets of the Scheduled Monument, before they can consider issuing consent. This document is designed to address this issue.

#### 1.2 Planning Conditions

There is one Condition relating to archaeology in the granting of approval of Planning Application No. 6/2011/0517 by Purbeck District Council, the Local Planning Authority.

CONDITION 3 – No ground works shall take place until a programme of archaeological work has been submitted to and agreed in writing by the Council. The programme shall cover archaeological fieldwork together with post-excavation work and publication of the results. The works shall then be carried out in accordance with the approved programme.

Reason: The area is of archaeological potential and it is important that any archaeological features are protected and not harmed by the works and any finds are properly recorded.

#### 1.3 Scope of Report

This report is limited to an assessment of the impact on the potential archaeological resource of the proposed development groundworks. It is not intended to provide a full archaeological description of the site and its surrounding area.

### 2. The Site

#### 2.1 Location

The site is located on foreshore of the eastern side of Kimmeridge Bay adjacent to the slipway and the boathouses, at SY 9089 7880.

#### 2.2 Geology

The underlying bedrock geology is mapped as Jurassic Kimmeridge Clay Formation mudstones. No superficial geology is recorded (<http://mapapps.bgs.ac.uk/geologyofbritain/home.html>)

#### 2.3 Designations

**Conservation Areas:** The site does not lie within a Conservation Area.

**Designated Heritage Assets:** The site lies within Scheduled Monument No. 29096 *Alum works, other multi-period industrial remains and an associated group of jetties and breakwaters, Kimmeridge Bay*. This monument includes an array of heritage assets including an Early Iron Age and Roman saltworking site, possible remains of an alum works, two phases of glass works, a post-medieval salt works, shale quarries, a series of jetties and breakwaters and WW2 anti-tank dragon's teeth.

### 3. Proposed Development

The proposed development is to reinstate a sea wall in front of a boathouse that collapsed in bad weather in 1989/1990. A nine metre length of wall will be constructed of concrete blocks faced in Purbeck stone to about one metre height on a foundation 600 mm wide and 500 mm deep. Boulders will be placed in front of the wall to form a slope from the boathouse access to the sea. (Figure 2)

### 4. Aims and Objectives

The aims of the assessment are:

- to assess the significance of the heritage assets of West Bay harbour
- to assess the impact of the proposed works on the heritage assets
- to provide data to enable any required mitigation.

### 5. Methods

No Written Scheme of Investigation was produced for this work.

The assessment was undertaken broadly following the Institute for Archaeologists Standard and guidance for archaeological desk-based assessment (2008).

The assessment has involved detailed documentary work sufficient to establish the historic development of the Site and its immediate context and to allow an assessment of the historic topography, in relation to present day ground levels. It has included consultation of the major relevant archaeological databases (Dorset County Council Historic Environment Record and the National Monuments Record) to collate information on known archaeological and historical sites, Listed Buildings, Historic Parks and Gardens, and Scheduled Ancient Monuments.

A literature search of readily accessible published archaeological information, including appropriate national and local archaeological journals, together with a search of the on-line holdings of the Archaeology Data Service (<http://ads.ahds.ac.uk/catalogue>), the Heritage Gateway ([www.heritagegateway.org.uk](http://www.heritagegateway.org.uk)) and the MAGIC website ([www.magic.gov.uk](http://www.magic.gov.uk)), has been undertaken to supplement and amplify the data from the major databases listed above.

Ordnance Survey maps, other historic maps, photographs, antiquarian books and other documentary sources, as available and appropriate, have been consulted at the Dorset History Centre and Dorset County Museum.

The significance of the heritage assets was assessed following the guidance set out in PPS5 *Planning for the Historic Environment: Historic Environment Planning Practice Guide* (March 2010). The approach to assessing the significance of archaeological remains used in this assessment follows Startin (1993). The designation of local, regional, national or international significance follows the IfA *Standard and Guidance for archaeological desk-based assessment*.

The significance of the impacts of the development upon heritage assets was assessed using the criteria set out in the DfT publication *Transport Analysis Guidance The Heritage of Historic Resources Sub-Objective* (TAG Unit 3.3.9) (June 2003). These criteria are summarised in Appendix 1.

A walk-over survey was undertaken on 17 September 2012, to assess the impact of the works on the heritage assets and their setting on the ground.

## 6. Baseline data on Heritage Assets

### 6.1 Archaeological and Historical Background

Known earlier prehistoric remains around Kimmeridge Bay are limited to a single Neolithic polished flint axe, found on the east side of Kimmeridge Bay, near to the slipway, prior to 1950. Iron Age and Roman activity is relatively well attested locally however, mainly comprising evidence for shale working and salt production. Contemporary occupation sites have been identified southwest of Swalland Farm (c. 1.6 km east of the site), on the slopes of Metherhills (c. 0.4 km to the northeast), and just to the west near Gaulter Gap (set above the central part of Kimmeridge Bay). The latter site is associated with a Roman cemetery. Medieval remains mainly comprise relict field systems and lynchet terraces, although settlements formerly existed at Little Kimmeridge, Chaldecots and Smedmore. There is evidence for saltworking dating both to the Early Iron Age and the Roman periods in the form of burnt shale deposits, briquetage, vesicular slag, distinctive handmade bricks and the remains of vessel containers (Farrar 1962).

The history of industrial exploitation of Kimmeridge Bay in the historic period begins with the attempts to manufacture alum using Kimmeridge shales in the sixteenth century. Documentary sources indicate that manufacture of alum at Kimmeridge began when Lord Mountjoy (who was already producing alum and copperas on his Canford Manor estate) and John Clavell (then the owner of the Smedmore Estate) experimented using local shale in about 1569, but it was Clavell's son, Sir William Clavell, who commenced production on a commercial scale c. 1605. This industry ran into legal difficulties however, as the Crown deemed the enterprise to be in breach of a previous monopoly issued by James I. After diversifying briefly into salt making, Clavell gained permission to recommence alum production, but came into conflict with the Crown once again, after which his plant was forcibly closed. A surviving document details the legal arguments Clavell presented hoping either to be granted production rights or to be or be recompensed for his work: He states that in the space of eight months he had built not only two alum houses but also a strong huge pier of stone, 100 ft long and 60 ft broad (Broadbent & Bellamy 2007). An inventory taken 1616(?) lists the contents of the two alum houses (WYL100/PO/8/VIII/4).

Clavell turned to glassmaking in 1615 and again in 1617-1623, using local shale as fuel. His glass house was located close to the quay where its remains have been excavated (Crossley 1987).

Exploitation of the shales at Kimmeridge recommenced in the 19th century. In 1848 the Bituminous Shale Company was formed and shale was shipped to works at Weymouth for the production of naphtha, varnish, lubricating grease, pitch paraffin wax and dyes, but it ran into patent problems and was wound up in 1854 (Hyland 1978, 213). Shortly afterwards a fertiliser manufactory near Wareham was established by Messrs Ferguson and Muschamp using the shales from Kimmeridge, but was short-lived. In 1858, Messrs Wanothrocht & Co obtained a contract to light the city of Paris with Kimmeridge gas. They converted the old fertiliser works at Wareham and extended the shale extraction at Kimmeridge by driving adits into the cliffs as well as constructing a stone pier and an iron jetty. Messrs Wanothrocht & Co were forced to abandon their enterprise in the light of cheaper oils from elsewhere. Subsequently the Wareham Oil and Candle Co exploited the shales but they too went out of business when the works caught fire. The last company to exploit the shales at Kimmeridge during the 19th century was the Sanitary Carbon Company formed in 1876 to make filters for the purification of sewerage but this too ended in 1890 (Hyland 1978; Mansel 2000, 24).

The precise location of Clavell's alum works is not known, but there are a number of features that have been previously linked with alum processing. A possible alum furnace was exposed in 1976, during building work at the public toilets in the upper car park and more recently investigated by PHHP (Trevarthen *et al.* 2010), and it has been noted by David Brachi that the stream originally flowing south of the furnace was artificially diverted north-westward into its present course, perhaps to control the flow of water and allow the washing of alum (Crossley 1987, 340). This stream was fed by a series of three ponds, which survive in front of the Coastguard Cottages (Trevarthen *et al.* 2011). Brachi also noted that the glass house appeared to be built in a former shale quarry, which may also have been associated with the alum works. A number of walls and stratified burnt deposits are eroding along the shoreline



nearby (see results below). Limited investigations of these deposits by AC Archaeology has taken place in 1996 and 1999 followed prevailing opinions and provisionally suggested they were associated with alum processing (Valentin 1997; McMahon 1999). There are stone structures visible on the beach, amongst which are the outlines of jetties and breakwaters. Some of these can be linked with 19th century shale mining activity, but others are earlier (Trevvarthen *et al.* 2011). On the quay itself there are exposures of further structures, probably relating to a cottage here as recorded on John Coles' 1720 map of Kimmeridge (DHC Ph910).

## 6.2 Previous Archaeological Fieldwork

In 1976 David Brachi partially excavated and recorded three furnaces that were discovered during the construction of a toilet block in the upper car park at Kimmeridge Bay (Brachi 2008). The furnaces were brick-built with iron firebars. No dating evidence was recovered nor any evidence for their precise function, but it has been suggested by Brachi that these were associated with alum production. The firing pits and flues of two of these furnaces were excavated by the Dorset Alum and Copperas Project in May 2009, which suggested that these furnaces might not have been used (Trevvarthen *et al.* 2010).

The site of the 1620 glassworks was excavated in 1981-2 by David Crossley (Crossley 1987).

In 1996, AC *archaeology* undertook some minor investigation of the possible 17<sup>th</sup> century saltworks at the southern end of the bay (Valentin 1997). In June 1999 two trial pits were excavated by AC *archaeology* prior to the construction of the new Marine Centre (McMahon 1999). These revealed substantial deposits of burnt shale waste with charcoal and burnt clay between 1.35 m to over 1.65 m in depth. These deposits could not be assigned to a particular industry, but no analysis of samples was undertaken. A later wall sealing the sequence of shale waste layers was thought to be a post-medieval or early modern hut or boathouse (McMahon 1999).

In February 2010, as part of the Dorset Alum and Copperas Industry Project, recorded the eroding shoreline exposures on the east side of Kimmeridge Bay (Trevvarthen *et al.* 2010). This revealed beach deposits reworked by low- energy fluvial processes, probably from the stream that runs into the northeast part of Kimmeridge Bay, before it was diverted into its present course (at some date prior to the late 1880s) at the base of the sequence. This suggests that this area initially lay on the foreshore, prior to being reclaimed. It was sealed by a deposit of burnt shale waste, which tailed out to the south suggesting it may have been related to activity to the north or northeast in the area of the excavated glassworks and the possible location of John Clavell's alum works (Crossley 1987). This shale waste deposit was sealed by a clay and stone wall structure, which may be part of the large hard or cobb destroyed in 1745 as recorded by Hutchins (1861, 556). This was sealed by dumps of redeposited burnt shale waste, probably derived from 19th century industrial activity (Trevvarthen *et al.* 2011).

## 6.3 Designated Heritage Assets

The designated heritage assets all form part of the Scheduled Monument No. 29096 *Alum works, other multi-period industrial remains and an associated group of jetties and breakwaters, Kimmeridge Bay* (Figure 1). Fifteen separate heritage assets have been recognised within the scheduled area but this does not reflect the true complexity of this area. The earliest recorded activity is the Early Iron Age and Roman salt working site in the south part of the scheduled area (Farrar 1962).

No.	Grid Ref.	HER Ref.	Period	Description	Date
1	SY90807872-SY90817870	6 012 041	Iron Age/ Roman	Salt working remains – burnt shale deposits, briquetage, vesicular slag, handmade bricks and remains of vessel containers.	Farrar 1962
2	SY90917871		Roman	Briquetage findspot	Valentin 1997
3	SY 909788	6 012 019	17th century	Glassworks	Crossley 1987
4	SY908787	6 012 003C	19th century	1883 tramway from the oil shale mines to the wooden pier on east side of Kimmeridge Bay.	RCHME (1970), 134
5	SY90797873	6 012 031	19th century	Wooden pier built in 1883 for shale mining. Now destroyed.	OS map 1891 OS map 1902

No.	Grid Ref.	HER Ref.	Period	Description	Date
6	SY90957880	6 012 024	World War II	12 anti-tank blocks	Defence of Britain database S0003130
7	SY90857875	6 012 025	World War II	Pillbox (Type FW3/25)	Defence of Britain database S0003127
8	SY90917871		Post-medieval	Structure	Valentin 1997
9	SY90917871		Post-medieval	Industrial Site - Salt works	A C Archaeology
10	SY90927880	WX3201	Post-medieval	Boathouse	McMahon 1999
11	SY90787871		Post-medieval	Possible site of 1617 pier and 1620 cannon platform	Brachi 2008
12	SY90937880		Post-medieval	Former shale quarry, possibly for alum works	Brachi 2008
13	SY90877880		Post-medieval	Remains of hard or cobb	Brachi 2008
14	SY90887879		Post-medieval/ 19- century	Tips and dumps of burnt shale waste	McMahon 1999; Trevarthen <i>et al.</i> 2011
15	SY90867876		Post-medieval	Wall remains, possibly from cottage shown on 1720 map	Trevarthen <i>et al.</i> 2011

Table 1: List of designated heritage assets

## 6.4 Undesignated Heritage Assets

There are four undesignated heritage assets within the study area (Figure 1), two of which have been previously recorded on the Dorset County Council Historic Environment Record (HER). These are the findspot of a Neolithic polished flint axe near the waterfall and not far from the slipway (DCC HER 6 012 040); and the tramway behind Hen Cliff, probably dating to 1848 (DCC HER 6 012 003B). Also, the 1883 tramway from the oil shale mines to the wooden pier on the east side of Kimmeridge Bay (DCC HER 6 012 003C) continues eastwards beyond the scheduled area. The other two heritage assets not yet recorded on the HER are the remains of several brick-built furnaces found under the toilet block in the upper car park and a series of ponds and dams adjacent to the Coastguard Cottages. The furnaces were initially investigated by David Brachi in 1976 (Crossley 1987) and subsequently partly investigated by an evaluation excavation by the Dorset Alum and Copperas Project in 2009 (Trevarthen *et al.* 2010) and which have now been destroyed by the construction of a new toilet block in 2011, unfortunately without any further archaeological recording. The series of three ponds with earthen dams were most probably constructed as part of William Clavell's alum works of 1613-17 (Trevarthen *et al.* 2011).

No.	Grid Ref.	HER Ref.	Period	Description	Date
16	SY909788	6 012 040	Neolithic	Polished flint axe found by N C Bright near waterfall	Map Calkin 1950
17	SY909787- 912782	6 012 003B	19th century	Tramway behind Hen Cliff. Probably the 1848 tramway constructed by the Bituminous Shale Company	Brachi 2008
18	SY908787		17th century?	Possible alum furnaces	Brachi 2008; Trevarthen <i>et al.</i> 2010
19	SY 909788		17th century?	Ponds, probably constructed for alum works	Trevarthen <i>et al.</i> 2011

Table 2: List of undesignated heritage assets

## 6.5 Cartographic Evidence

The earliest known map of the area is a survey of Kimmeridge by John Coles, dated 1720 in the Smedmore Estate archives. It shows the east side of the bay was occupied by a cottage with two paddocks. The shape of the shoreline at this point could suggest that there was a large hard or cobb still extant in this area, probably the same one as described by Hutchins as largely destroyed by a storm in 1745 (Hutchins 1861, 556). There is also a suggestion of other structures, some possibly destroyed at the southern end of this area. The map also clearly shows two of the three ponds still clearly extant.

The 1889 and 1901 Ordnance Survey 25-inch maps show a cluster of buildings and structures in the position of the present boathouse. These are different to the present arrangement of structures, but it is unclear whether the present boat house is represented. The 1954 OS map also shows these structures.

## 6.6 Aerial Photographic Evidence

A rapid search of the easily accessible aerial photographs was undertaken as part of this assessment. This included the 1947 RAF vertical aerial photographs and more recent vertical aerial photographs taken in 2002, 2005 and 2009, available to view through Dorset Explorer ([www.dorsetforyou.com](http://www.dorsetforyou.com)).

The aerial photographs do not show any additional detail or further heritage assets in the immediate vicinity of the proposed sea wall. The remains of an earlier sea wall were not visible on any of these photos.

## 6.7 Site Walk-over

The boathouse sits behind a thick stone wall forming the seaward side of the structure (Plate 1). This wall is in fact two walls butting each other, one forming part of the boathouse and the other part of a now ruined structure on the edge of the shore (Plate 3). There are the remains of a stone alignment running out into the bay below this wall (Plate 2). The area in front of the boathouse appears built up to form a roughly level metalled surface and the seaward side is protected by a line of large dolomite boulders (Plate 1).

# 7. Archaeological Potential

## 7.1 Outline of archaeological potential

The location of the proposed sea wall lies immediately to the north of an earlier hard, possibly of early post-medieval date. The stone wall of this hard is still visible running across the foreshore and continues inland beneath the boathouse, where at least two courses still survive (Plates 2-3). It is in the area of the outflow of the original course of the stream, which may have been used by the first alum works at Kimmeridge before later being diverted to flow further to the north. The evidence from the sea cliff exposure just to the south suggests that the remains of the stream bed was sealed by layers industrial waste probably relating to the first phase of alum production or the first phase of glass making at Kimmeridge in the late 16th century.

## 7.2 Assessment of significance of potential archaeological resource

The potential archaeological resource in the immediate vicinity of the proposed sea wall is part of a complex of industrial remains including glass works and alum works which are of **National Significance**. This is recognised through their designation as a Scheduled Monument.

# 8. Assessment of Disturbance

## 8.1 Previous Disturbance

The proposed development is to reinstate a sea wall in front of a boathouse that collapsed in bad weather in 1989/1990. However, there is no surface trace of the wall visible at the present day (Plate 1) and it is not shown on any maps, so its precise course and nature is not clear. Therefore, it is not possible to determine whether, and to what degree, there has been previous disturbance of this area as a result of an earlier wall. The site lies immediately north of the area of built up ground formed by dumps of burnt shale waste (Plate 2). It abuts the edge of an earlier hard, the remains of which underlie the boathouse and the bounding wall can be traced running across the foreshore (Plates 2-3). The shape of the land suggests there has been some erosion of deposits in this area by storm action but the current ground levels suggest that it is possible that the remains of the earliest industrial waste deposits may still survive in this area.

## 8.2 Potential Disturbance associated with construction of sea wall

The proposed sea wall will be nine metres long and will be built in a 600 mm wide footing, 500 mm deep. This footing will be constructed at a depth of over one metre below the existing ground levels to the east of the proposed

course of the wall, so that the top of the sea wall is at existing ground level. At this depth it will penetrate through any surviving archaeological deposits and into any surviving stream deposits or beach deposits below. The course of the proposed wall is partly across an area that has been scoured by the sea and is about 0.75 m lower than the ground levels outside the boat house. The southern end of the new wall could potentially disturb the remains of the stone wall of the hard that underlies the boathouse. It is also likely to disturb any surviving industrial deposits relating to the earliest alum works and/or glassworks.

## 9. Assessment of Impact of Proposed Groundworks on the Potential Archaeological Resource

### 9.1 Assessment Criteria

The significance of the impacts of the development upon the potential archaeological resource was assessed using the criteria set out in the DfT publication *Transport Analysis Guidance The Heritage of Historic Resources Sub-Objective (TAG Unit 3.3.9)* (June 2003). The scale of impact significance is set out in Appendix 1.

### 9.2 Impact of Sea Wall construction

The construction of the sea wall is likely to disturb the potential archaeological resource in this area, which is considered to be of national significance. However, the area of potential disturbance is quite small in relation to the area of the potential surviving archaeological resource, so taking this into account, the impact of the construction of the new sea wall is assessed as a **Moderate Adverse Effect**.

### 9.3 Impact of Sea Wall on Heritage Asset setting

The proposed construction using concrete block with Purbeck stone cladding is in contrast to the other structures, which are of timber and/or dolomite block construction. However, in its finished form the new sea wall will be largely hidden by dolomite boulders, so will look only a little different to the current arrangement of hard standing outside the boathouse with dolomite boulders in front. Hence the impact of the construction of the new sea wall is assessed as a **Negligible Effect**.

## 10. Mitigation of Impact to Heritage Assets

### 10.1 Archaeological Recording

The granting of planning permission includes a condition for archaeological observations and recording. This level of archaeological investigation seems appropriate for the small scale of the works and the scale of impact on the heritage assets. This recording will provide additional information on an area not previously investigated and will inform on the preservation of the heritage asset in this area.

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## Appendix 1: Scale of Impact Significance

Scale	Description
Major beneficial (positive) effect	<p>The proposals would:</p> <ul style="list-style-type: none"> <li>provide potential, through removal, relocation or substantial mitigation of very damaging or discordant existing impacts (direct or indirect) on the heritage, for very significant or extensive restoration or enhancement of characteristic features or their setting</li> <li>make a major contribution to government policies for the protection or enhancement of the heritage</li> <li>remove or successfully mitigate existing visual intrusion, such that the integrity, understanding and sense of place of a highly valued area, a group of sites or features of national or regional significance is re-established</li> </ul>
Moderate beneficial (positive) effect	<p>The proposals would:</p> <ul style="list-style-type: none"> <li>provide potential, through removal, relocation or mitigation of damaging or discordant existing impacts on the heritage, for significant restoration of characteristic features or their setting</li> <li>contribute to Regional or Local policies for the protection or enhancement of the heritage</li> <li>enhance existing historic landscape/townscape character through beneficial landscaping/mitigation and good design</li> </ul>
Minor beneficial (positive) effect	<p>The proposals:</p> <ul style="list-style-type: none"> <li>are not in conflict with national, regional or local policies for the protection of the heritage.</li> <li>restore or enhance the form, scale, pattern or sense of place of the heritage resource through good design and mitigation</li> <li>remove or mitigate visual intrusion (or other indirect impacts) into the context of locally or regionally significant heritage features, such that appreciation and understanding of them is improved</li> </ul>
Negligible effect	<p>The proposals:</p> <ul style="list-style-type: none"> <li>are not in conflict with, and do not contribute to policies for the protection or enhancement of the heritage</li> <li>maintain existing historic character in a landscape/townscape</li> <li>have no appreciable impacts, either positive or negative, on any known or potential heritage assets</li> <li>are a combination of slight positive and negative impacts, on locally significant aspects of the heritage</li> <li>do not result in severance or loss of integrity, context or understanding within a Historic landscape</li> </ul>
Minor adverse (negative) effect	<p>The proposals would:</p> <ul style="list-style-type: none"> <li>be in conflict with local policies for the protection of the local character of the heritage</li> <li>have a detrimental impact on the context of regionally or locally significant assets, such that their integrity is compromised and appreciation and understanding of them is diminished</li> <li>damage locally significant heritage features for which adequate mitigation can be specified</li> <li>not fit well with the form, scale, pattern and character of a historic landscape/ townscape/ area</li> </ul>

Scale	Description
Moderate adverse (negative) effect	<p>The proposals would:</p> <ul style="list-style-type: none"> <li>• be out of scale with, or at odds with the scale, pattern or form of the heritage resource</li> <li>• be intrusive in the setting (context), and will adversely affect the appreciation and understanding of the characteristic heritage resource</li> <li>• be in conflict with local or regional policies for the protection of the heritage</li> <li>• be damaging to nationally significant heritage assets, resulting in loss of features such that their integrity is compromised, but not destroyed, and adequate mitigation has been specified</li> <li>• be a major direct impact on regionally or locally significant heritage, resulting in loss of features such that their integrity is substantially compromised, but adequate mitigation can be specified</li> </ul>
Major adverse (negative) effect	<p>The proposals would:</p> <ul style="list-style-type: none"> <li>• have a major direct impact on nationally significant heritage assets such that they are lost or their integrity is severely damaged</li> <li>• have a moderate direct impact on or compromise the wider setting of multiple nationally or regionally significant heritage assets, such that the cumulative impact would seriously compromise the integrity of a related group or historic landscape/townscape</li> <li>• have a major direct impact on regional heritage assets, such that their integrity is lost and no adequate mitigation can be specified</li> <li>• be highly intrusive and would seriously damage the setting of the heritage resource, such that its context is seriously compromised and can no longer be appreciated or understood</li> <li>• be in serious conflict with government policy for the protection of the heritage, as set out in the NPPF</li> <li>• be strongly at variance with the form, scale and pattern of a historic landscape/townscape</li> </ul>

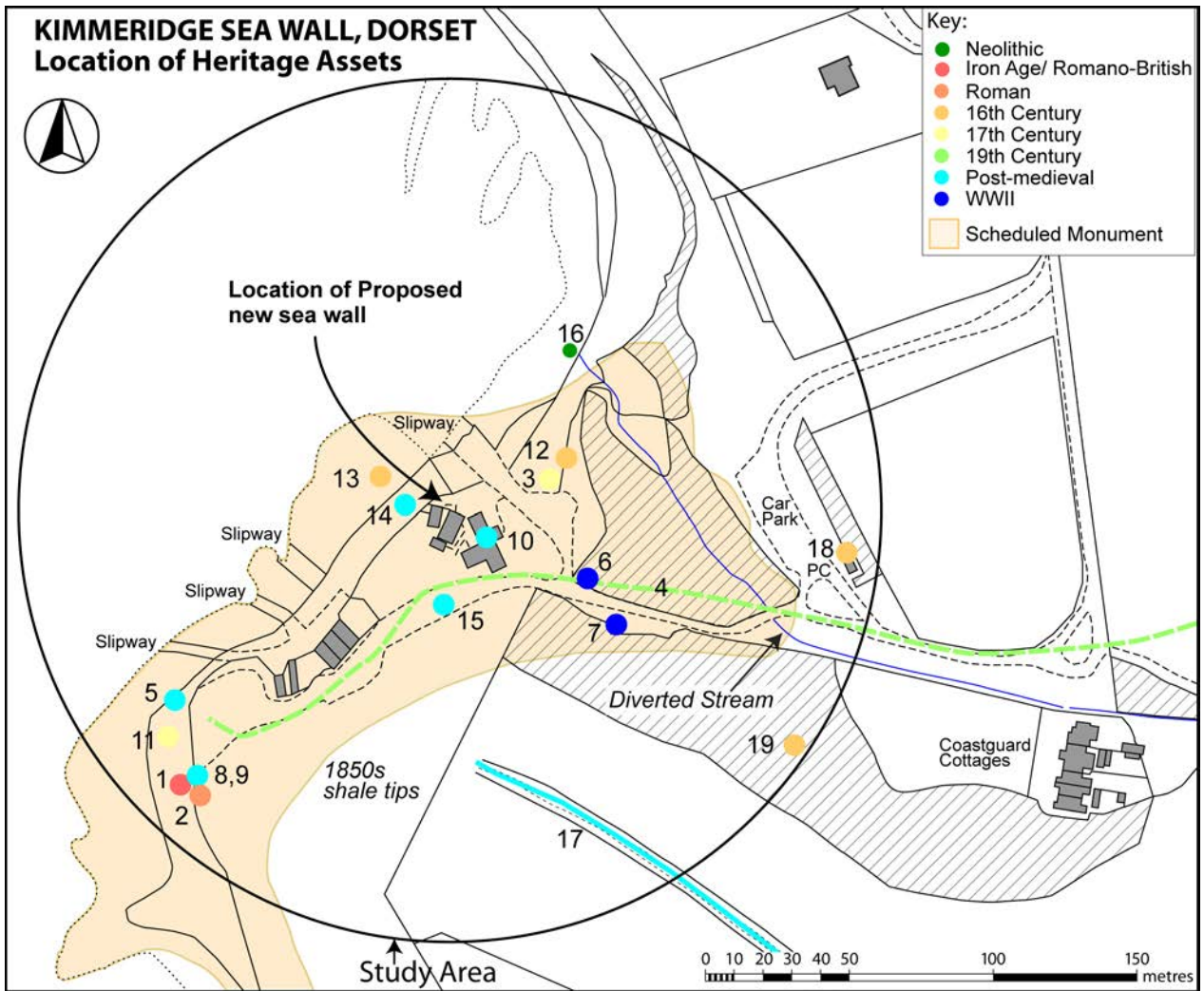


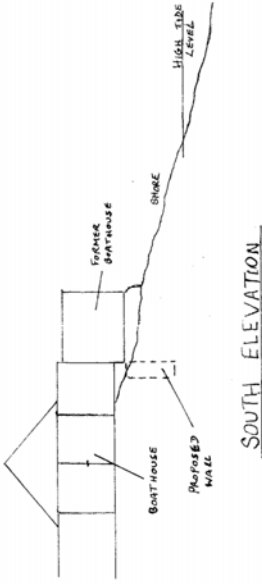
Figure 1: Location map showing study area and heritage assets.



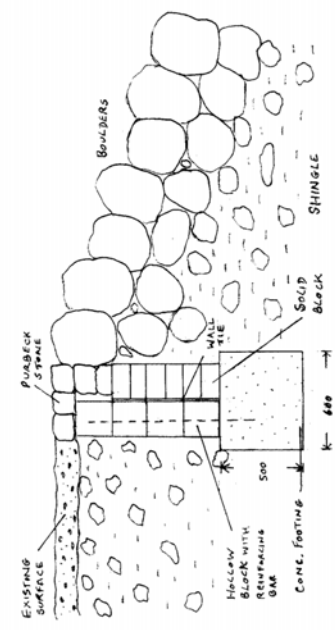
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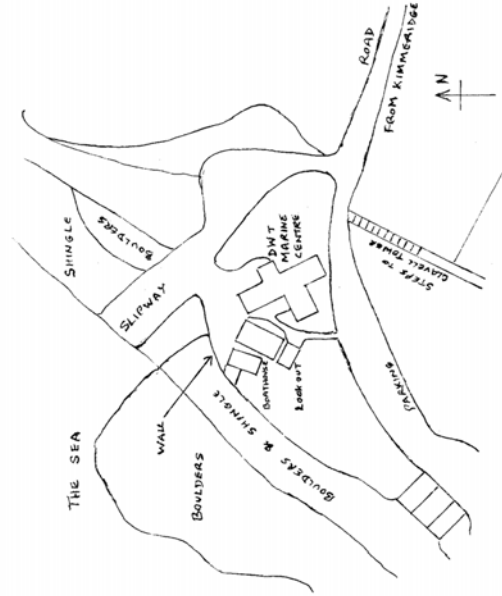
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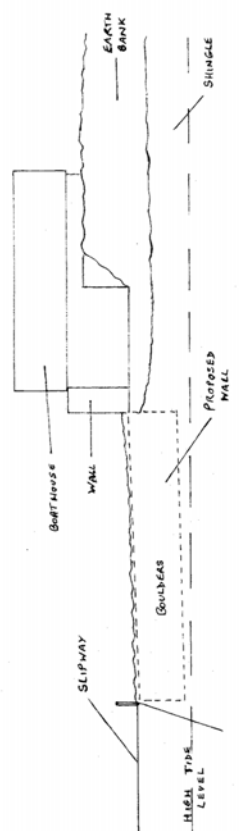
SOUTH ELEVATION



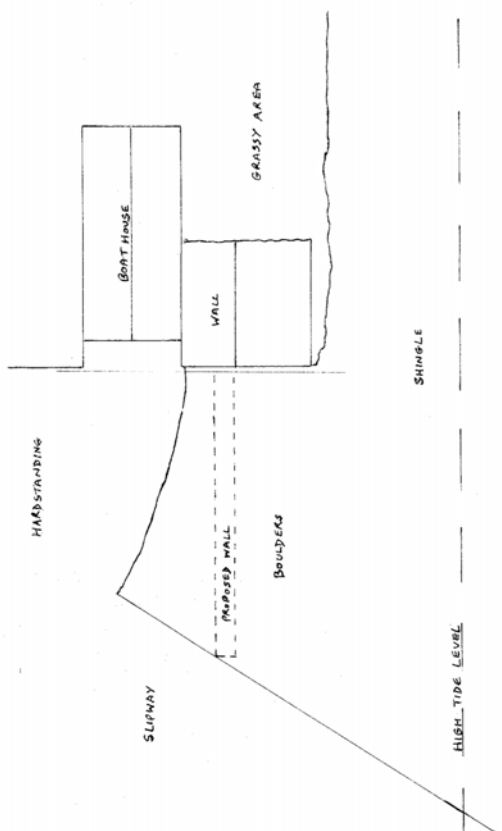
WALL SECTION 1:20



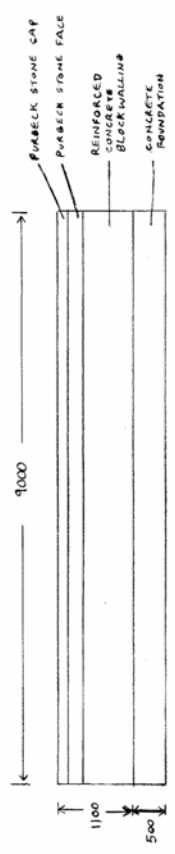
SITE PLAN 1:750



WEST ELEVATION



PLAN 1:100



THE WALL 1:50

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Figure 2: Details of proposed Sea Wall (not to scale).



*Plate 1: View of area of new sea wall looking south to boat house.*



*Plate 2: View from foreshore towards boathouse with alignment of former hard wall in foreground.*



*Plate 3: View of stone wall of boathouse and the remains of the former hard wall below to the right.*