

# **Vattenfall Wind Power Ltd**

## **Thanet Extension Offshore Wind Farm**

Appendix 56 to Deadline 6 Submission: Onshore  
Archaeology - Outline Written Scheme of  
Investigation

Relevant Examination Deadline: 6

Submitted by Vattenfall Wind Power Ltd

Date: May 2019

Revision E

Drafted By:	Vattenfall Wind Power Ltd
Approved By:	Daniel Bates
Date of Approval:	May 2019
Revision:	E

Revision A	Original document submitted to the Examining Authority
Revision B	Revised document submitted to the Examining Authority
Revision C	Revised document submitted to the Examining Authority
Revision D	Revised document submitted to the Examining Authority
Revision E	Revised document submitted to the Examining Authority

Copyright © 2019 Vattenfall Wind Power Ltd
All pre-existing rights retained



# THANET EXTENSION OFFSHORE WIND FARM

**Onshore Archaeology**

**Outline Written Scheme of Investigation**

Report Ref.: 116083.02  
May 2019



© Wessex Archaeology Ltd 2019, all rights reserved

Portway House  
Old Sarum Park  
Salisbury  
SP4 6EB

[www.wessexarch.co.uk](http://www.wessexarch.co.uk)

Wessex Archaeology Ltd is a company limited by guarantee registered in England, company number 1712772. It is also a Charity registered in England and Wales number 287786, and in Scotland, Scottish Charity number SC042630. Our registered office is at Portway House, Old Sarum Park, Salisbury, Wiltshire, SP4 6EB

#### Disclaimer

The material contained in this report was designed as an integral part of a report to an individual client and was prepared solely for the benefit of that client. The material contained in this report does not necessarily stand on its own and is not intended to nor should it be relied upon by any third party. To the fullest extent permitted by law Wessex Archaeology will not be liable by reason of breach of contract negligence or otherwise for any loss or damage (whether direct indirect or consequential) occasioned to any person acting or omitting to act or refraining from acting in reliance upon the material contained in this report arising from or connected with any error or omission in the material contained in the report. Loss or damage as referred to above shall be deemed to include, but is not limited to, any loss of profits or anticipated profits damage to reputation or goodwill loss of business or anticipated business damages costs expenses incurred or payable to any third party (in all cases whether direct indirect or consequential) or any other direct indirect or consequential loss or damage

## Document Information

Document title	Thanet Extension Offshore Wind Farm
Document subtitle	Onshore Archaeology: Outline Written Scheme of Investigation
Document reference	116083.02
Client name	GoBe Consultants Ltd
Address	34 Devon Square Newton Abbot TQ12 2HH
On behalf of	Vattenfall Wind Power Ltd
Address	First Floor 1 Tudor Street London England EC4Y 0AH
Planning authority	Kent County Council
Project management by	Abigail Bryant/ Mark Turner
Document compiled by	Mark Turner/Johanna Greaves
Graphics by	BW/JSG

## Quality Assurance

Issue & issue date	Status	Author	Approved by
1 04/03/2019	Internal First Draft	JSG/MDT	MDT
2 05/03/2019	External after legal	JSG/MDT	MDT
3 26/04/2019	External Draft after KCC comment	JSG/MDT	MDT
4			



## Contents

<b>1</b>	<b>INTRODUCTION .....</b>	<b>1</b>
1.1	Project background.....	1
1.2	Development description .....	2
1.3	Construction programme .....	2
1.4	Scope of document.....	2
<b>2</b>	<b>AIMS AND OBJECTIVES.....</b>	<b>2</b>
2.1	Aims .....	2
2.2	Objectives .....	2
2.3	Interface with Coastal and Marine Geoarchaeology .....	3
<b>3</b>	<b>ROLES, RESPONSIBILITIES AND COMMUNICATION .....</b>	<b>4</b>
3.1	Schedule.....	4
3.2	Retained Archaeologist.....	4
3.3	Archaeological Curator(s) .....	4
3.4	Archaeological Contractor(s).....	4
3.5	Responsibilities.....	5
3.6	Stakeholder Liaison .....	5
<b>4</b>	<b>ARCHAEOLOGICAL BASELINE SUMMARY.....</b>	<b>5</b>
4.1	Introduction.....	5
4.2	Previous archaeological work .....	5
4.3	Baseline Summary.....	6
4.4	Summary of known and potential archaeological assets within the Site .....	6
<b>5</b>	<b>METHOD STATEMENTS .....</b>	<b>9</b>
5.1	Onshore Zone.....	9
5.2	Intertidal zone .....	9
<b>6</b>	<b>INDICATIVE SCHEME OF WORKS.....</b>	<b>9</b>
6.1	Introduction.....	9
6.2	Stage 1 .....	10
6.3	Review point .....	11
6.4	Stage 2.....	11
6.5	Stages 3 and 4 .....	11
<b>7</b>	<b>POST-EXCAVATION METHODS AND REPORTING .....</b>	<b>13</b>
7.1	Stratigraphic evidence .....	13
7.2	Finds evidence .....	13
7.3	Environmental evidence.....	13
7.4	Reporting and dissemination.....	13
<b>8</b>	<b>ARCHIVE STORAGE AND CURATION.....</b>	<b>14</b>
8.1	Museum.....	14
8.2	Transfer of title.....	14
8.3	Preparation of archive.....	14
8.5	Security copy .....	14



---

<b>9</b>	<b>QUALITY PROCEDURES</b> .....	<b>15</b>
9.1	External quality standards.....	15
9.2	Personnel .....	15
9.3	Internal quality standards.....	15
9.4	Health and Safety .....	15
9.5	Insurance.....	16
	<b>REFERENCES</b> .....	<b>17</b>
	<b>APPENDICES</b> .....	<b>19</b>
	Appendix 1.....	19

**List of Figures**

**Figure 1** Outline for proposed onshore cable route and associated infrastructure.





# THANET EXTENSION ONSHORE WIND FARM

## Onshore Archaeology Written Scheme of Investigation Site Investigation Works-Watching Brief

### 1 INTRODUCTION

#### 1.1 Project background

- 1.1.1 Wessex Archaeology has been commissioned by GoBe Consultants Ltd (the Client), on behalf of Vattenfall Wind Power Ltd (VWPL) (the Developer), to produce an Outline Written Scheme of Investigation (WSI) with respect to potential archaeology resulting from the onshore works associated with the proposed Thanet Extension Offshore Wind Farm (Thanet Extension) (**Figure 1**).
- 1.1.2 The proposed development site comprises: the proposed Pegwell Bay onshore cable route and the location of its associated onshore infrastructure, which includes jointing bays and construction areas for Horizontal Directional Drilling (HDD)/ trenchless techniques where appropriate, as well as an associated onshore substation which is to be located at Richborough Port.
- 1.1.3 This Outline WSI sets out a staged approach to archaeological investigation and subsequent mitigation.
- 1.1.4 Stage 1 is a programme of archaeological work to further address the potential that the Development affect known or suspected archaeological assets and deposits of geoarchaeological/palaeoenvironmental interest, allowing their identification and characterisation. This stage will include the creation of a sub-surface deposit model (which will include consideration of SI works results as set out in a separate WSI). Where practicable and/or where their significance warrants, consideration can then be given to design amendment, or the agreement of specific detailed investigative or archaeological recording works (Stage 2). Fieldwork will be followed by an appropriate programme of assessment, analysis and reporting (Stage 3), with dissemination by means of a formal report or synthetic publication (which may integrate the results of offshore works as appropriate) as Stage 4.
- 1.1.5 It is intended that each stage in process will be subject to one or more separate detailed Written Schemes of Investigation, and the results of each stage will be used to inform subsequent stage, in terms of scope and methodology as appropriate. These specific WSIs may relate to specific locations/construction arrangements (e.g., characterising survival within the Country Park), or to specific objectives (such as establishing the deposit model through purposive geoarchaeological works).
- 1.1.6 An initial separate Written Scheme of Investigation has been prepared (and submitted) in respect of imminent Site Investigation works as well as a revised version based upon comments made by Kent County Council (Wessex Archaeology, 2018) (Wessex Archaeology, forthcoming). The results of the work are included in the overall approach as they will be used to inform further mitigation proposals, and if necessary the export cable route design and construction methodology. This work will effectively form part of the first stage of the archaeological programme as indicated above. The results will also be used



as part of a wider geoarchaeological investigation/assessment to be provided as part of the proposed mitigation and forms a part of the work proposed in this Outline Onshore WSI.

## **1.2 Development description**

1.2.1 The purpose of this work is to provide a route for export of the power generated by the proposed TEOW development and connect it into the Grid. The power will be exported via cable to be buried and or laid on the sea bed, making landfall in Pegwell Bay. The power will then run along buried cable to the substation, to be constructed at Richborough. The work will require jointing bays and construction areas for Horizontal Directional Drilling (HDD)/ trenchless techniques where appropriate, as well as an associated onshore substation.

## **1.3 Construction programme**

1.3.1 The construction programme has not been confirmed but will depend on the final project design and the construction strategy.

## **1.4 Scope of document**

1.4.1 This Outline WSI sets out the aims of any archaeological investigations on construction impacts where they do not coincide with previous areas of quarrying or landfilling (i.e., where no potential for deposits or remains of archaeological or geoarchaeological/palaeo-environmental interest exists). It will also detail the methodologies and standards which will be employed by the Developer and/ or their representative and Retained Archaeologist.

1.4.2 In format and content, it conforms to current best practice and to the guidance outlined in the various Standards and Guidance prepared by the Chartered Institute for Archaeologists' (CIfA) (CIfA, 2014a-g – see References), as applicable.

1.4.3 This document will be secured as part of the Development Control Order (DCO). Subsequent detailed WSIs which follow on as part of the process outlined in this document will be submitted to the Archaeological Curator(s), for approval, prior to the commencement of any investigative work.

## **2 AIMS AND OBJECTIVES**

### **2.1 Aims**

2.1.1 The aim of the Outline WSI is to set out a programme of archaeological works including evaluation and preservation where appropriate that mitigates the impacts of the development on onshore archaeology. Specifically, the process outlined in this WSI is aimed at identifying where heritage assets that warrant preservation in situ exist within the scheme area; to inform design measures to accommodate their preservation; to otherwise investigate and record other archaeological and geo-archaeological remains which will be impacted by the development works. This staged process is required to implement the archaeological mitigation set out in the ES (VWPL 2018) and fulfil the objectives set out below (Section 2.2).

### **2.2 Objectives**

2.2.1 The objectives of the programme of works addressed by this Outline WSI are as follows:

- to fulfil the requirements of Historic England and Kent County Council in respect of archaeological monitoring and mitigation works associated with this project;



- to establish and confirm the extent and depth of previous quarrying and landfill operations along the proposed cable route;
- to establish, characterise and model the deposit sequence (where not disturbed by modern activity) along the onshore cable route, and to see how this differs from or relates to the offshore sequence;
- to establish if possible whether deposits of geoarchaeological or palaeoenvironmental interest survive along the route, which may contribute to research goals in respect of the development of the Wantsum Channel and the coastal formation process at Pegwell Bay;
- to determine whether deposits of palaeoenvironmental (including waterlogged remains) or archaeological interest survive, which may contribute to research goals in respect of human activity in the location of the proposed works;
- to assist in the preparation of a “risk model”, which highlights where areas of specific geoarchaeological, palaeoenvironmental and archaeological interest may potentially survive along the route or under the proposed construction footprint;
- to ensure that any construction activities in areas determined to be of geoarchaeological, palaeoenvironmental or archaeological interest as a result of the preceding works are subject to appropriate archaeological input, review, recording and sampling;
- to establish the presence (and characterise if found) the WWI and WWII defences;
- to determine whether remains related to the Board Groin may survive where intersected by the cable route, and characterise any such remains;
- inform decision making process related to subsequent recording of encountered remains, or input to decisions regarding mitigation via design;
- to propose measures for the mitigation of unexpected archaeological and/or human remains encountered during further survey work or construction work associated with the project;
- to set out methodologies for post-construction monitoring; and
- to establish the reporting and archiving requirements for the archaeological works undertaken during pre-construction, construction, O&M and post-construction monitoring.

## **2.3 Interface with Coastal and Marine Geoarchaeology**

2.3.1 It is intended that an overall deposit model is produced by a geoarchaeologist (and building on the work carried out to support the application) which will illustrate the nature of the change in deposit types and structures as they transition between the coastal/marine environments to the onshore environment. The development of this model is intended to be an iterative process and updated with results of fieldwork and other investigations through the project.

It is intended that the archaeological work is presented as effectively one project, with marine and terrestrial teams being copied in to results, reports and communications, and involved in ongoing discussion including consultation with Kent County Council’s Archaeologist and the Historic England Marine Archaeology team and regional Scientific Advisor as appropriate. Consideration will be given to the desirability of publication and dissemination of results from the onshore and offshore works separately or jointly.



### **3 ROLES, RESPONSIBILITIES AND COMMUNICATION**

#### **3.1 Schedule**

3.1.1 Evaluation required to inform the final engineering design for this project must be undertaken, completed and reported on in time to inform the design. Subsequent works will be subject to an interim reporting process and result fed back into the mitigation scheme where possible to allow changes in methodologies/sampling strategies etc., for forthcoming works. A final schedule will be developed based on the final consented design and construction programme, once known.

#### **3.2 Retained Archaeologist**

3.2.1 The Developer and/ or their representative will commission a Retained Archaeologist during the Thanet Extension pre-construction, construction, O&M and post-construction phases. The Retained Archaeologist will oversee archaeological mitigation to provide consistency throughout the project, as required.

3.2.2 The Developer and/ or their representative will consult the Retained Archaeologist during the planning stages for any further survey work. The Retained Archaeologist will advise the Developer and/ or their representative and appropriate Contractor(s) on which elements warrant archaeological investigation. The Retained Archaeologist will advise the Developer and/ or their representative on necessary interaction with third parties with archaeological interest, and the Archaeological Curator(s).

3.2.3 The Retained Archaeologist will provide archaeological and geoarchaeological advice at the planning stages for any further surveys, such as geophysical, geotechnical, Unexploded Ordnance (UXO), ROV or diver. The Retained Archaeologist will produce archaeological method statements for further archaeological investigations and will ensure approval from Archaeological Curator(s).

3.2.4 The Retained Archaeologist will report any unexpected discoveries of archaeological material to the client's Nominated Contact.

3.2.5 The Retained Archaeologist will produce reports for approval by the Developer and/ or their representative and the Archaeological Curator(s). The Retained Archaeologist will also prepare project archives in consultation with the appropriate repository/ museum.

#### **3.3 Archaeological Curator(s)**

3.3.1 The Archaeological Curator for the onshore heritage environment is as follows.

3.3.2 Principal Archaeological Officer, KCC Heritage Conservation During the project, communication with the Archaeological Curator(s) will be undertaken via email and/ or telephone contact. Method statements for archaeological works will be submitted to the Archaeological Curator(s) for comment/ approval. After construction has been completed, the final archaeological report(s) or publication(s) for this project will be submitted to the Archaeological Curator(s).

#### **3.4 Archaeological Contractor(s)**

3.4.1 Archaeological Contractor(s) may be appointed to carry out specific packages of work, for example works beyond the in-house capabilities of the Retained Archaeologist, or additional works, as required. The Archaeological Contractor(s) may be appointed by the Developer or their appointed representatives (the Client, the Retained Archaeologist or other



contractors/ sub-contractors). In these instances, the Retained Archaeologist will have a coordinating role, ensuring works are specified, planned, undertaken and reported in accordance with this WSI, and undertaken by appropriately qualified and experienced personnel, with access to the required specialist knowledge (such as geoarchaeology) as may be required.

### **3.5 Responsibilities**

- 3.5.1 The responsibility for implementing the WSI rests with the Developer and their appointed representatives (including their Contractors).
- 3.5.2 The Developer and/ or their appointed representatives, or any archaeological body they may appoint to manage the implementation of the WSI, will seek curatorial advice from the Archaeological Curator(s) as appropriate.
- 3.5.3 Interaction with the Archaeological Curator(s) will be administered by the Developer and/ or their appointed representatives with advice where appropriate through the Retained Archaeologist. Should a new site be discovered during construction, the Archaeological Curator(s) will be contacted immediately.
- 3.5.4 The Developer and/ or their appointed representatives will ensure that Contractors make project personnel aware of this WSI.

### **3.6 Stakeholder Liaison**

- 3.6.1 The onshore and offshore archaeological resource should be approached seamlessly, particularly in areas of overlap. Therefore, to cover such areas, there should be liaison with stakeholders, including communication between the onshore and offshore Retained Archaeologists, the onshore and offshore archaeological curators (Historic England's regional Scientific Advisor and the Coastal and Marine team), academics, and other interested parties. This could be particularly important with regards to issues concerning the intertidal/ foreshore/ landfall area, to ensure a joined-up approach is consistently applied.

## **4 ARCHAEOLOGICAL BASELINE SUMMARY**

### **4.1 Introduction**

- 4.1.1 The results within this baseline are summarised from the ES (VWPL 2018) and associated annexes: *Thanet Extension Offshore Wind Farm: Marine Archaeological Desk-Based Assessment Technical Report* (Wessex Archaeology, 2017a) and *Thanet Extension Offshore Wind Farm: Archaeological Review of Geophysical and Geotechnical Data* (Wessex Archaeology, 2018).

### **4.2 Previous archaeological work**

- 4.2.1 Previous work has been concerned with the offshore stage of the programme and included a Written Scheme of Investigation (Wessex Archaeology, 2018) a marine archaeological Desk-Based Assessment technical report (Wessex Archaeology, 2017a) and an archaeological review of geophysical and geotechnical survey data (Wessex Archaeology, 2018), both of which were included as appendices in the Preliminary Environmental Information Report (PEIR) (VWPL, 2017), Volume 2: Chapter 13: Offshore Archaeology and Cultural Heritage. A desk-based assessment was also appended to the Onshore Cultural Heritage PEIR Chapter (VWPL, 2017), Volume 2 Chapter 7: Onshore Archaeology and Cultural Heritage.



4.2.2 Following further consultation, an Environmental Statement (ES) (VWPL, 2018) has been finalised and submitted support of Thanet Extension, and this WSI forms part of the embedded mitigation. Specific mention of site or activity related WSIs are incorporated into the ES at 7.11.5, 7.11.9 and 7.11.19 in respect of the coastal defences and features such as the Boarded Groin, 7.11.13 and 7.11.14 in respect of the archaeological interest in Pegwell Bay (including geoarchaeological interest as well as WWII defence structures) and at 7.11.14 and 7.11.21 for the onshore cable and associated infrastructure in the vicinity of Richborough and the proposed substation location.

### **4.3 Baseline Summary**

4.3.1 It is not proposed to repeat the detail within the ES here. The following presents a summary of key issues identified and addressed within that document.

4.3.2 A detailed list of reports, surveys and samples can be found in **Appendix 1**.

### **4.4 Summary of known and potential archaeological assets within the Site**

4.4.1 The proposed development site is located in a rich and diverse historic landscape that holds evidence for human activity from the earliest occupation of Britain to the present day.

4.4.2 The Isle of Thanet is situated on a promontory, which was formerly separated from north Kent by the Wantsum Channel. The land generally slopes westwards from the chalk cliffs along the North Sea coast and southwards to the low-lying marshland around Pegwell Bay. The south side of the Isle of Thanet features three low hills rising out of a flat plain of alluvium, including Ebbsfleet Hill and Cottington Hill. These hills formed a low peninsula known as the Ebbsfleet Peninsula during the active life of the Wantsum Channel (VWPL, 2018).

4.4.3 There is substantial evidence for prehistoric occupation of Thanet, particularly of the land on the margins of the wetland of the Wantsum Channel, which has recently been enhanced by substantial excavations along the line of the East Kent Access Road and at Weatherlees Hill Water Treatment Works. These excavations have also produced evidence for Romano-British activity around Ebbsfleet Hill, including potential evidence for the earliest Roman activity in England (VWPL, 2018).

4.4.4 The proximity of Thanet to continental Europe and the apparent suitability of the coast here for landing in the pre-modern period means that Ebbsfleet is also recorded as the initial landing place of the Anglo-Saxons in England and as the landing place of the Augustinian Mission. These claims are impossible to verify, and in the former case, almost certainly represent a literary simplification of a much more complex process but attest to the significance of the low-lying coast of Thanet as a point of entry to England. Remains of early medieval activity have been observed at Cliffsend and in the wider area outside the study area (VWPL, 2018).

4.4.5 During the medieval period, natural change in the landscape resulting from the gradual silting of the Wantsum Channel and the continuing development of the Deal Spit, Stonar Bank and Sandown Spit was accelerated by human reclamation of former marshland along the Wantsum Channel and the Thanet coast by sea walls and floodbanks, of which elements such as The Abbot's Wall and the Boarded Groin survive. This landscape change also affected the fortunes of the towns of the area, resulting in the abandonment of Stonar after it was attacked by the French and subsequently inundated by the sea in the 14th century. Geoarchaeological evidence for these coastal and anthropogenic processes is a key contributing element to the heritage significance of the area, providing a context for the



other archaeological remains and defining the nature and extent of human activity in the area (VWPL, 2018).

- 4.4.6 The area appears to have been primarily agricultural during the post-medieval period, with the gradual decline of Sandwich resulting from changes to navigation and the size of vessels used, and a harbour more suitable for deep water vessels was built at Ramsgate in the mid-17th century (VWPL, 2018).
- 4.4.7 During the First World War (WWI), the area became a major embarkation point for men and military materiel being transported to the Western Front, with the construction of a military port at Richborough. This site was reused during the Second World War (WWII), and the suitability of this part of the Kent Coast as an invasion site led to the construction of substantial anti-invasion and anti-aircraft defences (VWPL, 2018).
- 4.4.8 Modern development of the area has included the construction of the Richborough Power Station and other industrial development within the former Richborough Port site, the rapid expansion of the former hamlet of Cliffsend, and the construction of golf courses between Stonelees and Cliffsend. Landfill sites are recorded at Pegwell Bay and Stonelees Golf Centre (VWPL, 2018).
- 4.4.9 This modern development is likely to have caused substantial but localised disturbance, and the presence of archaeological remains of potentially high significance is likely in areas that have not previously been disturbed (VWPL, 2018).
- 4.4.10 Within the wider area, there are a number of designated heritage assets along the north and east Kent coast, many of which are of the highest significance, comprising mainly Grade I and II\* listed buildings, and scheduled monuments. These reflect the historic development of the area, and primarily relate to the interaction of the inhabitants of the area with the sea, whether for migration, fishing, trade, warfare or leisure (VWPL, 2018).
- 4.4.11 Given the above, it is considered that a watching brief on ground investigation works could reveal surviving buried archaeological remains in previously undisturbed areas (i.e., those areas *not* previously subject to quarrying and landfill, or demolition activities such as at Richborough substation site and in and adjacent to the Country Park) and (together with analysis of the borehole/test pit logs) inform an understanding of the deposit sequence and contribute to better understanding of coastal formation processes in Pegwell Bay, and further understanding of the evolution of the Wantsum Channel (VWPL, 2018). Undisturbed (or at least less disturbed) areas (within the redline Boundary) include Parcels 8, 13, 14 and possibly parts of Parcels 3, 4, and 5.

## 4.5 Key Issues

- 4.5.1 The ES identified four potential heritage assets, or groups of heritage assets, that may be present within the proposed cable route:
- Elements of WWII anti-invasion defences;
  - Elements of the former WWI and WWII military supply base at Richborough Port;
  - Elements of the Boarded Groin, a medieval flood defence/sea wall; and
  - Deposits of geoarchaeological interest which could inform study of the changing coastline of the Thanet Coast and Wantsum Channel.

### *WWII Anti-Invasion Defences*

- 4.5.2 Where elements of the WWII anti-invasion defences survive above-ground, they have been designated as a Grade II listed building (World War II anti-tank pillboxes and cylinders and associated pillbox at Pegwell Bay, NHLE 1413803). The location provided in the National Heritage List England (NHLE) for this asset is misleading, as it is a centroid point representing an extensive group of features which extend over several hundred metres to the north along Richborough Road and to the south along the sea wall in the nature reserve. It is likely that further remains of the anti-invasion defences survive, either concealed in the dense planting within the nature reserve, or below the ground surface; there are a number of concrete slabs of uncertain derivation or function within the nature reserve, and sections of steel tube, thought to be remnants of beach scaffolding, were observed in a watching brief on construction of the NemoLink onshore cable connection (Amec Foster Wheeler 2017). Irregular earthworks observed in the nature reserve may also reflect former military installations.

### *Richborough Port*

- 4.5.3 There are no visible survivals of structures associated with Richborough Port within the proposed cable connection route. While buried elements of these features may survive, they are likely to comprise scattered and variously disturbed elements of building foundations or military discard which are of limited significance.

### *The Boarded Groin*

- 4.5.4 The Boarded Groin was a sea defence/floodbank constructed during the 13th century to allow reclamation of land for grazing from the mouth of the Stour Estuary. The proposed cable connection crosses the line of the Boarded Groin within the area of the Country Park that was formerly landfill. It is not known whether the Boarded Groin survives below the landfill deposits, but it survives as a visible earthwork within St Augustine's Golf Course to the west of the proposed works and as a shallow bank within the nature reserve to the east of the proposed cable route.

### *Deposits of Geoarchaeological Interest*

- 4.5.5 The coastline of Thanet has historically been characterised by extreme mobility. This process of coastal change has had a profound effect on human settlement and activity in this area. During the Roman period, the mouth of the Stour Estuary was much wider than at present and appears to have contained a number of islands which provided sheltered anchorages for military and merchant shipping. There are at least two major Roman military installations within the Stour Estuary; at Richborough Castle and at Ebbsfleet Hill. During the Saxon period, Thanet remained an important point of entry to England. The Stour remained navigable with major ports at Sandwich and Stonar flourishing until the gradual accretion of silts and gravels in the estuary precluded navigation towards the end of the medieval period. While it is unlikely that discrete archaeological 'sites' are present, the deposit sequences that would be investigated by the proposed SI works (subject to a separate WSI) have the potential to hold significant information that would inform understanding of the context of these wider developments.
- 4.5.6 It is not anticipated that any near surface archaeological remains will survive within the Richborough Energy Park, where the construction, operation and demolition of the former power station will have removed any near-surface remains, but deposits of geoarchaeological significance may be present.





## **5 METHOD STATEMENTS**

### **5.1 Onshore Zone**

- 5.1.1 This Outline WSI provides for the implementation of appropriate archaeological works in respect of the proposed onshore cable route and substation etc. Techniques to be applied will be finalised once the final construction design is known, but may include watching briefs, purposive coring and other sampling techniques, formal set piece investigations and geophysical or other non-intrusive surveys. An indicative staged scheme is set out below (section 6), but individual elements may change in respect of detailed WSIs which follow from this process.
- 5.1.2 All works will be undertaken in accordance with the specific methodologies to be set out in Site Specific Written Schemes of Investigation to be agreed with Kent County Council and in compliance with the relevant standards outlined by the ClfA (ClfA, 2014a-g), excepting where they are superseded by statements made below.
- 5.1.3 Once individual WSIs has been approved by the Client and/or their representative, they will be submitted to the Archaeological Curator(s) for approval and will include provision for the relevant Archaeological Curator(s) to monitor the progress of the archaeological works, as appropriate, be that through site visits or meetings with the Developer, the Client, the Contractor(s), and/ or the Retained Archaeologist.

### **5.2 Intertidal zone**

- 5.2.1 Detail on appropriate investigation techniques will depend on the method selected. If any method for investigation is based on board or deployed from a barge or boat or involves divers, then this will be set out and detailed in a relevant method statement prepared as part of the Marine WSI requirements.
- 5.2.2 If the method is land based, such as watching brief at low tide, or test-pitting or trenching at the beach head, then this will be detailed in a site specific WSI falling under the remit of the process covered by this Onshore Outline WSI.
- 5.2.3 Any archaeologists working in the intertidal area at low tide should have relevant qualifications and experience in working in such environments, as well as the deposits and assemblages they may contain.
- 5.2.4 Selection of investigative or mitigation techniques will be made in consultation with each team, and KCC and HE specialists and curators as appropriate.

## **6 INDICATIVE SCHEME OF WORKS**

### **6.1 Introduction**

- 6.1.1 The following sets out an indicative scope of works, defined by Stages and referring to specific activity types and/or locations. It identifies where specific WSIs may be needed, indicates the expected scope of works and nature of required reporting. This is provided as a guide at this stage, as final sequencing of activities may vary.
- 6.1.2 The intent is that WSIs and subsequent reports are reviewed/agreed by KCC and HE, as well as shared with the relevant offshore counterparts to ensure a joined up approach is adopted where possible, with a view to a more complete understand of the coastal processes and their effect on human (archaeological and historic) activities in the



landscape, and prepare for the creation of an internally consistent final overall TEOW archive and report.

## **6.2 Stage 1**

6.2.1 This stage provides for works to further inform the proposed detailed archaeological mitigation (including design considerations/routing as well as scope and extent of archaeological recording works), through purposive survey and assessment.

### *Deposit Model and Geoarchaeological investigation*

6.2.2 A sub-surface deposit model for the onshore route will be created. This will link into the model for the offshore route to ensure a complete coverage for the project. The aim is to establish the potential presence of geoarchaeological and/or palaeoenvironmental deposits along the route, which might afford information of the coastal development processes with regard to how this impacted on human occupation of the area (and the potential for survival of artefacts and other remains of such occupation). Such remains and deposits may be under threat from deeper activities (drilling/boreholes, creation of access points/inspection pits etc.) as well as surface earthworks required by the development.

6.2.3 A specific aim will be to establish the extent (including depth) of former quarrying and landfill activities at and adjacent to the Country Park and inform on the potential for any (sub-surface) survival of sections of the Boarded Groin. The model will also consider “made-ground” depths at the substation site.

6.2.4 The model will use records of boreholes etc. previously undertaken in the area, well as those specifically undertaken as SI works for the Development and will include records of test-pits and purposive sampling undertaken for geoarchaeological investigation.

6.2.5 A specific geo-archaeological WSI will be prepared detailing the sources to be used and techniques to be applied to creation of this model. Details of specific or purposive investigation will be provided and reference made to the WSI for watching brief on SI works included. Details on how this process will reflect or integrate with similar work required as part of the Offshore programme will be included.

6.2.6 The results of the works will be used to inform subsequent decisions on sampling/recording etc, for specific works/locations subject to separate WSIs. Interim and detailed reporting phases will be identified.

6.2.7 It is intended that this work be designed and agreed at the earliest opportunity, in order that the works can be carried out and reported with a view to informing subsequent archaeological works decisions and input to detailed design as appropriate.

### *Survey*

6.2.8 Specific survey will be carried out in those sections of the Country Park and around Pegwell Bay along the proposed cable route to ensure that any remaining traces of WWII defences have been identified and appropriately recorded. Consideration will also be given to other potential archaeological remains etc. that may survive as earthworks or other features at the surface. Any such remains are likely to be damaged or destroyed by the cabling works and associated activities at the surface.

6.2.9 This will take the form of a formal walkover survey with levels of recording agreed with KCC, but to include locational and photographic/written records to allow finds to be characterised.



Locational details will include suspected extent of finds/features to allow for their avoidance and protection if possible (and to ensure appropriate recording if not).

- 6.2.10 This survey will be subject to a specific WSI and will be programmed early so that the results can be used to inform detailed design and routing, as well as consideration of significance with respect to the need to preserve or record such remains.
- 6.2.11 Where remains are suspected to exist, but are not visible at the surface, consideration will be given to the employment of intrusive or non-intrusive evaluation techniques (as part of the Stage 1 evaluation programme). The scope, extent and location of such works (if required) will be subject to a detailed WSI to be agreed with KCC.

### 6.3 Review point

- 6.3.1 The results generated by the works referred to above will be subject to agreed interim reporting, and KCC/HE will be consulted with a view to informing appropriate responses in the second Stage, as well as to inform design/routing decisions, leading to preservation in situ where warranted, or preservation by record as appropriate (works required for preservation by record to be undertaken as Stage 2).

### 6.4 Stage 2

- 6.4.1 This stage will consist of specific set pieces investigations where a requirement was identified in Stage 1 with regard to specific impact types or specific features/locations. Any such interventions will be subject to specific WSIs detailing fieldwork methods, sampling strategies and interim reporting. Where possible, agreed works will be carried out preconstruction, or as programmed within the construction period (depending on access arrangements etc.).
- 6.4.2 Any general watching brief and monitoring requirements will be set out in a specific WSI – this will include provision for temporary stoppages to allow sampling and recording as appropriate and specific reports required. Agreed works will be carried out during construction.
- 6.4.3 Any specific fencing or other protective measures will be subject to agreement via the WSIs above or in a specific document. Agreed works will be carried out preconstruction where possible.

### 6.5 Stages 3 and 4

- 6.5.1 These relate to post-fieldwork/post-construction (i.e., after completion of watching briefs etc.) assessment and analysis of finds/samples/records generated by fieldwork, as well as the subsequent archiving and publication proposals. Scope and extent will be agreed with KCC and HE at the relevant stages in a WSI, with consideration given to the potential for integration of the results of both onshore and offshore works to inform a synthetic overall publication of the TEOW archaeology. Further detail is included in section 7, but final extent and scope will be agreed.
- 6.5.2 An indicative summary of scope of proposed works at each stage is presented below in Table 1.

**Table 1** Summary Indicative WSI Stages and Locations

Stage	Location	Task	Output	Programme
-------	----------	------	--------	-----------



1	Routewide	Geoarchaeology work and Deposit Model	Deposit Model, geoarchaeological report, recommendations for sampling in subsequent events. Interim and final reports.	Preconstruction/SI works
	Pegwell Bay/Country Park	Walkover Survey and Evaluation	Survey and Evaluation Report identifying WWII defences (and other earthworks etc.), and whether there is any surface trace of Boarded Groin (or related earthworks/sea-defences) along proposed route Recommendations for recording/preservation. Interim and Final Reports.	Pre-design finalisation/Preconstruction
	Routewide	Watching Brief on SI	Watching Brief (inc. geoarch sampling) on SI and enabling works (results will be integrated with Geoarchaeological works above, and results to be used to inform deposit model etc, if not undertake as part of that programme)	Pre-design finalisation/Preconstruction
Review Point – review results of above works, consultation and input to design and/or subsequent archaeological programme as appropriate.				
2	Routewide	Secure/Fence off	Establish physical protections where (Surface) assets are agreed to be preserved in situ	Preconstruction
	Routewide	Watching Brief	On main earthmoving construction activities – scope and extent to be agreed	Construction
	Boarded Groin (if extant and at depth)	Detailed investigation	Record/sample remains	Preconstruction/Construction
	Other Specific Location to be agreed	Detailed investigation	At specific Locations, scope and extent to be agreed	Preconstruction/Construction
3	N/A	Assessment and analysis		Post-fieldwork
4	N/A	Publication, dissemination and Archive Deposition		Post-fieldwork



## **7 POST-EXCAVATION METHODS AND REPORTING**

### **7.1 Stratigraphic evidence**

- 7.1.1 All written and drawn records from the proposed works will be collated, checked for consistency and stratigraphic relationships. Key data will usually be transcribed into an Access database, which can be updated during any further analysis. The results will be preliminary phased using stratigraphic relationships and the spot dating from finds, particularly pottery.
- 7.1.2 A written description will be made of all archaeologically significant features and deposits that were exposed and excavated, ordered by period and/or feature group as appropriate. This will be informed by reference to the test pit logs and drilling logs provided by the Site Investigation works Contractor.

### **7.2 Finds evidence**

- 7.2.1 All retained finds will, as a minimum, be washed, weighed, counted and identified. They will then be recorded to a level appropriate to the aims and objectives of the watching brief. The report will include a table of finds by feature/context.
- 7.2.2 Metalwork from stratified contexts will be X-rayed and, along with other fragile and delicate materials, stored in a stable environment.
- 7.2.3 Finds will be suitably bagged and boxed in accordance with the guidance given by the relevant museum and generally in accordance with the standards of the ClfA (2014b).

### **7.3 Environmental evidence**

- 7.3.1 Bulk environmental soil samples will be processed by standard flotation methods and scanned to assess the environmental potential of deposits, with any finds recovered given to the appropriate specialist. Finer residues will be retained until after any analyses and discarded following final reporting .
- 7.3.2 Any waterlogged or mineralised samples will be processed by standard waterlogged flotation methods.
- 7.3.3 Detailed specifications will be set out in the relevant WSIs for agreement.

### **7.4 Reporting and dissemination**

- 7.4.1 Reporting processes will be set out in detail in individual site specific WSIs. On completion of the archaeological programme, all will be drawn together into a single assessment report together with proposals for any further analysis and publication. The assessment report and further analysis will be agreed with Kent County Council. The format of the assessment report will be agreed in advance with the KCC Archaeologist in light of the individual findings.
- 7.4.2 Copies of interim and final reports will be deposited with the HER, along with surveyed spatial digital data (.dxf or shapefile format).



### *Publication*

- 7.4.3 If no further excavation works are undertaken, a short report on the results of the watching brief will be prepared for publication in a suitable journal, if considered appropriate and agreed with the client and the Kent County Council Archaeological Advisor.
- 7.4.4 Subject to agreement, the results of the programme of archaeological work may be presented as specific topic publications, and/or included within a publication for the whole project. This may integrate both offshore and onshore results into synthetic overall publication of the TEOW work.

### *OASIS*

- 7.4.5 An OASIS online record (<http://oasis.ac.uk/pages/wiki/Main>) will be created, with key fields completed, and a .pdf version of the final report submitted. Subject to any contractual requirements on confidentiality, copies of the OASIS record will be integrated into the relevant local and national records and published through the Archaeology Data Service ArchSearch catalogue.

## **8 ARCHIVE STORAGE AND CURATION**

### **8.1 Museum**

- 8.1.1 Currently no collecting museums in the vicinity of the Site are accepting archaeological archives. Every effort will be made to identify a suitable repository for the archive resulting from the fieldwork, and if this is not possible, The Retained Archaeologist will initiate discussions with the local planning authority in an attempt to resolve the issue.

### **8.2 Transfer of title**

- 8.2.1 On completion of the watching brief (or extended fieldwork programme), every effort will be made to persuade the legal owner of any finds recovered (i.e., the landowner), with the exception of human remains and any objects covered by the Treasure Act 1996 (as amended by the Coroners and Justice Act 2009), to transfer their ownership to the museum in a written agreement.

### **8.3 Preparation of archive**

- 8.3.1 The complete archive, which may include paper records, graphics, artefacts, ecofacts and digital data, will be prepared following the standard conditions for the acceptance of excavated archaeological material by a collecting museum, and in general following nationally recommended guidelines (SMA 1995; ClfA 2014c; Brown 2011; ADS 2013). The archive will usually be deposited within one year of the completion of the project, with the agreement of the client.

### **8.4 Selection policy**

- 8.4.1 The Retained Archaeologist will follow national guidelines on selection and retention (SMA 1993; Brown 2011, section 4). In accordance with these, and any specific guidance prepared by the museum, a process of selection and retention will be followed so that only those artefacts or ecofacts that are considered to have potential for future study will be retained. The selection policy will be agreed with the museum, and fully documented in the project archive.

### **8.5 Security copy**

- 8.5.1 In line with current best practice (e.g., Brown 2011), on completion of the project a security copy of the written records will be prepared in the form of a digital PDF/A file. PDF/A is an



ISO-standardised version of the Portable Document Format (PDF) designed for the digital preservation of electronic documents through omission of features ill-suited to long-term archiving.

## **9 QUALITY PROCEDURES**

### **9.1 External quality standards**

9.1.1 The Retained Archaeologist will be registered as an archaeological organisation with the Chartered Institute for Archaeologists (CIfA) and fully endorses its Code of conduct (CIfA 2014d) and Regulations for professional conduct (CIfA 2014e). All staff will be employed in line with the CIfA codes of practice and will normally be members of the CIfA or otherwise appropriately qualified and experienced.

### **9.2 Personnel**

9.2.1 The fieldwork will be directed and supervised by an experienced archaeologist (ideally with geoarchaeological experience) provided by the Retained Archaeologist, who will be on site at all times for the length of archaeological fieldwork as required. The site personnel should have access to appropriate specialist support (such as a geoarchaeologist and/or palaeoenvironmental specialist). The overall responsibility for the conduct and management of the project will be held by the Retained Archaeologist, who will visit the fieldwork as appropriate to monitor progress and to ensure that the scope of works is adhered to. Where required, monitoring visits may also be undertaken by a Health and Safety manager. The appointed project manager and fieldwork director will be involved in all phases of the investigation through to its completion.

9.2.2 The analysis of any finds and environmental data will be undertaken by appropriately qualified and experienced specialist staff. A complete list of finds and environmental specialists will be provided on request.

### **9.3 Internal quality standards**

9.3.1 The Retained Archaeologist will operate a defined and verifiable Quality Management System,

### **9.4 Health and Safety**

9.4.1 Health and Safety considerations will be of paramount importance in conducting all fieldwork. Safe working practices will override archaeological considerations at all times. The Retained Archaeologist will supply trained, competent and suitably qualified staff to perform the tasks and operate the equipment used on site. All work will be carried out in accordance with the Health and Safety at Work Act 1974 and the Management of Health and Safety at Work Regulations 1999, and all other applicable Health and Safety legislation, regulations and codes of practice in force at the time.

9.4.2 The Retained Archaeologist will supply a copy of the company's Health and Safety Policy and a Risk Assessment to the client before the commencement of the watching brief. The Risk Assessment will have been read, understood and signed by all staff attending the site before any fieldwork commences. Field staff will comply with the Personal Protective Equipment (PPE) requirements for working on the site, and any other specific additional requirements of the principal contractor.

9.4.3 All fieldwork staff will be certified through the Construction Skills Certification Scheme (CSCS) or UK equivalent and have had UKATA Asbestos Awareness Training. Key staff



also have qualifications in the use of CAT and Genny equipment and as banksmen/Plant Machinery Marshalls through the National Plant Operators Recognitions Scheme (NPORS).

## **9.5 Insurance**

- 9.5.1 The Retained Archaeologist will have appropriate levels of both Public Liability and Professional Indemnity Insurance.





## REFERENCES

- ADS 2013 *Caring for Digital Data in Archaeology: a guide to good practice*. Archaeology Data Service & Digital Antiquity Guides to Good Practice
- Brown, D H 2011 *Archaeological archives; a guide to best practice in creation, compilation, transfer and curation*, Archaeological Archives Forum (revised edition)
- Chartered Institute for Archaeologists (CIfA) 2014a *Standard and guidance for archaeological field evaluation*. Reading, CIfA
- Chartered Institute for Archaeologists (CIfA) 2014b *Standard and guidance for the collection, documentation, conservation and research of archaeological materials*. Reading, CIfA
- Chartered Institute for Archaeologists (CIfA) 2014c *Standard and guidance for an archaeological watching brief*. Reading, CIfA
- Chartered Institute for Archaeologists (CIfA) 2014d *Standard and guidance for the creation, compilation, transfer and deposition of archaeological archives*. Reading, CIfA
- Chartered Institute for Archaeologists (CIfA) 2014e *Code of Conduct*. Reading, CIfA
- Chartered Institute for Archaeologists (CIfA) 2014f *Regulations for Professional Conduct*. Reading, CIfA
- Crown Estate, The 2010 *Model Clauses for Archaeological Written Schemes of Investigation: Offshore Renewables Projects*. Published guidance by Wessex Archaeology Ref 73830.
- Department of Energy & Climate Change (DECC) (2011), *Overarching National Policy Statement for Energy (EN-1)*
- English Heritage (now Historic England) 1998 *Identifying and Protecting Palaeolithic Remains: Archaeological Guidance for Planning Authorities and Developers;*
- English Heritage (now Historic England) 2008 *Conservation Principles, Policies and Guidance for the Sustainable Management of the Historic Environment;*
- English Heritage (now Historic England) 2011 *Environmental Archaeology: A Guide to the Theory and Practice of Methods, from Sampling and Recovery to Post-excavation*. Second Edition
- Historic England 2015b *Geoarchaeology: Using Earth Sciences to Understand the Archaeological Record*. Swindon, Historic England
- Historic England 2015c *Managing Significance in Decision-Taking in the Historic Environment: Historic Environment Good Practice Advice in Planning: 2*.
- Historic England 2016 *Preserving Archaeological Remains: Decision-taking for Sites under Development*
- Joint Nautical Archaeology Policy Committee 2006 *Code of Practice for Seabed Development, JNAPC*



- McKinley, J I 2013 'Cremation: Excavation, Analysis, and Interpretation of Material from Cremation-Related Contexts' in S Tarlow and L Nilsson Stutz (eds) *The Oxford Handbook of the Archaeology of Death and Burial*. Oxford University Press 147-171
- McKinley, J I and Roberts, C 1993 *CIfA Technical Paper No 13 Excavation and post-excavation treatment of cremated and inhumed human remains*.
- Museums and Galleries Commissions 1992 *Standards in the Museum Care of Archaeological Collections*
- Society of Museum Archives (SMA) 1993 *Selection, Retention and Dispersal of Archaeological Collections*
- Society of Museum Archives (SMA) 1995 *Towards an Accessible Archaeological Archive*
- United Kingdom's Institute for Conservation (UKIC) 1984 *Conservation Guidelines No 2*
- Vattenfall Wind Power Ltd 2017 *Thanet Extension Offshore Wind Farm: Preliminary Environmental Information Report*
- Vattenfall Wind Power Ltd 2018 *Thanet Extension Offshore Wind Farm: Environmental Statement*
- Watkinson, D and Neal, A V 1998 *First Aid for Finds*. United Kingdom Institute for Conservation and Rescue: The British Archaeological Trust
- Wessex Archaeology 2007 *Historic Environment Guidance for the Offshore Renewable Energy Sector*, Published Guidance Note.
- Wessex Archaeology 2008, *Aircraft Crash Sites at Sea: A Scoping Study. Archaeological Desk-Based Assessment*. Internal reference 66641.02
- Wessex Archaeology 2017a *Thanet Extension Offshore Wind Farm: Marine Archaeological Desk-Based Assessment Technical Report*. Internal Ref: 116080.01
- Wessex Archaeology 2017b *Project NEMO: Archaeological Report Form: Summary Record for the Discovery of MAG\_11081/ Anomaly 70050: Possible aircraft wing*. Internal ref 115580.
- Wessex Archaeology 2018 *Thanet Extension Offshore Wind Farm: Archaeological Review of Geophysical and Geotechnical Data*. Internal Ref: 116080.02
- Wessex Archaeology 2018 *Thanet Extension Onshore Wind Farm. Onshore Archaeology, Written Scheme of Investigation, Site Investigation Works - Watching Brief*. October 2018 Unpublished Client report ref: 116083.01
- Wessex Archaeology, forthcoming *Thanet Extension Onshore Wind Farm. Onshore Site Investigation Works. Written Scheme of Investigation for Archaeological and Geoarchaeological Watching Brief*. Unpublished Client report ref: 116083.02



## APPENDICES

### Appendix 1

Technical Report Name	Type of Assessment	Data acquired	Details	Location	Sample Type	Present location
<i>Thanet Extension Offshore Wind Farm: Marine Archaeological Desk-Based Assessment Technical Report.</i> (Wessex Archaeology 2017a)	Desk-Based Assessment	Undertaken by Wessex Archaeology	Data from: UKHO NRHE KHER Reports related to TOWF			Wessex Archaeology
<i>Thanet Extension Offshore Wind Farm: Archaeological Review of Geophysical and Geotechnical Data</i> (Wessex Archaeology 2018)	Geophysical survey datasets	Acquired by Fugro, 29 July to 6 September 2016	SSS Magnetometer SBP MBES			Wessex Archaeology
	Geotechnical data	Acquired by Fugro, 2016 for engineering purposes	Geotechnical logs from: - 10 locations within the array; and - 1 location within the OECC.  These comprise: - 11 CPTs; and - 9 vibrocores.	001	VC and CPT	Fugro Wallingford
				002	VC and CPT	
				003	VC and CPT	
				004	VC and CPT	
				005	VC and CPT	
				006	VC and CPT	
				007	VC and CPT	
				008	VC and CPT	
				009	CPT	
				011	CPT	
				013 (OECC)	VC and CPT	
				<i>Project NEMO: Archaeological Report Form: Summary Record for the Discovery of MAG_11081/ Anomaly 70050: Possible aircraft wing</i> (Wessex Archaeology 2017b)	ROV data	



Wessex Archaeology Ltd registered office Portway House, Old Sarum Park, Salisbury, Wiltshire SP4 6EB  
Tel: 01722 326867 Fax: 01722 337562 info@wessexarch.co.uk www.wessexarch.co.uk



FS 606559